ECONOMIC INTEGRATION, EASE OF DOING BUSINESS, ECONOMIC GROWTH AND FOREIGN DIRECT INVESTMENT IN THE EAST AFRICAN COMMUNITY

MULI WYCLIFFE MAINGI

BBM (MMUST), MBA (UoN), M.A (Moi University)

Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in Business Administration of the University of Nairobi

SEPTEMBER 2018

DECLARATION

Declaration by the Candidate

This thesis is my original work and has not been presented for an award of degree in any other university.

Sign..   Date ....

Muli Wycliffe Maingi

D80/60176/2013

Declaration by Supervisors

This thesis has been submitted for examination with our approval as the university Supervisors.

Sign..   Date ....

Prof. J.O. Aduda

Department of Finance & Accounting

University of Nairobi, Nairobi, Kenya

Sign..   Date ....

Dr. J.L. Lishenga

Department of Finance & Accounting

University of Nairobi, Nairobi, Kenya

Sign..   Date ....

Dr. D.O. Abala

School of Economics

University of Nairobi, Nairobi, Kenya

DEDICATION

This thesis is dedicated to my parents.

Joel Muli & Jemina Nduma

ACKNOWLEDGEMENT

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS

APTA: Asia Pacific Trade Agreement

ASEAN: Association of South-East Asian Nations

CACM: Central American Common Market

CARICOM: Caribbean Community

COMESA: Common Market for East and Southern Africa

CUSFTA: Canada – United States Free Trade Area

EAC: East African Community

EMU: European Monetary Union

EU: European Union

FDI: Foreign Direct Investment

GDP: Gross Domestic Product

GNI: Gross National Income

FTAs: Free Trade Agreements

HFDI: Horizontal Foreign Direct Investment

IDA: International Development Association

IMF: International Monetary Fund

IMP: Internal Market Programme

LDCs: Least Developed Countries

LM: Lagrange multiplier

MNCs: Multinational Corporations

NAFTA: North-American Free Trade Agreement

OECD: Organization for Economic Cooperation and Development

OLS: Ordinary Least Squares

PTA: Preferential Trade Agreement

RECs: Regional Economic Communities

REI: Regional Economic Integration

RTAs: Regional Trade Agreements

SADC: South African Developement Cooperation

SAFTA: South Asian Free Trade Area

UK: United Kingdom

UNCTAD: United Nations Conference on Trade and Development

UNDP: United Nations Development Programme

US: United States

VFDI: Vertical Foreign Direct Investment

VIF: Variance Inflation Factors

WTO: World Trade Organisation

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Developing countries rely on foreign direct investment (FDI) to supplement their low levels of national savings in order to promote economic development. However, low levels of FDI are still a big concern for poor countries. Regional integration is often considered a means to improve member countries' attractiveness to FDI. From the available anecdotal evidence, the East African region ranks as one of the poorest recipient of FDI in the world. This study sought to establish the relationships among economic integration, economic growth (GDP), ease of doing business and FDI in the East African Community (EAC). Specifically the study set out to find: the effect of economic integration on FDI; the moderating effect of GDP on the relationship between economic integration and FDI; the mediating effect of Ease of Doing Business on the relationship between economic integration and FDI; and the joint effect of economic integration, GDP, and ease of doing business on FDI. The research employed an explanatory research design. East African Community was the unit of analysis involving Kenya, Tanzania, Uganda, Rwanda and Burundi. Empirical data analysis used simple regression, multiple regression, hierarchical regression and path analysis. The quarterly time series data used spanned the period 2001 – 2015. The study established that formation of an economic bloc leads to more attraction of FDI into a region. The widening of market as a result of economic integration makes the region more attractive to potential foreign investors. However, it is also found that for more effective attraction of FDI there must be a conducive business environment (Ease of Doing Business) within the integrating region. Additionally, GDP is found to catalyze the rate of FDI attraction possibly because it is an indicator potential rate of return and population purchasing power. Among the key policy implications, it is recommended that, EAC should make concerted efforts to deepen the integration by taking measures that would further intensify intra-regional trade; that there is a need to improve investment climate, including having a business regulatory environment that is conducive for the modernization of the regional economy and attract FDI; More precisely there should be: reconciliation of the regional trade regime and border procedures within the EAC, lowering the transportation costs, scaling down on the effort, time, and funds businesses spend to conform with regulations, eradication of corruption, and safeguarding of property rights.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Economic integration can be defined as the elimination of tariff and non-tariff barriers to the flow of goods, services, and factors of production among a group of nations (Marsk, 2014). An increase in market size as result of economic integration influences the magnitude of foreign direct investment (FDI) flowing into a region (Medvedev, 2012). Foreign direct investment is a cross-border investment made by a resident in one economy with the aim of establishing a lasting interest in an enterprise that is resident in an economy other than that of the investor (Organization for Economic Cooperation and Development – OECD, 2008). The East African Community (EAC) has not been a good recipient of FDI possibly due to ease of doing business challenges as characterized by high country risk, slow progress in structural and institutional reforms, high administrative barriers, inefficient government bureaucracy, high level of corruption, and poor implementation of laws (Slavica and Andreja, 2014). A foreign investor also has an interest in the gross domestic product (GDP) growth rate of an investment destination because it is an indication of the potential return on investment to be reaped (Iamsiraroj and Doucouliagos, 2015).

The customs union theory developed by Viner (1950) assesses the trade effects on member countries upon the removal of tariffs and introduction of common external tariff. Viner (1950) argued that the reduction of the barriers may either lead to trade creation or trade diversion. Trade creation occurs when the removal of trade barriers, tariffs in particular, lead countries to import commodities from lower-cost member

countries away from high-cost domestic industry. A customs union can also divert trade from low-cost non-member countries to member countries (potentially high-cost). Trade diversion occurs when tariff agreements cause imports to shift from low cost countries to higher cost countries. Trade diversion is made possible by the discriminatory protection in place, as imports from non-members continue to face high tariff barriers effectively becoming more costly than tariff-free imports from member countries. It is considered undesirable because it concentrates production in countries with a higher opportunity cost and lower comparative advantage.

This argument was expanded to investment activities to describe investment diversion and creation that could occur as a result of economic integration by Kindleberger (1966). He argued that investment creation could occur as a likely response to the trade diversion brought about by economic integration. Investment creation refers to the strategic investment responses by outside firms who lose export markets when their former customers turn to suppliers based in the region, because regional trade is not obstructed by trade barriers. However, a situation could induce trade creation and investment diversion. Investment diversion refers to a situation where a local firm might divest because of losing business to more efficient firms located within the integrated market. It also means a shift of direct investment from certain member countries in favour of others within the region. The decision by foreign firms to invest abroad instead of simply serving the foreign market via exports is explained by the Eclectic theory of FDI by Dunning (1977, 1981). The theory argues that one of the drivers of international of firms is the pursuit of location advantages. Some of the location advantages include geographical factors or public intervention in the allocation of resources as reflected by market size, legislation towards the production and licensing of technology, patent system, tax, and government behavior.

Foreign capital inflows play a critical role in sustaining higher levels of investment and growth in developing countries, given their persistently low national savings rate (Mottaleb and Kalirajan, 2010). Hence, FDI is being sought by all developing countries as a means of complementing the levels of domestic investment (Dabour, 2000). According to UNCTAD (2010) FDI accounts for 11 percent of global Gross Domestic Product (GDP) and more than 80 million jobs worldwide. Policymakers in developing countries know that FDI is needed to boost the growth in their economies. To this end, governments have considered various incentives and policies to attract FDI (United Nations, 2005). Alongside the different policy options, developing countries view regional economic integration as an important ingredient in stimulating increased FDI (Africa Development Bank, 2011). However, the performance of developing countries in attracting FDI has been dismal. Specifically, Africa has never been a major recipient of FDI and lags behind other regions of the world (Dupasquier and Osakwe, 2005). For instance according to UNCTAD (2015) between the years 2012 – 2014 the entire Africa continent received a paltry less than 5% of the global FDI inflows over that period.

Within the wider Africa, the East African region ranks as the poorest performer in the attraction of FDI (African Development Bank, 2011). More recently the *EY's attractiveness survey* of 2015 indicated that in the year 2014, FDI projects in the East Africa region went down by 17%. This is despite the fact that within this region there is a regional economic bloc known as the East African Community (EAC). The current EAC was established in the year 2000 and attained common market status by the end of 2015. However, according to the African Development bank (2012) significant trade barriers still persist in the EAC. According to Slavica and Andreja (2014) the most prominent weaknesses inhibiting FDI inflows in EAC are: small domestic market with

low per capita income, high country risk, slow progress in structural and institutional reforms, high administrative barriers, inefficient government bureaucracy, high level of corruption, and poor implementation of laws.

1.1.1 Economic Integration

Economic integration can be defined as a reduction of trade barriers and investment restrictions among countries (Blomstrom and Kokko, 1997). It entails removal of tariff and non-tariff barriers to the flow of goods, services and factors of production (Marsk, 2014) among a group of nations. The levels of economic integration are usually identified as the free trade area, the customs union, the common market, the economic union, monetary union and complete economic integration. The free trade area involves the abolition of tariffs and equivalent trade restrictions between members of the area, with each member selecting its own trade policy for non-members. The customs union is a free trade area with a common trade policy with respect to non-members. The common market has all the elements of the customs union, and additionally, permits factors of production like capital and labour to move freely among member nations. An economic union is a common market in which members coordinate national economic policies. A monetary union is where more than one territory share a common currency and foreign exchange policy. Finally, complete economic integration is an economic union for which a supranational agency determines monetary, fiscal, trade, and social policies for all member nations (Jaumotte, 2004).

In the recent past there has been an escalation of Regional Integration Agreements (RIAs). According to the World Trade Organisation (2016), as at the beginning of the year 2016 we had 423 active regional trade agreements. These developments have renewed interest in the economics of regional integration, first raised by Viner (1950).

According to various theoretical concepts, economic integration should influence FDI flows mostly positively, due to reduced trade barriers and extended market sizes (Marszk, 2014). Medvedev (2012) argued that creation of an economic bloc leads to increased market size, which in turn influences the magnitude of FDI flows.

The depth of economic integration is best measured by observing bilateral trade of countries (Kodongo and Natto, 2014). Trade volume is an all-encompassing variable that is responsive to changes over time in the progress of regional integration (Krieger-Boden and Soltwedel, 2010). Additionally, regional price convergence (σ-convergence) is another good measure of economic integration. When a market becomes integrated the variance of prices within a group of countries in the integrating market becomes smaller (Barro and Sala, 1995).

1.1.2 Ease of Doing Business

Ease of doing business is a set of conditions that indicate better, usually simpler, regulations for businesses and stronger protection of property rights (Singh, 2015). A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm. Economic integration alone is not sufficient to attract FDI. Devan and Matsaert (2013) noted that there is a need to improve investment climate, including having a business regulatory environment that is well suited to act as a catalyst to modernize the regional economy and attract FDI. Improving investment climate in the EAC is therefore an essential ingredient for successful integration. These sentiments are shared by Hornberger, Battat and Kusek (2011) who noted that business opportunities as reflected in the size and growth potential of markets are the most powerful drivers of FDI, but investment climate features such as strong institutions and investor friendly regulations also matter.

The World Bank Doing Business Index is the most prominent means for assessing the ease of doing business in a country (Singh, 2015). The ease of doing business index ranks economies from 1 to 189 on the basis of some specified variables. The index is based on ten factors namely: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency. These data highlight the main obstacles to business activity as reported by entrepreneurs in 189 economies. For each economy the ranking is calculated as the simple average of the percentile rankings on each of the 10 topics included in the index. Higher rankings indicate better, usually simpler regulations for businesses and stronger protections of property rights.

 In terms of the determinants of FDI as identified in various empirical studies, the Ease of Doing Business indicators highlighted in the previous paragraph could be broadly categorized as either falling under political risk or trade openness measures. Market size whose key indicator is the GDP could be treated as an exogenous variable. Openness to the rest of the world through trade and capital is the key to the prosperity of nations. Trade openness refers to the degree to which countries engage in trading activities with other countries. Openness to trade is measured using the ratio of exports and imports to the GDP. This indicator measures a country's "openness" or "integration" in the world (BIS Performance Indicators, 2015). Trade and investment are harmonious flows (Segre, 2000). According to Athukorola (2013) cross border liberalisation of trade sets the stage for the emergence of vertical FDI in a region. Blomstrom and Kokko (1997) added that positive FDI occurs when regional integration agreements coincide with domestic liberalisation in the member countries.

A firm must assess political risk in the countries where it expects to establish subsidiaries. Many country characteristics related to the political environment can influence a firm. An extreme form of political risk is the possibility that the host country will nationalize a subsidiary. Madura (2008) identifies the following as some of the more common forms of political risk: actions of host government, war, bureaucracy, and corruption. Azzimonti and Sarte (2007) noted that political risk is an important barrier to FDI. Once an investment has been made, a foreign investor cannot prevent the government in the host country from changing the environment in which the investment decision was made. Despite attempts to establish international tribunals, contracts between MNCs and sovereign countries are almost impossible to enforce. The quality of institutions, and in particular, the degree of protection of property rights, is key in determining the expected return to foreign investors. Countries with relatively poor legal protection of assets, and a high degree of political instability, generally exhibit high rates of expropriation and this makes investment less attractive.

1.1.3 Economic Growth

Economic growth has generally been accepted as a major objective of national policy. Economic growth means growth of national output. The output of an economy consists of a quantum of goods and services, and economic growth occurs as this quantum increases. The economic growth rate is measured using the real Gross Domestic Product (GDP) (Soubbotina and Sherem, 2000). A country's economic growth is usually indicated by an increase in that country's gross domestic product, or GDP.

Researchers consistently use GDP, GDP growth, GDP per capita and/or other variants of GDP as determinants of FDI. Gross domestic product measures the monetary value of final goods and services—that is, those that are bought by the final user—produced

in a country in a given period of time (say a quarter or a year). It counts all the output generated within the borders of a country. It is composed of goods and services produced for sale in the market and also include some nonmarket production, such as defence or education services provided by the government. Per capita GDP shows how big each person's share of GDP would be if we were to divide the total into equal portions. Gross Domestic Product growth rate is an indication of the potential return on investment to be reaped by an investor.

According to Stein and Daude (2001) the flow of FDI between countries is explained by the economic size (GDP) of the host country. This argument is supported by multiple studies (Ismail,Smith and Kugler 2009; Iamsiraroj and Doucouliagos, 2015; Chien and Zhang, 2012). Therefore, it is correct to state that economic integration is not a sufficient condition for attraction of FDI. The potential investors would also consider market size and the population purchasing power as indicated by the GDP.

1.1.4 Foreign Direct Investment

Foreign direct investment is a category of cross-border investments made by a resident in one economy with the objective of establishing a lasting interest in an enterprise that is resident in an economy other than that of the direct investor. The "lasting interest" is evidenced when the direct investor owns at least 10% of the voting power to gain access to the economy of the direct investment enterprise which it might otherwise be unable to do. Direct investment enterprises are corporations, which may either be subsidiaries, in which over 50% of the voting power is held, or associates, in which between 10% to 50% of the voting power is held, or they may be quasi-corporations such as branches which are effectively 100% owned by their respective parents (OECD, 2008).

The International Monetary Fund (IMF) (1993) recommends using 10% as the basic dividing line between direct investment and portfolio investment in the form of shareholdings. For instance, if a non-resident who previously had no equity in a resident enterprise purchase 10% or more of the shares of that enterprise from a resident, the value of equity holdings acquired should be recorded as direct investment. From this moment, any further capital transactions between these two companies should be recorded as a direct investment. When a non-resident holds less than 10% of the shares of an enterprise as portfolio investment, and subsequently acquires additional shares resulting in a direct investment (10% or more), only the purchase of additional shares is recorded as direct investment in the Balance of Payments.

The methods of increasing international business extend from the relatively simple approach of international trade (export and import of goods and services) to the more complex approach of acquiring foreign firms or establishing new subsidiaries (Greenfields). Any method of increasing international business that requires a direct investment in foreign operations is referred to as a foreign direct investment (FDI). International trade and licensing usually are not considered to be FDI because they do not involve direct investment in foreign operations. Franchising and joint ventures tend to require some investment in foreign operations, but to a limited degree. Foreign acquisitions and the establishment of new foreign subsidiaries (Greenfields) require substantial investment in foreign operations and represent the largest portion of FDI (Madura, 2008).

Foreign direct investment is usually captured in the balance of payment statement as a distinct item. This study will be interested in measuring the stocks of FDI at a particular time as opposed to the FDI inflows. Foreign direct investment stock refers to the

difference between FDI inflows and outflows at a particular point in time. In other words FDI stock refers to the net FDI flows (Athukorola, 2013).

Foreign direct investment is an important parameter in the determination of economic growth of country. Regional trade agreements (RTAs) have an influence on FDI through their effects on market size and GDP. Expanding regional markets emerge as one of the most important factors influencing the location of foreign investments. Regional trade agreements through trade liberalisation, combine fragmented markets into a single large one and generally increase the growth rate of member countries' GDP (Gomez-Mera, 2015).

1.1.5 The East African Community

The formation of East African Community (EAC) dates back to 1903 when the colonial governments of Kenya, Tanganyika (Tanzania), and Uganda set the stage for the formal socio-economic and political cooperation in the region. The institutional mechanisms set up included: the East African Posts and Telegraphs, the East African Currency Board, the Customs Union, the East African Income Tax Board, and the East African Airways. In 1967 a fresh treaty was signed to broaden the scope of the economic and political integration responsibilities of the EAC. The economic bloc collapsed in 1977 as a result of weak organizational structures and political differences between the partner states of Kenya, Uganda and Tanzania (Adar, 2011).

The current EAC is a regional intergovernmental organization of the Republics of Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. It was officially revived in 2000, following the signing of the Treaty for the Establishment of the East African Community in 1999 by the 3 partner states. The Republics of Rwanda and Burundi became full members of the EAC after acceding to the treaty in 2007 (Institute of

Economic Affairs, 2011). South Sudan became a member of EAC on 2nd March 2016 (Omondi, 2016).

Significant trade barriers still persist in the EAC. The lack of harmonized trade policy instruments limits inter-regional trade. Cumbersome trade logistics along transport corridors and time-wasting border procedures result in excessive delays, high transit costs and also increased trade costs. Efficient customs operations are hampered by excessive documentary requirements, insufficient use of automated systems, and lack of cooperation among customs and other government agencies (African Development Bank, 2012). According to the African Development Bank (2014) despite a marked improvement in the FDI inflows, the East African region is still the poorest performer in Africa. However, in the recent past there has been an upsurge in FDI flow into East Africa. According to UNCTAD (2015) in the year 2014, FDI into East Africa region grew by 11%. By World Bank standards all EAC member countries are developing economies (Have less than $6 000 GNI per capita). However, according to Gigineishvili, (2014) the EAC countries' economic performance during the last decade has been impressive. At 6.2 percent, the EAC's average growth rate in 2004 - 13 is in the top of one-fifth of the distribution of 10-year growth rate episodes experienced by all countries worldwide since 1960.

The EAC is home to 158 million citizens, of which 22% live in urban areas. The region has a land area of 2.42 million square kilometers and a combined Gross Domestic Product of US$ 169.5 billion. Agriculture is at the core of economic developments in the EAC. It accounts for 43% of the total GDP in the region. Agricultural share of GDP exceeds 50% in Tanzania and Burundi, while in Uganda and Rwanda it is about 50%, and in Kenya it contributes less than 30% (Kabuye, 2008).The key export products

from EAC include coffee, tea, cocoa, iron, steel, crude oil and petroleum products, cement, mineral ores, palm oil, sugar, horticulture and fertilizer. Under the U.S. African Growth and Opportunity Act (AGOA), EAC countries benefitted from duty-free and quota-free access to the U.S. market for a range of products until 2015(EAC Statistics for 2015).

1.2 Research Problem

Economic integration should influence FDI mostly positively due to reduced trade barriers and extended market sizes (Marsk, 2014). This argument is supported by Medvedev (2012) who writes that creation of an economic bloc leads to increased market size, which in turn influences the magnitude of FDI flows. Additionally, a good investment climate is critical in modernizing a regional economy and attracting FDI (Devan and Matsaert, 2013). Another dimension is added by Iamsiraroj and Doucouliagos (2015) who argue that Gross Domestic Product (GDP) growth rate as an indicator of the potential return on investment is also a major determinant of FDI.

Developing countries rely on FDI to supplement their low levels of national savings in order to promote economic development (Nunenkamp, 2002). However, low levels of FDI are still a big concern for poor countries (Morrissey, 2006). For instance, between the year 2012 and 2014, Africa received less than 5% of the global FDI flows (UNCTAD, 2015). According to the African Development Bank (2014), the East African region ranks as the poorest recipient of FDI out of the five African regions. This is despite the fact that within this region we have an economic bloc known as the East African Community (EAC). Economic integration is often considered a means to improve member countries' attractiveness to FDI. In their protocol the EAC member

countries view regional integration as an important ingredient in stimulating increased foreign investment (African Development Bank, 2011).

In the EAC the following studies in relation to economic integration have been undertaken: McIntyre (2005) analyzed the potential trade impact of the forthcoming EAC customs union. The study examined the trade linkages among the member countries and the effect of common external tariff. After conducting simulations for Kenya, the results showed that the customs union will have beneficial effects on Kenya's trade; Shinyekwa and Othieno (2013) investigated the potential impact of the EAC on trade creation and diversion. The study estimated static and dynamic random effects models using a panel data set from 2001 to 2011 on seventy countries that trade mainly with the EAC partner states. The findings suggested that the implementation of the EAC treaty has created trade; Kodongo and Natto (2014) investigated the drivers for bank expansion abroad in East Africa. The study used a Poisson regression model with number of banks going abroad as the dependent variable. The results indicated that follow-the-customer motive is a strong drive for bank expansion across EAC. In addition, the desire for superior returns and the need to escape intense competition in Kenya has pulled banks into foreign markets. Further, favorable regulatory environment abroad also influenced the expansion of banks into foreign markets. However, the results suggested that economic integration was negatively related with bank expansion; and, Ochieng (2014) investigated integration relationships between Kenyan and other EAC financial market segments. The study employed correlational and longitudinal research designs. It was concluded that there are linkages in the money markets and long run integrating relationships amongst the equity markets though perfect and full integration has not been attained.

It appears that there is a scarcity of studies that investigated the nexus of economic integration and FDI in the EAC. In other words, a contextual research gap on the subject of economic integration and FDI exists in the East African Community. Regional integration agreements (RIAs) as well as FDI are too diverse to allow for generalised verdicts (Kunby, Molders and Nunnekamp, 2008). For instance, the success of the European customs union led to several customs unions being created among developing countries in the 1960s, e.g. the Central American Common Market (CACM) and the East African Community (EAC). But both customs unions were not as successful, they collapsed in the 1970s. Therefore, it might be erroneous to generalize the findings obtained elsewhere into the East African Community context. In addition, it is also important to take into account other factors that influence the extent to which economic integration affects FDI.

According to the FDI literature the important influencing factors include Ease of Doing Business (Azzimonti and Sarte, 2007; Athukorola, 2013; Blomstrom and Kokko, 1997) and Economic growth (Ismail,Smith and Kugler, 2009; Iamsiraroj and Doucouliagos, 2015; Chien and Zhang, 2012).The current study would like to evaluate the relationship between economic integration, economic growth, ease of doing business, and FDI in the East Africa Community. There is no previous study that synchronized the relationship among these four variables. Therefore, it is correct to state there exists a conceptual knowledge gap in that regard. In addition, while some studies have found that economic growth attracts FDI (Abala, 2014) others have shown that FDI is responsible for driving economic growth (Borensztein,Gregorio and Lee, 1997; Alfaro, Chanda, Ozcan and Sayek, 2006; Katerina, 2004). Therefore, it was important that reverse causality be conducted in this study to establish the direction of relationship between these two variables. In summary, this study sought to answer the question:

What is the relationship among economic integration, ease of doing business, economic growth and foreign direct investment in the East African Community? The outcome of this study is very useful in informing policy decisions on how to effectively attract FDI.

1.3 Research Objectives

The general objective of this study was to find out the relationship among foreign direct investment, economic growth, ease of doing business, and economic integration in the East African Community. The specific objectives were to:

i.   Determine the effect of economic integration on foreign direct investment in the East African Community

ii.   Establish the moderating effect of economic growth rate on the relationship between economic integration and foreign direct investment in the East African Community

iii.   Determine the mediating effect of Ease of Doing Business on the relationship between economic integration and foreign direct investment in the East African Community

iv.   Investigate the joint effect of economic integration, ease of doing business, and economic growth on foreign direct investment in the East African Community

1.4 Value of the Study

The findings of this study have made an important contribution to the finance literature and practice. The specific contribution made is articulated as follows: Firstly, this study makes an important contribution to the foreign direct investment literature. The Eclectic theory of FDI argues that foreign investment is normally attracted by "location

advantages". However, the theory is vague about the constituents of these "location advantages". The current study makes a contribution by highlighting some of the most important constituent elements as including ease of doing business in a location (corruption level and bureaucracy, property rights, ease of trade across borders and trade openness) and economic performance. The Customs Union theory argues that the formation of an economic bloc might lead to trade diversion or trade creation. However, the theory does not give a precise measure of trade diversion and trade creation. This study identifies changes in intra-regional trade intensity as a very good measure.

Secondly, it is recognized that the factors influencing the effect of economic integration initiatives on FDI are diverse. Therefore, it is important to take into account the multiplicity of other factors that are likely to bring to bear the relationship between economic integration and flow of FDI. To that extent the results of this study are valuable because of introducing a multi-faceted perspective to the determinants of FDI. That is, economic integration alone is not sufficient to attract FDI if it is not supplemented with ease of doing business and economic growth.

Finally, the subject of attracting foreign investments is usually hot on the policy agenda in developing economies. For instance, according to the Kenya's vision 2030, savings of up to 10% of GDP for investment are expected to be realized from remittances, foreign direct investment (FDI), overseas development assistance and sovereign bonds in order to drive the country's growth to a middle-income economy status by the year 2030 (Government of the Republic of Kenya, 2007). The results of this empirical study would be very helpful to the East African Community member countries in informing policy decisions on how to effectively attract foreign direct investment. A better

understanding of the influence of economic integration on foreign investment can help in the formulation of appropriate policies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents theories of economic integration and foreign direct investment (FDI). An analytical and critical review of various empirical studies on the subject of economic integration and the flow of FDI is presented. In addition, a summary of knowledge gaps is given. Finally, a conceptual framework showing the inter-relationship among the study variables is also given as well as the study hypotheses.

2.2. Theoretical Foundation

There are many theories of economic integration and foreign direct investment but the ones that capture the theme of this study are the customs union theory (Viner, 1950; Kindleberger, 1966), eclectic theory of FDI (Dunning 1977) and the internalization theory (Buckley and Casson, 1976). These theories are discussed below:

2.2.1 Customs Union Theory

The customs union theory is associated with the works of Viner (1950) that assessed the consequences of joining a customs union from the view point of welfare effects of the removal of tariffs and introduction of the common external tariff on trade. He argued that the reduction of the barriers may either lead to trade creation or trade diversion. Trade creation occurs when the introduction of a regional trade agreement (RTA) allows supply from a more efficient producer of the product from within the region. In contrast, trade diversion means that a RTA diverts trade, away from a more efficient supplier outside the RTA, towards a less efficient supplier within the RTA. As

the introduction of an RTA will generally have both trade creation and trade diversion effects, it is the net affect that needs to be assessed when deciding whether an RTA hinders or enhances welfare. The Viner's theory was further developed by Meade (1955); Lipsey (1960); Johnson (1965); and Kindleberger (1966) with each author adding a new dimension. But it is Kindleberger (1966) contribution that has the greatest relevance to this study.

Viner's (1950) inferences on the trade effects of customs union was extended to investment activities to describe investment diversion and creation that can occur as a result of economic integration by Kindleberger (1966). The author argued that investment creation could occur as a likely response to the trade diversion brought about by RIAs. The term refers to the strategic investment responses by outside firms who lose export markets when their former customers turn to suppliers based in the region, because regional trade is not obstructed by trade barriers. However, a situation could induce trade creation and investment diversion where a local firm might divest because of losing business to more efficient firms located within the integrated market.

This theory has an important relevance to this study. The customs union theory as expanded by Kindleberger (1966), argues that economic integration is supposed to trigger flow of FDI in and out of member countries. The difference between the FDI flowing in and that flowing out is known as FDI stock. This study was interested in measuring FDI stock. According to Blomstrom and Kokko (1997) the inflows of foreign capital are expected to increase if the volume of incoming FDI was initially restricted by the limited size of the individual national markets. The integrated common market may be large enough to bear the fixed costs for the establishment of new foreign affiliates as compared to individual national markets. Economic integration should

influence FDI flows mostly positively, due to reduced trade barriers and extended market sizes. Marszk (2014) conducted comprehensive literature review to present the key theoretical relationships between economic integration and FDI flows and made the foregoing conclusion. Athukorola (2013) also carried out critical literature review to find out the effect of economic integration on intra-regional investment in South–East Asia. The study concluded that cross border liberalization of trade and investment regimes sets the stage for the emergence of FDI.

The weakness of this theory is that it assumes the existence of imperfect markets. Foreign direct investment is expected to arise as a result of an attempt at exploiting imperfections in products and factor markets. However, the continued existence of market imperfections depends on the maintenance of barriers to entry like tariffs, patented technology, and economies of scale, high advertising expenditure, and unique sources of raw materials. The current trend towards globalization has been increasingly eroding such barriers. This argument is also advanced by Nunnenkamp (2002) who wrote that non-traditional determinants of FDI such as openness to trade have typically become less important with proceeding globalization.

2.2.2 The Eclectic Theory of FDI

The eclectic theory of FDI also referred to as "OLI-Model" or "OLI-Framework" tries to explain why firms set up subsidiaries abroad instead of simply servicing the markets via exports. After all, MNCs experience additional costs in producing abroad: higher costs in placing personnel abroad, communication costs, language and cultural differences, informational costs on local tax laws and regulations, cost of being outside domestic networks; they also incur risk of expropriation by the host country.

This theoretical approach, introduced by Dunning (1977, 1981), considers FDI as determined by Ownership, Location and Internalization advantages which the MNC holds over the foreign producer; when these advantages outweigh the above costs, FDI arises. The ownership advantage includes a product or a production process to which other firms do not have access, such as a patent, blueprint or trade secret, to more intangible assets such as reputation for quality. It refers to the alternative ways in which the firm may organize the creation and exploitation of its core competencies, and take advantage of location attractions in different countries and regions. The location advantage stems directly from the foreign market, such as low factor prices or customer access, together with trade barriers or transport costs that make FDI more profitable than exporting. Finally, the internalization advantage is a more abstract concept to explain why licensing may not be practiced; it derives from the firm's interest in maintaining its knowledge assets.

The pursuit of location advantages argument by the Eclectic theory resonates with the theme of this study. According to this theory, location advantages of different investment destinations play a significant role in determining which country or region will play host to the activities of multinational corporations. It relates to the 'where' of production. Some of the location advantages include geographical factors or public intervention in the allocation of resources as reflected by market size, legislation towards the production and licensing of technology, patent system, tax, government behavior, and other environmental factors which a multinational would like either to avoid or to exploit (Dunning, 1977).

The main problem of this framework is that although it does explain the existence of MNCs, it has had difficulty explaining the recent trends in FDI, namely their surge

among similar countries (horizontal FD1); this trend might invalidate the argument that the MNCs investment in another country are being motivated by the need to exploit unique advantages specific to a particular location. Further, no sound empirical models have been generated in order to compare real data with this theory.

2.2.3 The Internalization Theory

This theory tries to explain the growth of transnational companies and their motivations for achieving foreign direct investment. The theory was developed by Buckley and Casson, in 1976 and it demonstrates that transnational companies organize their internal activities so as to develop specific advantages, which then can be exploited. Typically a firm that possesses some advantages might license a firm in another country to utilize her technology (e.g. copyrights, trademarks, or trade names) in exchange for fees or some other specified benefits. Licensing allows firms to use their technology in foreign markets without a major investment in foreign counties and without the costs that result from exporting.

The internalization advantage is a more abstract concept to explain why licensing may not be practiced; it derives from the firm's interest in maintaining its knowledge assets (such as highly skilled workers who know the firm's technology) internally. This avoids "defection" once the licensee has come to understand the technology and sets up his own firm, in competition with the MNC. Informational asymmetries may also push MNCs to prefer foreign production over licensing, such as better knowledge of the domestic market by the licensee. For instance, the fear of being substituted with direct production in the presence of highly selling markets would provide incentive for the licensee to under-declare the potential absorption capacity of a market. The advantages

derive from the reduction of transaction costs (for contracting, quality assurance, etc) that arise in case of licensing.

The relevance of the theory to this study is that it demonstrates that FDI takes place only if the benefits of exploiting firm-specific advantages through licensing outweigh the relative costs of the operations abroad. Economic integration is expected to bring advantages of economies of scale in terms on enlarged market size; economic growth is expected to bring benefits of increased return; and improved ease of doing business is expected to lower operation costs and increased efficiency. Therefore, if all these advantages outweigh benefits of licensing, MNCs are expected to invest abroad.

Internalization theory is considered very important also by Dunning, who uses it in the eclectic theory, but also argues that its weakness is that it explains only part of FDI flows. The theory is a subset of the eclectic theory since it focuses only on internalization advantages. The eclectic theory is broader because it considers not just internalization advantages, but also ownership and location advantages as determinants of FDI.

2.3 Empirical Review

The following section presents different studies about the determinants of FDI and the relationship between economic integration and FDI. An analytical and critical review of related previous studies is undertaken so as to bring out the knowledge gaps that have been identified and addressed by the current study. The review was able to establish contextual, conceptual and methodological knowledge gaps.

2.3.1 Economic Integration and Foreign Direct Investment

It is recorded that the period following the formation of the European Community coincided with a considerable inflow of US direct investment and several studies from the 1960s and 1970s asked to what extent this was motivated by the European integration process (Yannopoulous, 1990) cited in Blomstrom and Kokko (1997). The general conclusion of the debate was that the Common Market had attracted United States investment which might otherwise have located in other European countries.

Among the early researchers to investigate the effects of economic integration on the flow of foreign direct investment were Blomstrom and Kokko (1997).Using descriptive statistics they examined the investment effects of regional integration agreements and discussed how such arrangement may affect inward and outward foreign direct investment flows in the integrating region. The study focused on North-North integration (Canada joining CUSFTA), North-South integration (Mexico's accession to NAFTA), and South-South integration (MERCOSUR). The conclusion of the study was that the responses to economic integration agreement largely depend on the environmental change brought about by the agreement and the locational advantages of the participating countries and industries. More specifically, the findings suggested that the most positive impact on FDI has occurred when regional integration agreements have coincided with domestic liberalization and macroeconomic stabilization in the member countries. The robustness of study results could have been enhanced by using inferential statistics in the analysis instead of descriptive statistics. In addition, this study did not consider the role of ease of doing business and economic growth as factors contributing to attraction of FDI.

Employing a Pooled Tobit model with time dummy variables, Morgan and Wakelin (1999) assessed the impact of European integration on foreign direct investment (FDI). The study focused in particular on inward investment in the UK food industry over a period of ten years from other EU member States and from the rest of the world. The main explanatory variable of interest was the level of integration that had occurred in the EU market as measured using price convergence. This was assumed using the change in the coefficient of price variation across EU countries. A decrease in this indicator shows convergence in prices within the EU; it was assumed this represented the effectiveness of the single market programme in creating a unified market. The other explanatory variables included: sector propensity to export (measured using the revealed comparative advantage index), the effective tariff rate (tariff as a proportion of value added by an economic activity) for the EU in each sector, size of sector, average scale, average unit labor costs, and the sector capital intensity. The results showed that FDI defined in terms of total real assets and employment in foreign-owned firms, had increased considerably from other EU countries whilst stagnating from non-EU sources. Price convergence in the EU was found to be an important factor in influencing FDI from both within and outside the EU. In addition, FDI from the rest of the EU appeared to be determined by the level of firm-specific assets and skills in the sector and to be relatively cost-insensitive; it also takes place in sectors with a low propensity to export. Non-EU FDI is influenced by comparative advantage factors such as low costs and capital intensity, and by the effective tariff rate. The researcher notes that coefficient of price variation is not an adequate theoretical measure of dismantling of trade barriers that are assumed to lead to market integration as articulated in trade theory. Intra-regional trade intensity is a stronger indicator of integration.

Economic integration leads to an increase in market size by blurring boundaries among a set of countries. Jaumotte (2004) investigated whether the market size of a regional trade agreement (RTA) is a determinant of foreign direct investment (FDI) received by countries participating in the RTA. This hypothesis was tested on a sample of 71 developing countries during the period 1980-99. A multiple regression model was applied in the analysis. Evidence was found that the RTA market size had a positive impact on the FDI received by member countries. The size of domestic population also seemed to matter, possibly because of its effect on the availability of the labour supply. Countries with a relatively more educated labour force and/ or a relatively more stable financial situation tended to attract a larger share of FDI at the expense of their partners. Finally, it was also concluded that a partial negative correlation between the FDI received by RTA countries and that received by non-RTA countries possibly reflects a diversion of FDI from non-RTA to RTA countries. The study did not interrogate the role of ease of doing business and economic growth in the attraction of FDI.

An analysis about the impact on FDI stocks of specific variables considered denoting the will to integrate, and their relative impact on exports was conducted by Mauro (2000). The researcher used the gravity model approach in the analysis. In this paper the main concern was to assess the impact of the Single Market Programme (SMP) in Europe, but specifically the effect of economic integration upon FDI, relative to that on exports. Is economic integration more beneficial to FDI or to exports? Economic integration was proxied through three main variables: exchange rate variability, tariff barriers and non-tariff barriers and included in gravity-type equations for FDI and for exports in turn. The results showed that the widespread opinion and theoretical claim of "tariff-jumping" FDI is not supported by the evidence. Moreover, non-tariff barriers

have a negative impact on FDI, revealing the greater role of sunk costs for foreign investors as opposed to exporters. In contrast to the impact on exports, exchange rate volatility does not have a negative impact on FDI, since it can partially be overcome by directly investing in the host country. The second concern of this study dealt with the debate on the complementarity vs. substitutability relationship between exports and FDI. At aggregate level, the results showed that a complementary relationship holds.

A review of studies that analyze possible links between FDI and the European Economic and Monetary Union was conducted. The study noted that the OLI paradigm is the general framework for most of the theoretical and empirical literature on multinational firms. The study concluded that trade and investment are complementary flows. The evidence for EU DFI was strong. FDI by European transnational enterprises expanded rapidly within the Union. The creation of the European Union and the consequent exchange rate stability are important factors behind FDI flows. On intra-FDI flows, monetary integration is likely to stimulate FDI between countries joining the EMU (Segre, 2000).

In the developing countries context a study was done to establish the relationship between regional integration and foreign direct investment. The study specifically investigated the effects of specific regional economic agreement investment-related provisions on FDI. The study estimated a model explaining the real stock of UK and US FDI in developing countries, covering 68 (UK) and 97 (US) developing countries over 1980-2001. The researchers included dummies for ANDEAN, ASEAN, CARICOM, COMESA, and SADC among other variables in a gravity model. They find that participation in an RIA can lead to further extra regional FDI inflows, the RIA effect is stronger where RIAs include certain trade and investment provisions, and that

FDI inflows are stronger (weaker) for smaller countries situated closer (further away) to the largest country in the RIA. There is some evidence that RIA provisions which stipulate free movement of people and transfer of capital facilitate the establishment of intra-regional FDI (te Velde and Bezemer, 2006). This study used developing countries economic blocs as just dummies in the analysis.

The impact of preferential trade agreements (PTAs) on countries' ability to attract multinationals was considered in a study conducted by Chen (2008). The study focused on NAFTA. A regression model was employed in the study with FDI being the dependent variable. The independent variables captured in the model included: a vector of home and host country characteristics that capture MNCs market access (e.g. tariffs, freight costs, Corporate tax rate) and comparative advantage motives (factor endowment ratio i.e. capital (K)/Labor (L)), vectors of home and host country industry dummies that control for all country-industry specific factors, a vector of time dummies, and a measure of host countries' status in regional integration. The study found out that the formation of PTAs leads to an increase in FDI by outside multinationals, but the effect varies sharply with the size of integrated markets (measured using GDP) and countries' comparative advantage. Countries integrated with larger markets experience a greater increase in total and export-platform FDI. Those with higher labor endowment also attract more FDI especially in labor-intensive industries, but at the expense of their labor-scarce PTA partners. The study did not distinguish between skilled and unskilled labor. In addition, co-integration and stationerity tests were not conducted despite using time series data.

More empirical evidence on the positive effect of economic integration on FDI is provided in the context of the AFTAs (ASEAN Free Trade Agreement). The roles in

increasing ASEAN countries' attractiveness for FDI from members and non-members was investigated by Ismail, Smith and Kugler (2009). The gravity model was employed in the study in the analysis based on panel data analysis. The following proxies for the independent variable indicators were used: GDP was used as a proxy for Market Size, GDP per capita for the Level of Development, distance for Transportation Cost, sum of regional exports and imports from the host country-scaled by GDP for Openness. The empirical results from extra-regional FDI revealed that the European countries increased investment in ASEAN than any other region in the sample. Moreover, further investigation also found that the USA and Japan invested more in ASEAN5 than in the new ASEAN members. The study did not consider the role of political risk and economic growth.

Research also provides evidence that economic integration favorably influences intra-regional trade and FDI. In South Asia, Hossain (2014) evaluated the relationship between intra-regional trade and FDI focusing on the South Asian Free Trade Area (SAFTA) and the Asia Pacific Trade Agreement (APTA). In order to see the impact of economic integration on intra-regional trade and intra-regional FDI in South Asia, an empirical analysis was conducted using two sets of time series panel data ranging from 1990 until 2012 by estimating two separate regression equations. In this study, multilateral trade agreements and bilateral investment treaties were used as proxy for economic integration. The empirical findings suggest that South Asian Free Trade Area (SAFTA) is positively associated with both intra-regional trade and intra-regional FDI. The Asia Pacific Trade Agreement (APTA) dummy was positively associated with intra-regional trade only.

Further findings of Tuluce, Dedeoglu and Yaprak (2016) study are as follows: the researchers investigated the effect of regional economic integration on foreign direct investment (FDI) in Organization of Black Sea Economic Cooperation (BSEC) countries not only with theoretical point of view but also with empirical evidence. The effect of regional economic integration on FDI was empirically analyzed for 9 countries and the time period covered in this study is after the BSEC had been implemented. The regression model was estimated with panel data methods using a dummy variable for the regional economic integrations for the 1994-2013 periods. The study was concerned with the effect of membership to regional economic integrations together with other factors that have increased FDI flows. The study concluded that with the current increasing regionalization trend, in order to attract higher amounts of FDI, developing countries should stress regional economic integration, or at least they should make regional trade agreements or free trade agreements.

2.3.2 Economic Integration, Ease of Doing Business, and Foreign Direct Investment

Empirical evidence was provided about the role of business environment in the attraction of FDI by Musca and Demirham (2008). The researchers performed the evaluation using the econometric technique of spatial correlation analysis. They studied the factors that determine FDI inflows in developing countries over the period of 2000-2004. The study was based on a sample of cross-sectional data on 38 developing countries. According to the results, growth rate of per capita, telephone main lines (a measure of communication infrastructure) and degree of openness have a positive effect on FDI. Inflation and tax rate affected FDI negatively; Labor cost and risk affected FDI negatively.

Institutional quality is considered in literature as an important driver of FDI in the literature. Amal, Tomio and Raboch (2010) did a study on the determinants of FDI in Latin America. The researchers estimated a panel data model of economic and institutional determinants of FDI in eight Latin American countries, within the period 1996-2008. The results supported the null hypothesis that FDI in Latin America is positively correlated to economic stability, growth, and trade openness, and also the improvement in the institutional and political environment. Furthermore, evidence was found that MNCs are developing market and efficiency seeking strategies in the region.

The determination of FDI into the Balkan transition economies was explored by Estrin and Uvalic (2013). FDI inflows to Southeast Europe were analyzed to determine the main differences in the volume, timing and sectoral structure of FDI within the region and in comparison to the Central East European countries. A gravity model to all transition economies during 1990-2011 was estimated to assess whether the factors driving FDI to Western Balkans were different. The explanatory variables in the model included: GDP, distance, wages, resources (fuel, ores and metal exports of the host as a percentage of merchandise exports), institutions (property rights, investment freedom, and dummies for EU membership, control for EU membership, and Western Balkans dummy variable. The study concluded that even when size of their economy, distance, institutional quality (proxied by property rights and corruption) and prospects of EU membership are taken into account, Western Balkans countries received less FDI. But the findings stressed that EU membership was found to be highly significant. The study ignored the influence of openness to trade on FDI. In addition co-integration and stationarity tests were not conducted on the time series data used.

In the EAC, a study was conducted seeking views about the competitive advantages and disadvantages of East African Community (EAC) as FDI location, observing EAC as a region, in spite of visible differences among the member countries. The data was sourced from MNCs operating within the region. The researchers, Slavica and Andreja (2014) identified competitive advantages of EAC as a location for FDI as follows: fast economic growth, relatively low general government debt, low cost of labor, geographical proximity to regional and international markets, and high share of young people involved in primary education. The most prominent weaknesses inhibiting more FDI inflows in EAC are: small domestic market with low per capita income, low share of exports in GDP, high country risk, slow progress in structural and institutional reforms, underdeveloped infrastructure, high administrative barriers, inefficient government bureaucracy, low secondary and tertiary education enrolment, high level of corruption, and poor implementation of laws. The study concluded that the best way for EAC to attract more FDI in the future is to: to speed up their EAC integration processes, to strengthen the structural and institutional reforms, to accelerate the legal and regulatory reforms, necessary for the improvement of the rule of law, reduction of corruption, and elimination of administrative barriers. The study did not establish whether causal relationship exists among the study variables.

 Similar results were obtained by Shahadan (2014) who explored the relationships between Doing Business indexes and FDI inflow. In this study, the main question to be answered was whether changes in Doing Business Indexes, which are indicating the quality of institutions and regulatory reforms leads to attract FDI inflows. In the study random effect method was used to identify the empirical relations and significant areas for attracting FDI net inflows. This study covered six Asian economies which are Afghanistan, Iran, Pakistan, India, Bangladesh and Sri Lanka for the period 2004-2013.

The regression estimation showed all indexes have inverse relationships, except registering properties, getting credits and trade across borders. Additionally, all the areas are most likely to influence FDI inflows excluding paying taxes and resolving insolvency or closing business in the region

A paper exploring the long-term challenges for trade and foreign direct investment (FDI) of the Association of Southeast Asian Nations (ASEAN) was written by Kawai and Naknoi (2015). A multiple regression gravity model was employed in the study with FDI being the dependent variable and the following set of independent variables: bilateral trade flows, GDP, distance, FTA dummy, exchange rate volatility, difference in financial risks between economies, and the ASEAN partnership dummy, a vector of economy specific variables (GDP per capita, tax haven dummy, institutional quality, and cost of doing business).The evidence suggested that : trade flows and inward FDI mutually reinforce each other, i.e., an increase in trade flows stimulates inward FDI and vice versa; a larger market attracts more inward FDI; FTAs tend to help stimulate inward FDI; and strong institutions, good physical infrastructure, and low costs of doing business are critical in boosting inward FDI.

Recently, Hossan (2015) investigated the effect of economic integration on intra-regional trade and intra-regional FDI. The study focused on various aspects of intra-regional trade and FDI in the South Asia region. In a regression model, multilateral trade agreements and bilateral investment treaties were used as proxy for economic integration. The study used time series data. Explanatory variables included Per capita GDP, population, Lending interest rate, cost of business start-up procedures as a percentage of GNI per capita, Average effective tariff rate, and inflation rate. The findings suggested that South Asian Free Trade Area (SAFTA) was positively

associated with both intra-regional trade and intra-regional FDI. However, none of the bilateral investment treaties appeared to be a significant impacting factor of intra-regional FDI flow in South Asia. The researcher never conducted co integration test despite using time series data and also ignored the role of openness to trade.

In Thailand, Anita, Vito and Tina (2015) investigated the most important impacts of foreign direct investment to emerging economies, focusing on Thailand. Using the PESTEL analysis, the authors analyzed the macro environment for FDI in Thailand and with correlation models; the correlation between FDI and selected economic variables was analyzed. The results of statistical analyses showed that Thailand is an attractive destination for FDI which has a positive effect on economic growth, employment and export. After performing a comparison of the elements of PESTEL analysis of Thailand with Euro-Med states' conditions, it was exposed that some elements are very similar. Especially Southern Euro-Med states' faced numerous political crises in the past. Corruption, government instability, and inefficient government bureaucracy are characteristic also for Southern Euro-Med states and are influencing negatively on the international capital flows.

The effect of doing business indicators on the flow of foreign direct investment (FDI) was analyzed by Ebero and Begum (2016). The study took time series data for the period 2010 to 2014. The data was analyzed using graphic comparison, analysis of variance and correlation tests. The correlation result indicated that costs of starting business, cost to get electricity connection, cost of registering property, resolving insolvency and cost of construction permit had a strong negative relation to the FDI flow to Ethiopia during the study period.

In a study conducted by Kofarbai and Bambale (2016) an assessment of the mediating role of "ease of doing business" indicators, between investment climate and FDI, as one possible determinants of the changing direction of FDI from developed countries to developing ones was conducted. The study used a regression model. The findings revealed that, in Nigeria, the cost of a poor business environment is significant and investment climate constraints add substantially to the cost of doing business. Though, FDI has consistently kept rising year-in, year-out, the study concluded that investment climate in Nigeria is still poor, largely due to infrastructural deficit and administrative bottlenecks which add to the cost of doing business. The study recommended improvement in power supply, corruption to be vigorously tackled, tax administration be streamlined between states and federal government and good investment policy enacted at various state levels to augment that of federal government in order to attract investors and improve ease of doing business in order to better the economic growth.

2.3.3 Economic Integration, Economic Growth and Foreign Direct Investment

The impact of economic growth on FDI has been a source of interest for decades. The literature contains rival theoretical predictions and much conflicting evidence. Iamsiraroj and Doucouliagos (2015) presented a comprehensive assessment of the accumulated evidence on the success of economic growth in attracting FDI. The aim of the study was to identify the significance and the strength of the impact of economic growth in a host country on FDI inflows and to identify the impact of specification differences on the reported economic growth-FDI effects. Meta-regression analysis was applied to 946 estimates from 140 empirical studies. The authors showed that there is a robust positive relationship between growth and FDI. It also appeared that growth was slightly more correlated with FDI in developing countries.

The relationship between economic growth and foreign direct investment was investigated by Abala (2014). The study hypothesized that FDI is important for economic growth as it provides much needed capital, increases competition in host countries and helps local firms to become more productive by adopting more efficient technology. The study employed a multiple regression model. The results showed that foreign direct investment has led to economic growth in Kenya. Other drivers of economic growth identified in this study included inflation, government size, human capital and openness of the economy. This study did not test for the possibility of reverse causality between economic growth and FDI.

After empirically investigating the determinants of foreign direct investment in Pakistan Khan and Nawaz (2010) found the co-efficient of GDP growth rate positive, confirming their hypothesis that higher economic growth rate is associated with greater inflow of FDI. The evidence suggested that foreign investors invest in search of new market opportunities. A large market size provides more opportunities for sale and profit. Countries with better growth prospects symbolized by GDP growth rate took greater inflows of FDI than volatile economies.

Further evidence about the role of economic growth in the attraction of FDI is provided by Dermirham and Masca (2008) who investigated by using a cross-sectional econometric model, the determinants of foreign direct investment (FDI) inflows in developing countries over the period of 2000-2004. The study was based on a sample of cross-sectional data on 38 developing countries. In the models, dependent variable was FDI. Independent variables were growth rate of per capita GDP, inflation rate, telephone main lines per 1,000 people measured in logs (this was a proxy for communication infrastructure), labor cost per worker in manufacturing industry

measured in logs, degree of openness, risk and corporate tax rate. According to the econometric results, in the main model, growth rate of per capita, telephone main lines and degree of openness had positive sign and were statistically significant.

Another study on the role of GDP in the attraction of FDI was conducted by Mateev (2008) who examined the major determinants of foreign direct investment (FDI) flows in the Central and South-eastern European countries. Using an econometric model based on cross-section panel data analysis the study found out that both gravity factors (distance, population, and GDP) and non-gravity, or transition-specific factors (risk, labour costs, and corruption) can explain, to a large extent, the size of FDI flows in transition economies. The evidence about the role of privatization in explaining the scale of inward investment was ambiguous.

Using a panel dataset of bilateral flows of foreign direct investment (FDI) between 1994 and 2000, Beavan and Estrin (2004) investigated the determinants of FDI from Western countries, mainly in the European, to Central and Eastern European ones. The study focused on the following factors: proximity, concentration advantages, and factor costs. A Regression model was employed in the study. They found the most important influences to be unit labour costs, gravity factors, market size, and proximity. FDI is related positively to both source and host country GDP and related inversely to the distance between the countries and to unit costs. Hence investment to the region has been both market seeking and efficiency seeking. Integration with EU was found to be important for FDI in transition economies.

The potential rate of return in an economy as indicated by economic performance is considered an important determinant of FDI. Asiedu (2002) examined whether factors that affect FDI in developing countries affect countries in Sub-Saharan Africa

differently. The multiple regression results indicated that: a higher return on investment and better infrastructure have a positive impact on FDI to non-sub-Saharan Africa countries, but have no significant impact on FDI to sub-Saharan Africa; openness to trade promotes FDI to sub-Saharan African and non-sub-Saharan African countries; however, the marginal benefit from increased openness is less for sub-Saharan Africa.

The role of country income differences in the determination of FDI was investigated by Zarzoso and Lehmann (2003) who applied the gravity trade model to assess Mercosur-European Union trade, and trade potential following the agreements reached between both trade blocs. The model was tested for a sample of 20 countries, the four formal members of Mercosur plus Chile and fifteen members of the European Union. A panel data analysis was used to disentangle the time variant country-specific effects and to capture the relationships between the relevant variables over time. The results showed that the fixed effect model is to be preferred to the random effects gravity model. Furthermore, a number of variables, namely, infrastructure, income differences (as measured using GDP Per Capita) and exchange rates added to the standard gravity equation, were found to be important determinants of bilateral trade flows.

2.3.4 Economic Integration, Ease of Doing Business, Economic Growth, and Foreign Direct Investment

Economic integration, ease of doing business and FDI are shown to have some relationship in a study by Penev and Rojec (2014). They assessed the relationship between inward FDI, EU accession, and transition-related structural reform processes, and also identified the largest lags of South Eastern European states (SEE-6) countries in EU accession and transition processes, whose removal was expected to have a positive impact on inward FDI. The analysis was based on EBRD Transition Indicators,

the World Bank Doing Business Index, and the World Bank Governance Index. It was found that there was correlation among inward FDI, transition, and EU accession processes by SEE-6 countries: that is, their relative position as FDI recipients will gradually improve along with the progress of EU accession and transition processes. The analysis identified the following main gaps of the SEE-6 in these processes: in terms of economic system development - enterprise restructuring and governance, and sectoral reforms in energy, infrastructure, capital markets, and private equity; in terms of the governance of economy and society at large – regulatory quality and rule of law; and in terms of the business environment - dealing with construction permits, enforcing contracts, and registering property. This study measured FDI inflows as opposed to FDI stocks.

A comprehensive literature review was conducted by Lipsey and Sjöholm (2010) to investigate the drivers of FDI in the East Asia and how FDI affects economic growth and economic integration. A survey of literature showed that foreign direct investment has been important in the economic growth and global economic integration of developing countries. In addition, it was revealed that a relatively poor business environment with inefficient institutions seemed to be an important explanation behind the low inflows of FDI into East Asia. Further results showed that FDI has been a source of the rapid economic growth of some Asian countries. It was noted that the economic success of Singapore inspired other countries in East Asia to liberalize their trade regimes and to encourage the entrance of foreign multinational firms.

The United Nations Conference on Trade and Development (UNCTAD) (2009) as part of their series on international investment policies for development carried out a descriptive survey about the role of international investment agreements in the

attraction of foreign direct investment in developing countries. The study established that international investment agreements influence companies' decision on where to invest. Therefore, developing countries wanting to attract more and better foreign investment may wish to strengthen the role of international investment agreements as an investment promotion instrument. Additionally, the important host country determinants of FDI identified consist of: the general policy framework for foreign investment, including economic, political and social stability, and the legislation affecting foreign investment; economic determinants, such as the market size, economic growth, cost of resources and other inputs or the availability of natural resources; and business facilitation, including investment promotion.

Using panel data from 68 low-income and lower-middle income developing countries, Mottaleb and Kalijaran (2010) sought to identify the factors that determine FDI inflow to the developing countries. A multiple regression model was employed in the analysis. The study demonstrated that countries with larger GDP and high GDP growth rate, higher proportion of international trade and with more business friendly environment are more successful in attracting FDI.

Kastrati (2013) examined the benefits of FDI as a key component for successful and sustainable economic growth. The aim of the study was to highlight the most important channels through which FDI makes a significant impact on the economic growth of the host countries. The study concluded that to reap the maximum benefits from foreign corporate presence a healthy enabling environment for business is paramount, which encourages domestic as well as foreign investment, provides incentives for innovation and improvements of skills and contributes to a competitive corporate climate. The factors that hold back full benefits of FDI in some developing countries include

insufficient openness to trade, weak competition and inadequate regulatory frameworks.

In summary, the literature review identifies customs union theory (Viner, 1950; Kindleberger, 1966) and eclectic theory (Dunning, 1977) as the ones bearing the greatest relevance to this study. The customs union theory as articulated by Kindleberger (1966) building on the original version by Viner (1950) explains the consequences of forming a customs union in terms of investment creation and diversion. The eclectic theory argues that one of the reasons why firms invest in other countries is search for location specific advantages such as access to large market, rule of law, economic performance among others. To this extent, this resonates with some of the key concepts of interest in this study namely ease of doing business and economic growth. The empirical studies reviewed on the basis of the four objectives of this study bring out the knowledge gaps in the previous related studies. These gaps are summarized in the next section both in prose form and a table.

2.4 Summary of Knowledge Gaps

An evaluation of the studies reveals that majority focused their attention on economic integration involving developed economies, mainly the European Union (EU). This could be possibly explained by the facts that until recently not many free trade area agreements (FTAs) were in operation; therefore, available data on their impact has been limited to the experience of the formation of EU and NAFTA. It will be untenable to assume that the results obtained in the context of developed economies would necessarily follow in the case of developing economies. Specifically, there is no study that has ever studied the relationship between economic integration and foreign direct

investment focusing on the East Africa Community economic bloc. Therefore, a contextual knowledge gap exists in that respect.

In addition, developing countries are uniquely characterized by some important determinants of FDI that are not shared by the developed economies. Some of the important variables as discussed in the literature include: ease of doing business and economic growth. There is lack of a comprehensive study about economic integration and its influence on FDI in developing economies, which incorporates the effects of ease of doing business and economic growth. The fact that there is absence of a study that synchronizes the relationships among economic integration, economic growth, Ease of Doing Business and foreign direct investment means that there is a conceptual knowledge gap in that regard.

Finally, some studies lacked in the modeling of relationship between study variables. While majority of the studies made use of regression analysis and time series data, mandatory OLS diagnostic tests, stationarity test and co integration tests which are very crucial in time series modeling were missing. In addition, some studies have shown that FDI is responsible for driving economic growth (Borensztein, Gregorio and Lee, 1997; Alfaro, Chanda, Ozcan and Sayek, 2006; Katerina, 2004). Therefore, reverse causality was conducted in this study to establish the direction of relationship. The current study addresses this methodological knowledge gap.

Table 2.1: Summary of Knowledge Gaps

Author(s)	Focus	Context	Methodology	Findings	Gap(s)	Current study
Hossan (2015)	Intra-regional trade, intra-regional FDI and economic integration: The South Asian perspective	SAFTA	Causal research design ; Regression model	South Asian Free Trade Area (SAFTA) was positively associated with both intra-regional trade and intra-regional FDI; Asia Pacific Trade Agreement (APTA) dummy was positively associated with intra-regional trade only.	The study focused on intra-regional FDI; No stationerity and reverse causality tests.	This study shall focus of extra regional FDI ; stationarity and reverse causality tests
Estrin and Uvalic (2013)	Foreign direct investment into transition economies: Are the Balkans different?	Western Balkan countries	Causal research design; Gravity model	Even when size of their economy, distance, institutional quality and prospects of EU membership are taken into account, Western Balkans countries received less FDI; EU membership was found to be highly significant.	Openness to trade not considered; No co-integration and stationerity tests despite using time series data	The study will consider the effect of openness to trade on FDI
Mottaleb and Kalijaran (2010)	Determinants of foreign direct investment in developing countries: A comparative analysis	68 low-income and lower-middle income countries	Panel Data; Multiple regression	Countries with larger GDP and high GDP growth rate, higher proportion of international trade and with more business friendly environment are more successful in attracting FDI.	This study did not consider the role of economic integration.	The study will find out the effect of economic integration on FDI
Ismail, Smith and Kugler (2009)	The effect of ASEAN economic integration on foreign direct investment	ASEAN	Correlation research design; Gravity model; cross-section and panel data	European countries, USA and Japan increased investment in ASEAN; The ASEAN5 (original AFTA members) invested in each other less than they invested in new ASEAN members	Role of political risk not considered	This study will consider the effect of political risk (i.e. corruption, bureaucracy and property rights) on FDI
Chen (2008)	Regional economic integration and geographic concentration of multinational firms	NAFTA	Causal research design; Regression model	Formation of PTAs leads to an increase in FDI by outside multinationals, but the effect varies sharply with the size of integrated markets and countries' comparative advantage	Role of openness to trade not considered; Co-intgration and stationerity tests not conducted;	This study will find out the effect of openness to trade on FDI
Dermirham and Masca (2008)	Determinants of foreign direct investment flows to developing countries	38 developing countries	cross-sectional econometric model	growth rate of per capita, telephone main lines and degree of openness influence FDI location decisions	Study did not factor the role of economic integration as a determinant of FDI.	The study will find out if economic integration is a determinant of FDI
Blomstrom and Kokko (1997)	Regional integration and foreign direct investment	NAFTA	Descriptive research design; Descriptive statistics	Positive FDI has occurred when regional integration agreements have coincided with domestic liberalisation in the member countries	Ease of doing business and economic growth not considered	This study will analyse the effects of ease of doing business and economic growth on FDI

2.5 Conceptual Framework

In this study, the dependent variable was foreign direct investment (FDI). Foreign direct investment was measured using quarterly FDI stock occurring within the East African Community (EAC). The FDI stock refers to the difference between FDI inflows and outflows at a particular point in time. Economic integration is the independent variable. It is expected to influence the level of FDI stock in the EAC. Economic integration was measured using intra-regional trade intensity and regional price convergence. Increased level of intra-regional trade means a deepening of economic integration. Similarly, a decrease in inter-country inflation variance (that is, regional price convergence) also implies a more integrated market.

Ease of Doing Business is an intervening variable. Economic integration is expected to enhance Ease of Doing Business in the EAC. In turn, Ease of Doing Business is expected to attract FDI. Therefore, Ease of Doing Business is expected to carry the influence of economic integration to the foreign direct investment. Ease of Doing Business is measured using trade openness, ease of trading across borders, property rights, corruption, and red tape.

Economic growth is expected to moderate the relationship between economic integration and foreign direct investment. In other words, an increase in economic growth is expected to enhance the rate at which economic integration drives FDI inflows. Economic integration was measured using GDP growth rate.

Conceptual Framework

The inter-relationships among study variables are illustrated below:

Figure 2.1: Conceptual Framework

H_{01}

Independent Variable

Intervening Variable

Ease of Doing Business

- Trade openness [exports+imports]/GDP
- Ease of trading across borders index
- Property rights index
- Corruption index
- Red tape index

Dependent Variable

Economic Integration
- Intra-regional trade intensity index
- Regional price convergence

H_{03}

Foreign Direct Investment (FDI)
- Net cross-Border Investment from rest of the world into EAC

H_{04}

Moderating Variable

Economic Growth

- GDP Growth Rate

Source: Author (2016)

H_{02}

45

2.6 Research Null Hypotheses

The study tested the following null hypotheses:

i. Economic integration does not significantly affect foreign direct investment in the East African Community

ii. Economic growth rate does not significantly moderate the relationship between economic integration and foreign direct investment in the East African Community

iii. Ease of Doing Business does not significantly mediate the relationship between economic integration and foreign direct investment in the East African Community

iv. Economic integration, ease of doing business, and economic growth do not have a significant joint effect on foreign direct investment in the East African Community

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research philosophy that informed the methodologies used to investigate relationships among study variables. The research design, population and sampling procedures are explained. Finally, data collection methods and the empirical model are given.

3.2 Research Philosophy

A research philosophy is a view about the way in which data about a phenomenon should be gathered, analyzed and used. The term epistemology encompasses the various ideologies of research approach. The underlying epistemology of this study was positivism which focuses on evaluating earlier confirmed theories under the premise that reality is dispassionately given and can be described by quantifiable properties independent of the observer and his apparatus. Positivism is different from the phenomenological epistemology. Epistemologically, phenomenological approaches are grounded in a precedent of personal knowledge and discretion, and emphasize the importance of personal view and exposition. Therefore, they are useful for understanding personal experience, discerning people's motivations and actions, and cutting through the litter of implicit assumptions and prevailing wisdom. Phenomenological research seeks basically to characterize rather than explain, and to start from a view point free from hypotheses or presuppositions (Hughes, 2001a).

Positivism argues that phenomena should be separated and that observations should be repeatable. This often involves engineering of reality with variations in only a single independent variable so as to identify the rhythm in, and to form relationships between,

some of the constituent elements of the social world. Positivist researchers have to make a basic assumption that what is being studied is subject to latent, rigid, universal laws. The key features of this scientific method include: observation and collection of data, looking for patterns and developing theory, forming hypothesis to test the theory, conducting research to test the hypothesis, and support or adjustment of the theory. The methodology relies on the collection of empirical data; facts or information that has been derived by observation or experiment. Positivist paradigm leads to a scientific, systematic approach to research and as such lends itself to the use of quantitative methodology (Coolican, 2004).

According to Robson (2002) positivism paradigm allows the researcher to conduct the research in a value-free way without compromising subjectivity. The alternative paradigm, interpretivism emphasizes subjectivity on the part of the researcher. The concern is to appreciate the differences in human behavior in social contexts. For instance, such a research philosophy would be appropriate in the context of evaluating organizational behavior (Hakim, 2000).

After taking into account the various philosophical orientations articulated above, it was considered that the positivism philosophical stance was the most appropriate for this study. This research relied on the real world data and made an objective interpretation and generalization of the results without any manipulation or subjectivity. The choice is justified because this study involved formulation of hypotheses based on theories and previous studies, collection of empirical data, and an objective testing of the hypotheses. The following table juxtaposes the difference between this strategy and the other available alternatives and hence justification as to why positivism paradigm was chosen:

Table 3.1: Characteristics of alternative research philosophies

Research Paradigm	Nature of reality	Types of knowledge sought	Role of the researcher	Implications of findings
Positivism	There is only one, universal reality that researchers seek to gauge in an objective manner	The aim is to get theories that are universal in their use. Normally uses a quantitative approach to show relationship between variables.	Unbiased individual with commanding voice in his/her writings	Data is meant to achieve universal theories and estimation of variables; information can be used in practice.
Post positivism	In some instances, there may be one outer truth	one cannot verify that a theory is completely true and hence the conclusions are rather tentative	The researcher cannot be unbiased	Data analysis enhances an appreciation of political, social, and cultural processes; may be the foundation of a suggested action
Interpretivism	Interpretations and insights are multiple; the interpretations are subjective	The aim is to detail events, processes, or culture from the point of view of the participants. Therefore many versions truth are possible	An open-minded observer who appreciates other people's views; less authoritative in his/her work	Research aims to appreciate gender-based differences, usually with objective of reducing gender based disparities
Feminism	Reality is evaluated from gender perspective, in ways that highlight gender dominance	The focus in on how gender dimensions influence social behaviors	A compassionate listener or observer who is sensitive towards those being studied	

Source: Coolican (2004)

3.3 Research Design

Research design means the overall plan of action that a researcher would employ to consolidate the various elements of the study in an organized and methodical way, thereby, ensuring that the research problem is tackled; it comprises the layout for data collection, measurement and analysis (Kothari, 2004).

The main research designs include: (i) Descriptive Design, which entails simply describing a variable or phenomenon; (ii) Correlational Design, which involves exploring statistically the relationship between variables. This design does not evaluate cause and effect; (iii) Experimental Design, involves an evaluation of cause-effect relationship among variables. In this research design, one variable is manipulated when the other variables are being controlled; (iv) Exploratory Design is meant for a problem that has not been studied more clearly. The objective is to help determine the best research design for the problem (Ruspin, 1999).

A Descriptive Correlational Research Design was employed in this study to examine the relationship between economic integration, ease of doing business, economic growth and foreign direct investment. According to Waters (2005) a descriptive correlational study describes and predicts how variables are related in the real world. The researcher does not attempt to change (manipulate) or assign causation between the variables. Correlations measure relationships between variables using real world data in a natural setting.

The choice of Descriptive Correlation Research Design is justifiable because this study used regression models seeking to establish the existence or otherwise of statistically significant relationship among the four variables of study. Quarterly time series data was utilized to evaluate the relationships.

3.4 Population and Sample

This research was a case study of the East African Community (EAC) economic bloc. East African Community is a regional intergovernmental organization of the Republics of Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. Formed in the year 2000, the economic bloc attained a common market integration level as at the end of the year 2015.

The EAC economic bloc was the unit of analysis. However, only Kenya, Tanzania, Uganda, Rwanda and Burundi were selected to represent the EAC. This is because the data of interest in this study spanned from the year 2001 to 2015. The other member of EAC, South Sudan was not included because she became a member in the year 2016.

3.5 Data

The study relied purely on secondary data. This is because all the data of interest to this study is available in published form from different organizations. The historical data for the period 2001 - 2015 was sourced from tradingeconomics.com, EAC statistics portal, UNCTAD, World Bank, and Transparency International records. Specifically, FDI data was sourced from UNCTAD and tradingeconomics.com, GDP data was obtained from the EAC statistics portal, African Development Bank and tradingeconomics.com, while the data on intra-regional trade was accessed from the IMF's Direction of Trade Statistics (DOTs) and tradingeconomics.com, the data to compute regional price convergence (that is, inflation variance data) was sourced from tradingeconomics.com, Transparency International provided the data on corruption index, while the data on red tape, property rights and ease of trade across borders was obtained from the World Bank. Appendix 1 gives a summary of the data used and sources.

Most of the data published by these organizations is usually audited hence providing strong assurance of quality. The time series data used in the study spanned from years 2001 to 2015. Quarterly data was used in the study meaning that there were 60 data points. The current East Africa Community came into being in the year 2000.

3.6 Operationalization of the Variables

Foreign direct investment (FDI) refers to all net capital flows between countries. This study was interested in measuring the stocks of FDI at a particular time as opposed to the gross FDI inflows. This refers to the difference between FDI inflows and outflows at a particular point in time (Athukorola, 2013).

Economic integration was measured using intra-regional trade intensity index and regional price convergence. The extent of integration is typically observed in bilateral trade of countries (Kodongo and Natto, 2014). Trade volume is an all-encompassing variable that is responsive to changes over time in the progress of regional integration (Krieger-Boden and Soltwedel, 2010).Trade and investment are twin flows (Segre, 2000), hence an expected positive coefficient. Intra-regional trade intensity index is the ratio of intra-regional trade share to the share of world trade with the region. It determines whether trade within the region is greater or smaller than should be expected on the basis of the region's importance in world trade. An index of more than one indicates that trade flow within the region is larger than expected given the importance of the region in world trade.

Regional price convergence (σ-convergence) means that the variance of prices within a group of countries becomes smaller (Barro and Sala , 1995). The Law of One Price (LOOP) states that a product must sell for the same price in all locations of the integrated market. Engel and Rogers (2001) measured price convergence between US

cities using dispersion of inflation. The lower the inflation variance, the more integrated the market.

Economic growth was treated as a moderating variable. Higher economic growth rate is associated with greater inflow of FDI (Iamsiraroj and Doucouliagos, 2015; Khan and Nawaz, 2010; Dermirham and Masca, 2008), hence the coefficient is expected to be positive.

Ease of Doing Business can be decomposed into trade openness and political risk. Trade openness shows the extent to which a country has reduced trade barriers with rest of the world. Openness to trade is measured using the ratio of exports and imports to the GDP. This ratio is indicative of the extent of trade liberalization by a country. This is expected to lead to attraction of FDI. According to Segre (2000) trade and investment are harmonious flows, hence a positive coefficient. On the other hand, Ease of trading across borders index takes into account reconciliation of regional trade regime, trade logistics, border procedures, and transport costs. A higher score on ease of trading across borders attracts FDI hence a positive coefficient (Dermirham and Masca, 2008)).

Political risk can be measured using the following three indicators: property rights, corruption index, and red tape (bureaucracy). Bureaucracy refers to all state organizations engaged in formulating and implementing policy as well as in regulating and delivering services. The bureaucracy index focuses on how much time, money and effort businesses spend to conform to regulations e.g. business registration and licensing process. Favorable bureaucracy ranking is expected to attract FDI hence the positive coefficient (Hossan, 2015).The Transparency International corruption index reflects the degree of informality in the economy. It combines several indicators which measure the extent to which public power is abused for private gain. This includes petty

and grand forms of corruption. Corruption is expected to discourage FDI (Estrin and Uvalic, 2013). A high corruption index score as given by Transparency International means that a country is less corrupt and hence a higher index is expected to lead to higher FDI and hence a positive coefficient. Property rights index takes into account protection of physical property rights, registering property, access to loans, protection of intellectual property rights, patent protection, and copyright piracy. A higher ranking on property rights attracts FDI hence a positive coefficient (Singh, 2015). The following table gives a summary of the indicators and measures of the study variables.

Table 3.2 Measurement/Operationalization of variables

	Independent variable			
Variable	**Indicator(s)**	**Operational definition**	**Researchers who used same measure**	**Data source**
Economic integration	Intra-regional trade intensity index	$[Xii / (Xi)] / [Xi/Xw\}]$, where Xii is export of region i to region i plus imports of region i to region i, Xi is total exports of region i to the world plus total imports of region i from world, Xw is total world exports and imports	(Dreger, 2007).	IMF and EAC statistics Portal
	Regional price convergence	Inflation variance among the member countries	Barro and Sala (1995).;Engel and Rogers (2001)	tradingeconomics.com
	Dependent variable			
Foreign Direct Investment (FDI)	FDI stock	Difference between FDI inflows and outflows at a particular point in time	Athukorola (2013)	UNCTAD
	Moderating Variable			
Economic Growth	GDP growth rate	EAC average GDP growth rate	Iamsiraroj and Doucouliagos,(2015);Khan and Nawaz, (2010); Dermirham and Masca, (2008)	tradingeconomics.com Africa Development Bank
	Intervening Variable			
Ease of Doing Business	Trade openness	[exports + imports]/GDP	BIS Performance Indicators (2015).	tradingeconomics.com
	Ease of trading across borders index	Harmonization of regional trade policy, trade logistics, border procedures, and transit costs	African Development Bank (2012)	World Bank
	Property rights index	Protection of physical property rights, registering property, access to loans, protection of intellectual property rights, patent protection, and copyright piracy	Singh (2015)	World Bank
	Corruption index	Degree of informality in the economy; petty and grand forms of corruption	Estrin and Uvalic (2013).	Transparency International
	Bureaucracy index	How much time, money and effort businesses spend to comply with regulations e.g. business registration and licensing process	Hossan (2015)	World Bank

Source: Author (2016)

3.7 Data Analysis

The relationship between study variables was estimated using a multiple regression model. Regression analysis allows one to model, examine, and explore spatial relationships, and can help explain the factors behind observed spatial patterns. Regression analysis is also used for prediction. Ordinary Least Squares (OLS) is the most common of all regression techniques. It provides a global model of the variable or process you are trying to understand or predict.

The effect of intervening variable was measured using path analysis causal procedure. Hierarchical regression was used to establish the influence of the moderating variable on the relationship between independent and dependent variables. A regression equation was used to assess the joint significance of all the explanatory variables.

The regression coefficients were used to test the unique effect of each independent variable. The study used t - test as the test statistic. The t-value is a test statistic for t-tests that measures the difference between an observed sample statistic and its hypothesized population parameter in units of standard error. A t-test compares the observed t-value to a critical value on the t-distribution with (n-1) degrees of freedom to determine whether the difference between the estimated and hypothesized values of the population parameter is statistically significant. The corresponding probability value (p value) for each t - value was used to test the significance of regression coefficients at 5% significance level.

3.7.1 Model Specification and Variable Definition

The following general model was used in this study:

$$\ln FDI_t = \beta_0 + \beta_1 IT_t + \beta_2 PC_t + \beta_3 GDPt + \beta_4 OT_t + \beta_5 ET_t + \beta_6 PR_t + \beta_7 CI_t + \beta_8 RT_t + \mu_t$$

Where FDI_t is the total value of FDI stock from rest of the world (ROW) into EAC expressed in US dollars; IT_t is EAC intra- regional trade intensity index; PC_t is regional price convergence measured using inflation standard deviation among members; $GDPt$ is average EAC GDP growth rate (Regional GDP growth rate data is available from AfDB); OT_t is openness to trade of EAC at time t as measured using [total exports + total imports]/ GDP; ET_t is EAC ease of trading across borders index at time t as given by the World Bank; RT_t is bureaucracy index of EAC member countries at time t as given by the World Bank; CI_t is corruption index of EAC member countries at time t as given by Transparency International; and PR_t is property rights index of EAC member countries at time t as given by the World Bank.

For ET, RT, CI, and PR the average score for EAC member countries was computed, for instance CI = {(corruption index for Kenya + corruption index for Uganda + corruption index for Tanzania + corruption index for Rwanda + corruption index for Burundi)/ 5}. In addition, a composite measure of ease of doing business (EDB) was calculated as a simple average of the five indicators namely OT, ET, PR, CI and RT. All these five measure are measured as ratios/percentages and hence it was possible to combine them. This results in the following model:

$$\ln FDI_t = \beta_0 + \beta_1 IT_t + \beta_2 PC_t + \beta_3 GDPt + \beta_4 EDB_t + \mu_t$$

Where EDB is ease of doing business

A semi-logarithmic model was used where a natural logarithm of FDI was used as the dependent variable. This is because while the term on the left hand side of the equation (that is, FDI) is measured in millions of US dollars, the terms on the right hand side of the equation (that is, economic integration, ease of doing business and economic growth) are measured in terms of ratios. Therefore, to make the terms on both sides of the equation comparable, a natural logarithm of FDI is used on the left hand side of the equation. One of the properties of natural logarithm as described in differential calculus is that a small change in the natural logarithm of a variable is directly interpretable as a percentage change (Wooldridge, 2006). The interest of this study was to find out how a change in economic integration, ease of doing business and economic growth influence change in FDI in percentage terms.

3.7.2 Diagnostic Tests

Regression diagnostics play a vital role in finding and validating a good predictive relationship between the dependent and independent variables. The following diagnostic tests were conducted: normality, autocorrelation, heteroscedasticity, and multicollinearity. Jarque-Bera test was used to test normality.

The test for autocorrelation was performed to establish whether residuals are correlated across time. OLS assumptions require that residuals should not be correlated across time and thus the Breusch–Godfrey test which is also an LM test was adopted in this study. The null hypothesis is that no first order serial /auto correlation exists. For the linear regression model to hold, the variance of the error term should be constant. If the error terms do not have constant variance, they are said to be heteroscedastic.

Wald test for heteroscedasticity is used in this study. The null hypothesis is that the series is homoscedastic (or constant variance). Heteroscedasticity occurs when the

variance of the error terms differ across observations. The standard errors of the estimates are biased if we have heteroscedasticity. According to Newton (2001) the solution to herescedasticity when using STATA is to use the option 'robust' to control the problem. The results were further confirmed using the White's test where the null hypothesis of the test is error terms have a constant variance (i.e. should be Homoskedastic).

Multicollinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors (Belsley, Edwin and Roy, 1980). Multicollinearity was tested using Variance Inflation Factors (VIF). The objective of calculating VIF statistic is to determine the level of multicollinearity that can be tolerated without presenting any problems in regression analysis (Robinson and Schumacker, 2009).

To solve the problem, the study adopted a method to standardize the predictors by using a method known as centering the variables. This method removes the multicollinearity produced by interaction and higher-order terms as effectively as the other standardization methods, but it has the added benefit of not changing the interpretation of the coefficients (William, Grajeles and Kurkiewicz, 2013).

3.7.3 Unit Roots (Stationarity) Tests

This study used time series data. According to Wooldridge (2006) most time series are non-stationary. Economic variables such as GDP, FDI, inflation and trade typically exhibit a random walk. A random walk is loosely known as a unit root process in time series literature. A stochastic variable Y is said to follow a random walk without a drift if it's value at time t can be expressed as the sum of its value at time t-1 and a random shock, ε : $Y_t = \rho Y_{t-1} + \varepsilon_t$, where ρ is a constant. If $\rho = 1$, the random walk model gives

rise to a unit root process. Non-stationary data, as a rule, are unpredictable and cannot be modeled or forecasted. The results obtained by using non-stationary time series may be spurious. Therefore, before subjecting economic time series data such as GDP, FDI, inflation and trade statistics into analysis it is imperative to perform stationarity test and if necessary transform non-stationary into stationary data. In contrast to the non-stationary process that has a variable variance and a mean that does not converge, or returns to a long-run mean over time, the stationary process reverts around a constant long-term mean and has a constant variance independent of time.

The Dickey and Fuller (1979) and the Augmented Dickey and Fuller (ADF) methodologies were applied in testing for the presence of a unit root. The standard Dickey-Fuller procedure tests the null hypothesis that $\alpha = 0$, that is, $\rho = 1$ against the alternative that $\alpha < 0$, that is, $\rho < 1$. Rejection of the null hypothesis implies that the series is stationary. If the null hypothesis is not rejected, one concludes that the series has a unit root, meaning that it is non-stationary. The τ (tau) statistic, whose critical values were developed by Dickey and Fuller (1979), is used to test the null hypothesis.

3.7.4 Cointegration Test

In econometrics, two (or more) economic variables are said to be cointegrated if a long-run, or equilibrium relationship exists between (or among) them. The purpose of cointegration test is to find out if the variables of study are linked by a long-run economic relationship. In this study it was necessary to perform cointegration test in order to determine whether the established relationships among the variables are as a result of short-run movements or are equilibrium relationships. Presence of cointegration among variables makes it possible to effect economic policy. A time series is said to be integrated of order d, I(d), if stochastic trends or unit roots can be

removed by differencing the series d times and a stochastic trend still remains after differencing only d-1 times (Lutkepohl, 2007). Accordingly, a variable without a stochastic trend or unit root is also said to be integrated of order zero, I(0). A set of variables of the same integration order d (typically 1), are said to be cointegrated if a linear combination of the variables exists which is I (0).

In this study, Engle and Granger (1987) procedure was used. The procedure is predicated on the notion that two or more economic variables are cointegrated if the residuals from the regression of the two variables exhibit stationarity; i.e. if the residuals are integrated of order Zero, I (0). The regression coefficients are tested for significance using τ (tau) statistic for Y. The null hypothesis is that the variables are not cointegrated. The null hypothesis that the residuals ε_t are not I(0) is rejected if the computed τ statistic is more negative than the critical τ statistic.

3.7.5 Reverse Causality Test

Economic growth has been used as one of the explanatory variables, but some studies have shown that FDI is responsible for driving economic growth (Borensztein, Gregorio and Lee, 1997; Alfaro, Chanda, Ozcan and Sayek, 2006; Katerina, 2004). Therefore, it was important that reverse causality was conducted in this study to establish the direction of relationship.

Granger (1969) suggested a method for determining how much of the current value of a variable, *Y*, can be explained by past values of *Y* and whether adding lagged values of another variable, *X*, can improve the estimate. Then, *Y* is said to be "Granger-caused" by *X* if *X* helps to predict *Y*. Similarly, *X* is said to be "Granger-caused" by *Y* if *Y* helps to predict *X*. The null hypotheses to be tested are: H_{01}: YI =Y2 = …… = YL = 0 and H_{02}: $\theta1=\theta2=\ldots\ldots= \theta L= 0$. Failure to reject H_{01} implies that GDP growth does not

Granger-cause FDI; whereas failure to reject H_{02} implies that FDI does not Granger-cause GDP growth.

3.7.6 Testing the Effect of Economic Integration on Foreign Direct Investment

The effect of economic integration on foreign direct investment was measured using the following simple regression models:

$$lnFDI_t = \beta_0 + \beta_1 PC_t + \mu_t$$

$$lnFDI_t = \beta_0 + \beta_1 IT_t + \mu_t$$

Where: FDI_t is total value of FDI stock from rest of the world (ROW) into EAC expressed in US dollars; IT_t is EAC intra- regional trade intensity index: PC_t is regional price convergence measured using inflation variance among members; β_0 and β_1 are regression coefficients. Significance of the regression coefficient was measured using P values

3.7.7 Testing the Intervening Effect of Ease of Doing Business on the relationship between Economic Integration and Foreign Direct Investment

An intervening variable is the one that carries the influence of independent variable to the dependent variable. In this study, Ease of Doing Business is an intervening variable. It is expected to mediate the relationship between economic integration and flow of FDI. In other words, economic integration is expected to lead to improvement in the ease of doing business which in turn will lead to attraction of FDI. The following causal sequence procedure (path analysis) as proposed by Nur, Zalina, Hafizah and Siti (2009) was followed in testing the mediating effect.

62

Economic integration   c   FDI stock

     (IT, PC)   (FDI)

                                c'

Economic integration ⟶ Ease of Doing Business ⟶ FDI stock

     (IT, PC)   a   (ET, PR, CI & RT)   b   (FDI)
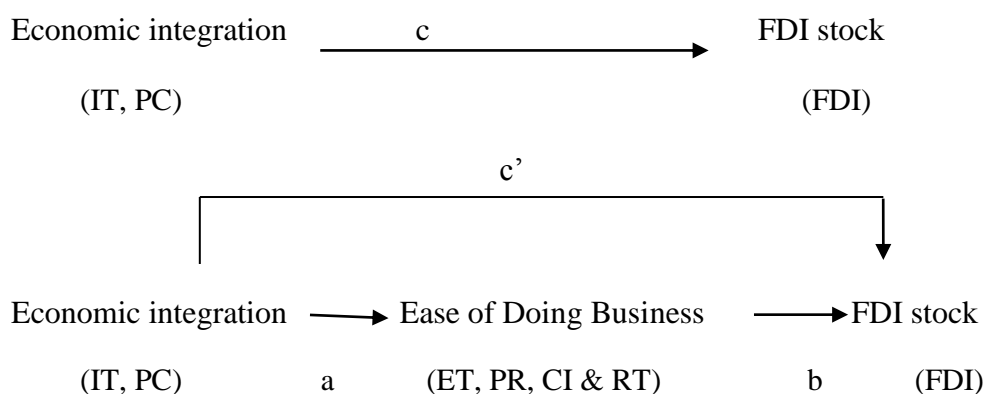
Step	**Analysis**
1	Conduct regression analysis with Economic Integration (IT&PC) predicting FDI to test for path C alone, $lnFDI_t = \beta_0 + \beta_1 IT_{t} + \mu_t$ $lnFDI_t = \beta_0 + \beta_1 PC_{t} + \mu_t$
2	Conduct regression analysis with Economic Integration(IT&PC) predicting Ease of Doing Business (ET, PR, CI & RT) to test for path a, $EDB_t = \beta_0 + \beta_1 IT_{t} + \mu_t$ $EDB_t = \beta_0 + \beta_1 PC_{t} + \mu_t$
3	Conduct regression analysis with Economic Integration(IT&PC) and Ease of Doing Business (ET, PR, CI & RT) predicting FDI to test for C', $lnFDI_t = \beta_0 + \beta_1 IT_t + \beta_2 EDB_t + \mu_t$ $lnFDI_t = \beta_0 + \beta_1 PC_t + \beta_2 EDB_t + \mu_t$

Results from the above analysis should be interpreted as follows. The first possibility is that there is existence of full mediation, that is, Ease of Doing Business completely mediates the relationship between Economic Integration and FDI. This will be the verdict if all the following three conditions are met: Economic integration predicts FDI; Economic integration predicts Ease of Doing Business; and Economic integration no longer predicts FDI, but Ease of Doing Business does when both economic integration and Ease of Doing Business are used in the model to predict FDI.

The second possibility is the presence of partial mediation, that is, Ease of Doing Business partially mediates the relationship between economic integration and FDI. This will be the conclusion if all the following three conditions are met: Economic integration predicts FDI; Economic integration predicts Ease of Doing Business; and

Both economic integration and Ease of Doing Business predict FDI, but economic integration has a smaller regression coefficient for the same sample when both economic integration and Ease of Doing Business are used to predict FDI than when only economic integration is used.

The third and final possibility is the absence of mediation, that is, Ease of Doing Business does not mediate the relationship between economic integration and FDI. This will be the case if any of the following conditions are met: Economic integration does not predict Ease of Doing Business; Ease of Doing Business does not predict FDI; or the regression coefficient of economic integration remain the same before and after Ease of Doing Business is used to predict FDI.

3.7.8 Testing the Moderating Effect of Economic Growth on the Relationship between Economic Integration and Foreign Direct Investment

A moderator is a variable that specifies conditions under which a given predictor is related to an outcome. It explains when an independent and dependent variables are related. The moderating effect could be (a) enhancing, when increasing the moderator would increase the effect of the predictor on the outcome; (b) buffering, where increasing the moderator would decrease the effect of the predictor on the outcome; or (c) antagonistic, where increasing the moderator would reverse the effect of the predictor on the outcome.

The Moderation effect of economic growth on relationship between economic integration and FDI was tested using a hierarchical regression model. Writing about moderating and mediating effects in causal models, Kim, Kaye and Wright (2001) noted that when the independent and moderator variables are continuous, their interaction can be estimated using the following functional form:

$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_1X_2 + \epsilon$

The change in slope of Y on X_1, given a unit change in X_2, is represented by β_3. The interpretation of β_3 is symmetric, in that it also represents the change in slope of Y on X_2, given a unit change in X_1. Since product X_1X_2 is often highly correlated with X_1 and X_2, as when both X_1 and X_2 take on only positive values. The possible multicollinearity problem is typically addressed by rescaling X_1 and X_2 such that they are centered near zero (this is often accomplished by centering X_1 and X_2 at their means).

The following two sets of regression model were used in measuring the moderating effect of GDP. The reason for having two sets of equations is because the independent variable (economic integration) was measured using two distinct indicators for which computation of a composite measure was not tenable.

The following model uses intra-regional trade intensity as the measure of economic integration.

$lnFDI_t = \beta_0 + \beta_1IT_t + \beta_2GDP_t + \beta_3 (IT_t*GDP_t) + \epsilon$

Where:

FDI = foreign direct investment

IT = intra-regional trade intensity index

GDP = Gross Domestic Product

IT_t*GDP_t = interaction term

The interaction term shows the effect of economic integration (IT) on FDI given a unit increase in GDP. A change in R^2 implies that GDP plays a moderating role.

Another model was used to measure the moderation effect of GDP when economic integration is measured using regional price convergence. The model was specified as follows:

$$lnFDI_t = \beta_0 + \beta_1 PC_t + \beta_2 GDP_t + \beta_3 (PC_t * GDP_t) + \varepsilon$$

Where:

FDI = foreign direct investment

PC = regional price convergence

GDP = Gross Domestic Product

$PC_t * GDP_t$ = interaction term

β_3, represents change in FDI due to economic integration given a unit change in GDP. The coefficient is attached to the interaction term. A positive value for the effect of interaction term would imply that the higher the GDP growth rate, the greater (more positive) the effect of economic integration on FDI. Similarly, the greater (more positive) the effect of GDP on FDI

3.7.9 Testing the Joint Effect of Economic Integration, Ease of Doing Business, and Economic Growth on Foreign Direct Investment

Joint effect implies the test of whether when the three variables of economic integration, ease of doing business and economic growth have a combined effect on FDI. The joint effect of economic integration, ease of doing business, and economic growth on FDI was tested using a multiple regression model that captured all the four variables with FDI being jointly predicted by economic integration, ease of doing business and economic growth. The model is specified as follows:

$$lnFDI_t = \beta_0 + \beta_1 IT_t + \beta_2 PC_t + \beta_3 GDPt + \beta_4 OT_t + \beta_5 ET_t + \beta_6 PR_t + \beta_7 CI_t + \beta_8 RT_t + \mu_t$$

or

$$lnFDI_t = \beta_0 + \beta_1 IT_t + \beta_2 PC_t + \beta_3 GDPt + \beta_4 EDB_t + \mu_t$$

Where FDI_t is total value of quarterly FDI stock from rest of the world (ROW) into EAC; IT_t is EAC intra- regional trade intensity index; PC_t is regional price convergence

measured using inflation variance among EAC members; GDP_t is average EAC GDP growth rate; OT_t is openness to trade of EAC at time t as measured using [total exports + total imports]/ GDP; ET_t is EAC ease of trading across borders index; is RT_t is bureaucracy index; CI_t is corruption index; PR_t is Property rights index; and EDB is ease of doing business

A composite index for measuring Ease of Doing Business (EDB) was computed from openness to trade, ease of trading across borders, bureaucracy, corruption, and property rights indices. The significance of economic integration, ease of doing business and economic growth as joint predictors of FDI was determined by interpreting the t – values and the corresponding probability value (p value) at α =5%.

CHAPTER FOUR

DESCRIPTIVE DATA ANALYSIS AND PRELIMINARY TESTS

4.1 Introduction

This chapter describes the data analysis techniques adopted and the resulting findings. Descriptive statistics describing the variables of study are presented. More specifically, measures of central tendency and dispersion are presented to give character of the data. Correlation statistics were also computed to show the direction and strength of relationship between the variables. This being a time series study, trend graphs are presented to enable visual view of the trend patterns. The chapter also presents the various regression diagnostic tests (normality, hereroscedasticity, multicollinearity and autocorrelation), stationarity tests, co integration tests and reverse causality tests conducted for the purposes of validating the models presented in the next chapter.

4.2 Descriptive statistics

Descriptive statistics were very important in this study because they enable presentation of the data in a manner which allows for simpler interpretation. These statistics forms the basis of every quantitative analysis of data in a study. Analysis was conducted on the data to establish the measures of central tendency (mean) and dispersion (standard deviation). The results also indicated the normality of the variables which was shown by the Jarque Bera characteristic. The null hypothesis is of normality, and rejection of the hypothesis (because of a significant p-value) leads to the conclusion that the distribution from which the data came is non-normal. The results are indicated in Table 4.1.

Table 4.1 Descriptive Statistics Summary

| | Mean | Median | Max. | Min. | Std. Dev | Normality measures | | | Obs. |
						Skew-ness	Kurtosis	Jarque Bera	
FDI	1,763.97	1,422.98	6,417.68	274.63	1,446.69	1.38	4.51	24.76 (0.000)	60
PC	13.76	9.41	72.66	0.62	13.67	2.14	8.32	116.72 (0.000)	60
IT	0.61	0.47	2.12	0.27	0.36	1.90	7.21	80.34 (0.000)	60
CI	26.6	25.8	32.6	20.3	3.6	0.10	2.03	2.43 (0.300)	60
OT	50.00	50.00	84.00	27.00	13.00	33.00	2.73	1.28 (0.530)	60
ET	31.98	31.93	51.61	16.75	12.04	0.23	1.53	5.94 (0.051)	60
PR	55.18	55.97	58.03	49.34	2.62	(1.08)	3.01	11.75 (0.000)	60
RT	64.79	63.89	78.50	47.07	10.01	(0.09)	1.74	4.05 (0.130)	60
GDP	3.11	3.14	6.52	(0.26)	1.37	(0.06)	3.28	0.22 (0.890)	60

(P – Values are in parentheses)

Source: Author computation (2016)

Table 4.1 above gives a summary descriptive statistics of all the variables of the study. These variables include foreign direct investment (FDI) which is the dependent variable, the two measures of economic integration which is the independent variable namely regional price convergence (PC) and intra-regional trade intensity index (IT), Gross domestic product (GDP) growth rate which is a moderating variable. The other variables in the table are indicators of Ease of Doing Business which is an intervening variable. These measures are: corruption index (CI), ease of trade across borders (ET), trade openness (OT), property rights (PR) and red tape (RT) index.

The results in Table 4.1 returned a mean Ease of Trade across Borders value of 31.98 with a standard deviation of 12.04 which implies a large variation in ease of trade across borders index score over the years. The minimum and maximum value of ease of trade across borders index recorded over the study period was 16.75 and 51.61 respectively. The results further indicated a non-significant Jarque Bera value which led to a decision of not rejecting the null hypothesis of normality. This means that data on ease of trade across borders is normally distributed.

The results further showed a mean value of Corruption Index at 26.6 with a standard deviation of 3.6 which indicates a small variation in the corruption index score recorded over the study period. The minimum and maximum corruption index recorded over time is 20.3 and 32.6 respectively. Data on corruption index recorded over time was normally distributed since the Jarque Bera value was significant at 5% level of significance.

The mean FDI stock recorded over the study period was USD 1,763.97 million with a standard deviation of USD 1,422.98 million which indicated a large variation in the FDI stock over the study period. The highest FDI amount recorded in the study period was USD 6,417.68 million while the lowest amount was USD 274.63 million The Jarque Bera value was non-significant at 5% level of significance which led to rejection of the null hypothesis of normality. This implies that the FDI variable was not normally distributed.

The average GDP recorded over the study period was 3.11% with a standard deviation of 3.14% which indicate a large variation in GDP over the study period. The maximum GDP recorded over the study period was 6.52% while the minimum value was -0.26%. The Jarque Bera value was non- significant which led to failure to reject the null hypothesis of normality. Therefore, GDP data was normally distributed.

The intra-regional trade intensity index had an average value of 0.61 with a standard deviation of 0.36 indicating large variation in intra-regional trade intensity index. The largest intra-regional trade intensity index recorded over the study period was 2.12 in the third quarter of the year 2015 while the minimum was 0.27 in the second quarter of the year 2006. Intra-regional trade intensity index had a significant Jarque Bera value

which led to rejection of the null hypothesis of normality hence the conclusion that intra-regional trade index data was not normally distributed.

The mean openness to trade index score was 50% with a standard deviation of 13% which indicates a small variation in openness to trade quarterly. The maximum value recorded over the study period was 84% while the minimum value was 27%. The Jarque Bera value was non-significant indicating the failure of rejection of the null hypothesis of normality which implies that the data on openness to trade was normally distributed.

Regional price convergence had a mean value of 13.76 with a maximum value 72.66 and minimum value of 0.62. The standard deviation was 13.67 which indicated a large variation in regional price convergence quarterly. The Jarque Bera value was significant which led to rejection of the null hypothesis of normality implying that regional price convergence data was not normally distributed.

Property rights index score had a mean value of 55.18 while bureaucracy ranking had a mean value of 64.79. Both had a small variation quarterly as indicated by their standard deviations. Property rights index was not normally distributed while bureaucracy index was normally distributed as indicated by the significance of their Jarque Bera values of 0.000 and 0.13 respectively.

The results obtained in this section are very important for the subsequent analysis. For instance some data series were found not to be normally distributed. In section 4.6 a test about normality of the residuals is conducted before the data is entered in analytical models in the next chapter. This is essential in validating the model estimates.

4.3 Trend Analysis

Trend analysis in this study is very useful in identifying if trend patterns in the time series data exists. A trend usually exists as a result of long-term factors such as economic growth or decline, changes in FDI inflows, price stability, trade, corruption levels and so forth. For instance, a trend line would help show whether there has been a tendency towards price convergence within EAC over the years. The identification of fluctuations in a series can also make it easy to apply time series analysis techniques such as sequence similarity, pattern recognition and missing values prediction. Trends are also important in visually giving indications about stationarity or otherwise of the data series. Trend analysis can help a researcher to derive additional information from the numerical data. Trend lines help people to understand time series data quickly. The trends can also be used to extrapolate future patterns.

This section presents the trend analysis of foreign direct investment, intra-regional trade intensity, regional price convergence, economic growth, openness to trade, ease of trade across borders, property rights, corruption and bureaucracy indices. Trend analysis is very useful for identifying patterns in time series data. In addition, visual observation of the trend could also give an indication about stationarity or otherwise of a series.

4.3.1   Trend Analysis for Foreign Direct Investment

The results in figure 4.1 indicate that the amount of foreign direct investment was increasing unsteadily over the study period. The lowest amount was recorded in the first quarter of the year 2001 while the highest amount was recorded in the second quarter of 2015. From the fourth quarter of 2012, the variation in the amount of foreign

direct investment widened. Generally, the series shows presence of an increasing trend of FDI stock over the years since the establishment of the EAC.
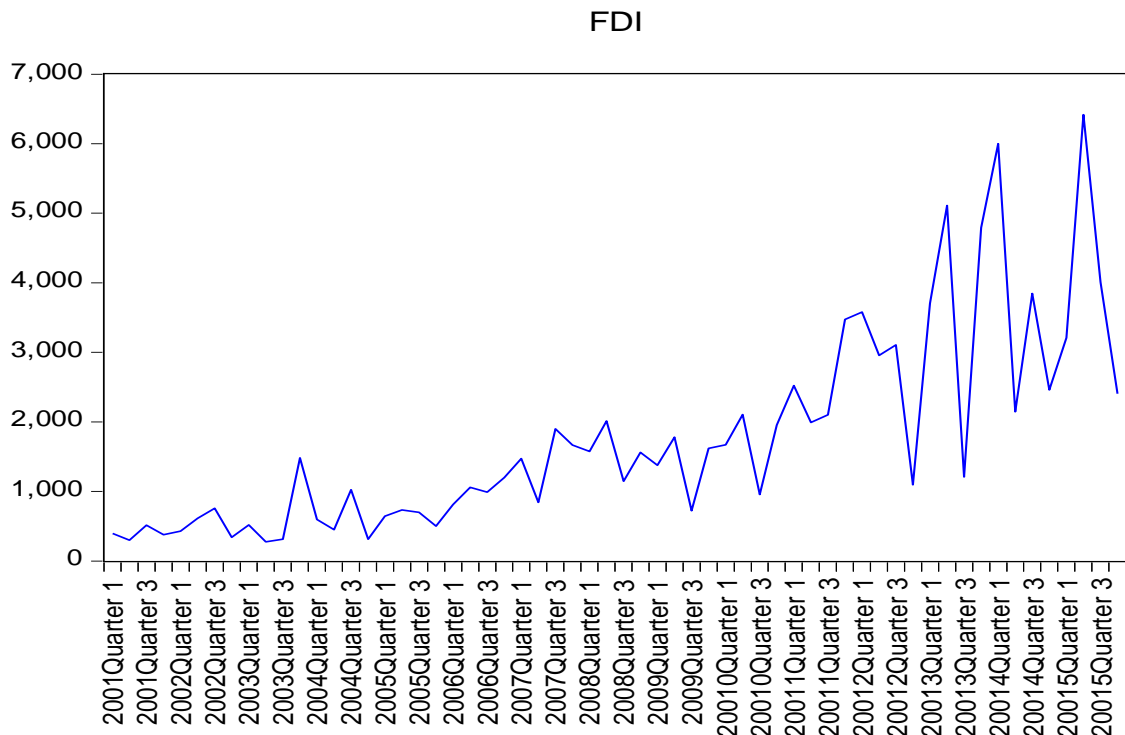
Source: Author computation (2016)

Figure 4.1: Trend Analysis for Foreign Direct Investment

4.3.2 Trend Analysis for Intra-regional Trade Intensity Index

The intra-regional trade intensity index value recorded over the study period indicated unsteady increasing trends. Figure 4.2 indicates large moments of increasing trends followed by large moments of decreasing trends indicating non stationarity in the data. This is an indication of an absence of a trend. It shows that the growth of intra-regional trade in the EAC is yet to take a defined steady pattern.
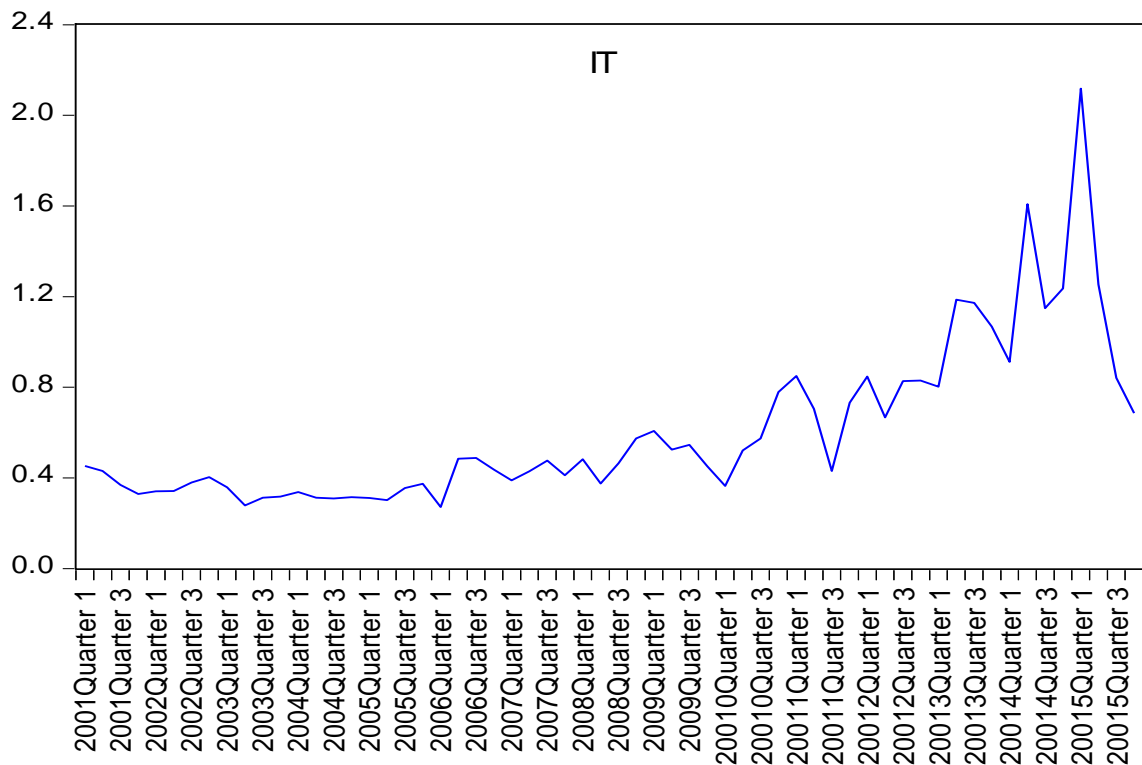
Figure 4.2: Trend Analysis for Intra-regional Trade Intensity Index

4.3.3 Trend Analysis for Regional price convergence

The regional price convergence recorded over the study period indicated steady increasing and decreasing trends with the highest value recorded in the year 2008 quarter three. Figure 4.3a indicates short moments of increasing trends followed by short moments of decreasing trends indicating unpredictability hence an indication of stationarity in the data. The series also show some sharp peaks and troughs. More specifically, there are sharp peaks in the years 2002, 2006, 2008, and 2012. Most of these peaks correspond to the Kenya electoral cycle, the biggest economy in the region. This might possibly be explained by the general price increases during electoral seasons.
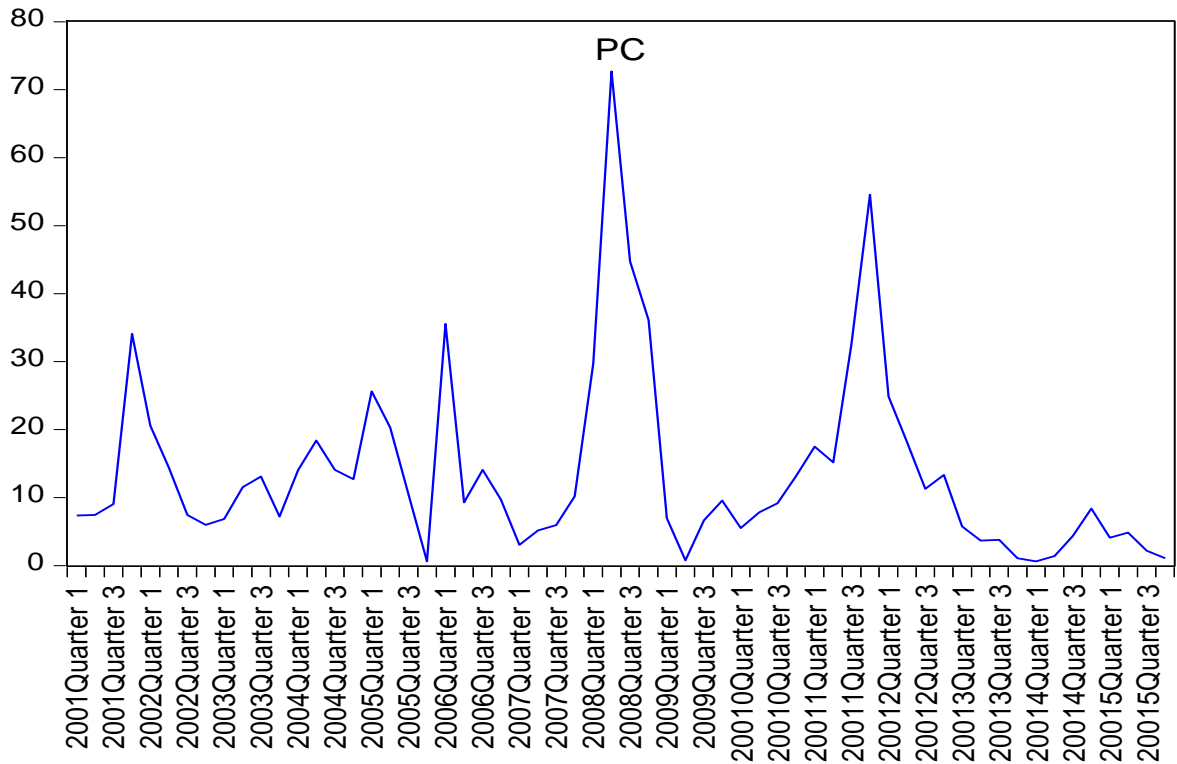
Source: Author computation (2016)

Figure 4.3a: Trend Analysis for Regional Price Convergence

The following figure 4.3b shows that over the years there has been a trend towards regional price convergence within the East Africa Community region. This can be seen from the negatively sloped trend line (tending towards zero) shown below. The R squared value of 0.107 indicates that in each quarter there is a 10.7% movement towards convergence.

Figure showing line chart titled "LogPC" with trend line equation y = -0.0086x + 1.2033 and R² = 0.107, plotting values from 2001Q1 to 2015Q3.
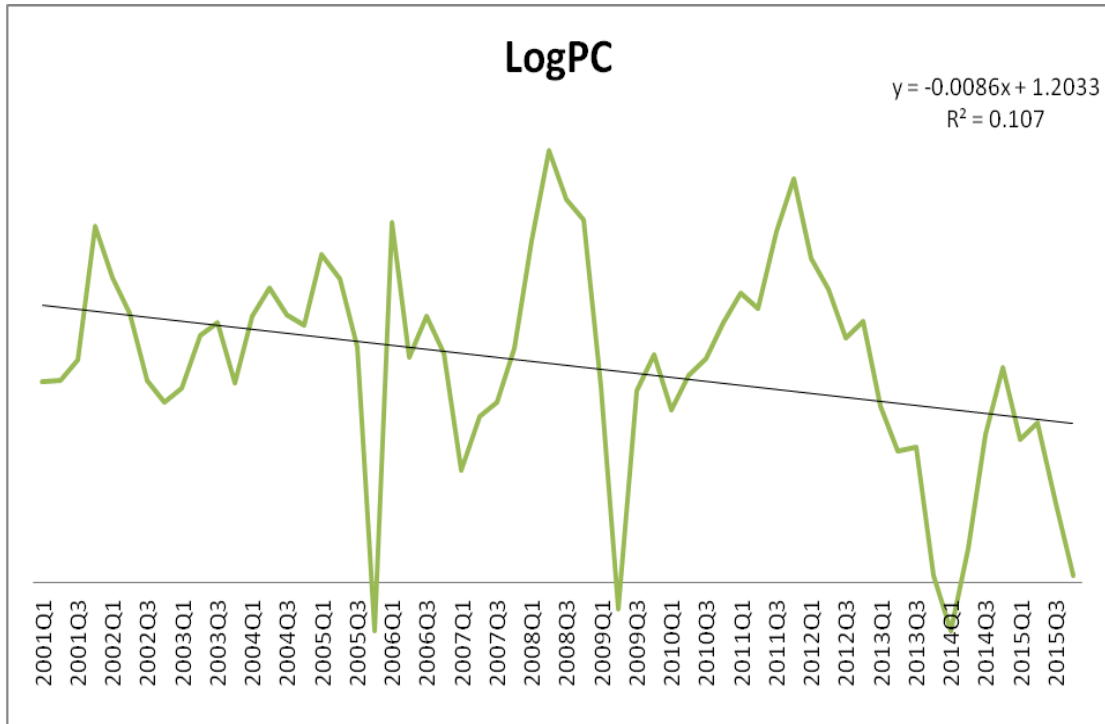
Source: Author computation (2016)

Figure 4.3b: Trend Line for Regional Price Convergence

4.3.4 Trend Analysis for Economic Growth (GDP)

The figure indicates steady trends in economic growth over the study period with the trends portraying unpredictable trends which are an indication of stationarity in the data on economic growth. The highest economic growth value recorded over the study period was in the year 2011 quarter three. The figure indicates steady trends in economic growth over the study period with the trends portraying unpredictable trends which are an indication of stationarity. Generally, there has been a trend of economic growth in EAC over the years.
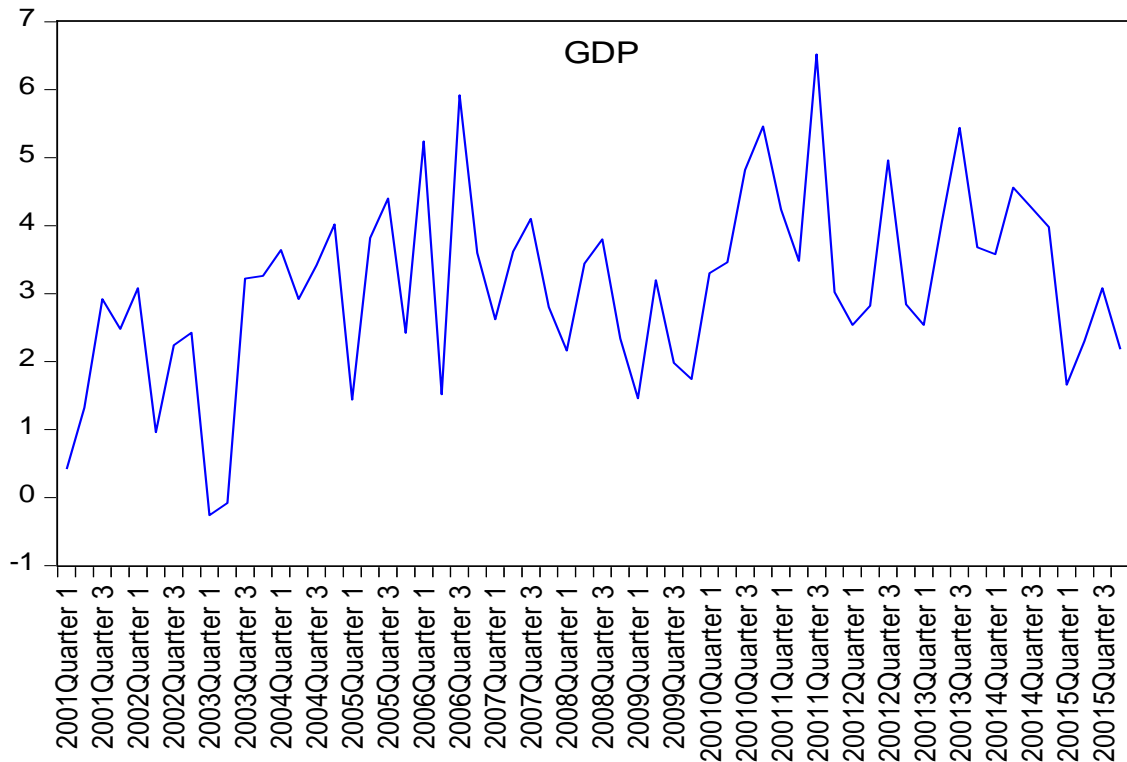
Source: Author computation (2016)

Figure 4.4: Trend Analysis for economic growth

4.3.5 Trend Analysis for Openness to Trade

The trends of openness to trade were unsteady with long increasing and long decreasing trends. The highest index was recorded in the year 2014 quarter three. This trend implies that the EAC over the last fifteen years (since 2001) has been gradually opening up to the global trade as indicated by the levels of exports and imports. The long predictable trends indicated a possibility of non stationarity.

77
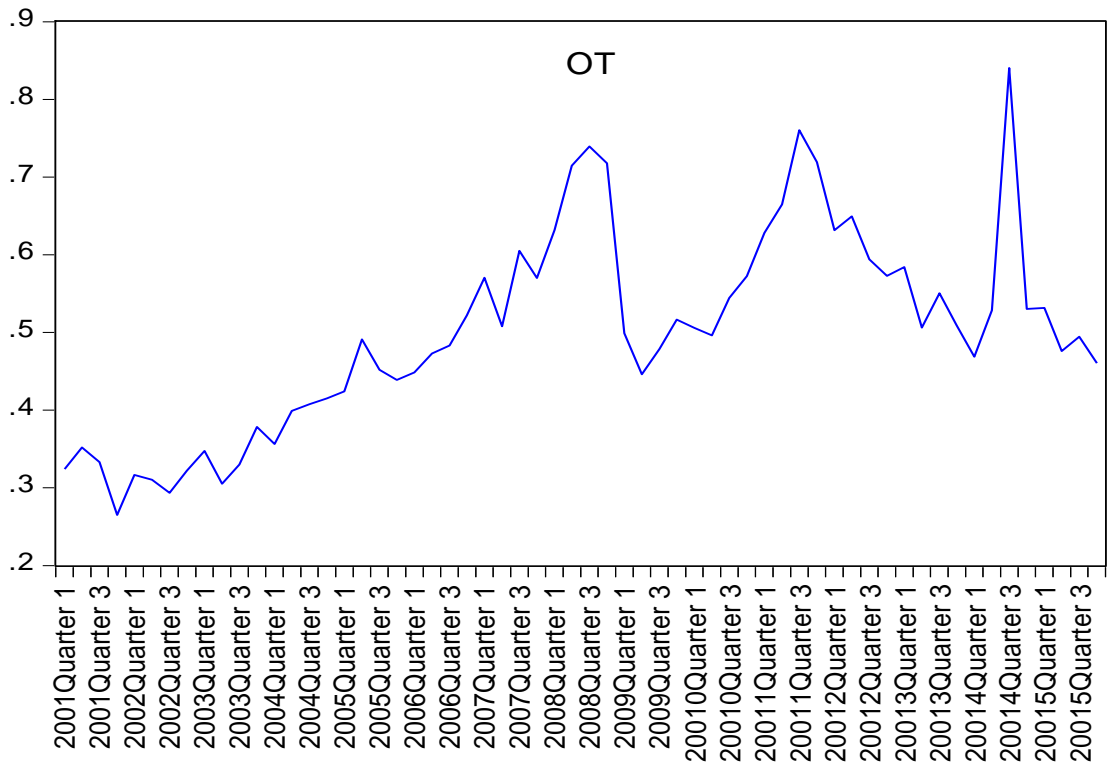
Source: Author computation (2016)

Figure 4.5: Trend Analysis for Openness to Trade

4.3.6 Trend Analysis for Ease of Trade across Borders

The ease of trade across borders indicated increasing moments over the study period with the lowest value recorded in the year 2001 quarter one and the highest value recorded in the year 2014 quarter three. The trend indicates that EAC member countries have been progressively reducing cross border trade barriers among themselves to facilitate an easy inter-country flow of trade. The highly predictable trends were an indication of non stationarity.
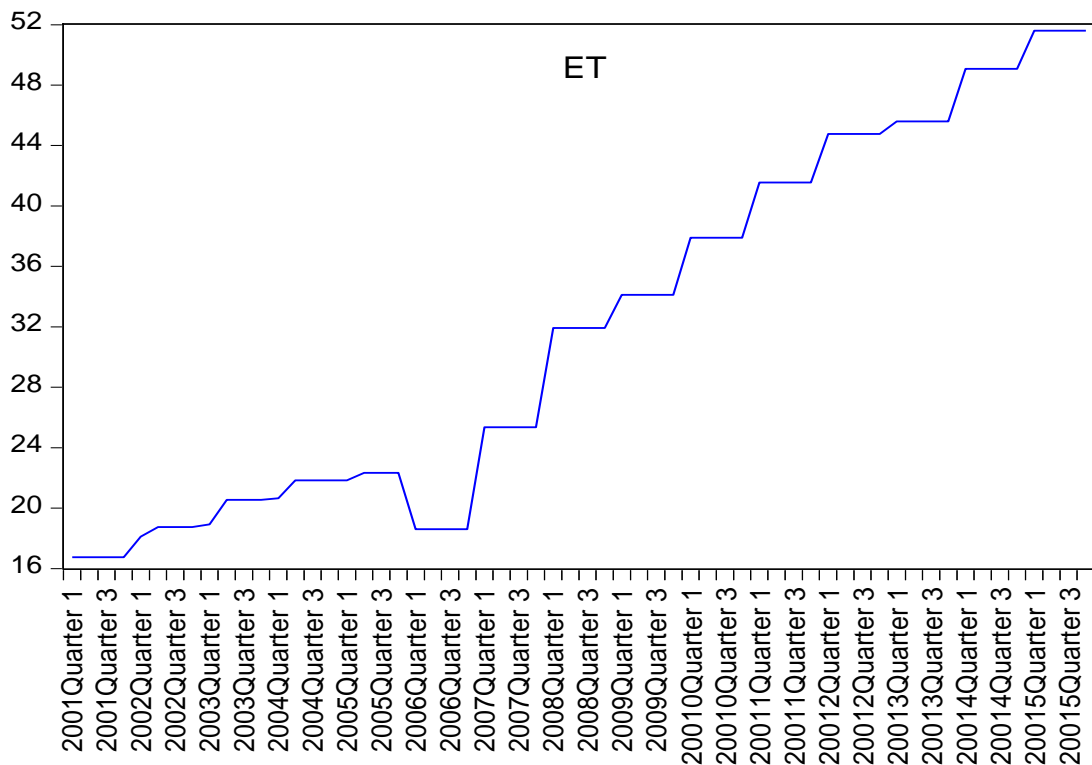
Source: Author computation (2016)

Figure 4.6: Trend Analysis for Ease of Trade across Borders

4.3.7   Trend Analysis for Property Rights

Property rights index had increasing trends up to the year 2008 quarter three after which it indicated decreasing trends. This indicates an environment of uncertainty concerning the protection of investor property rights. This is an indication of predictable trends which indicates non stationarity. The highest index was recorded in the year 2001 with the highest recorded in the year 2009.
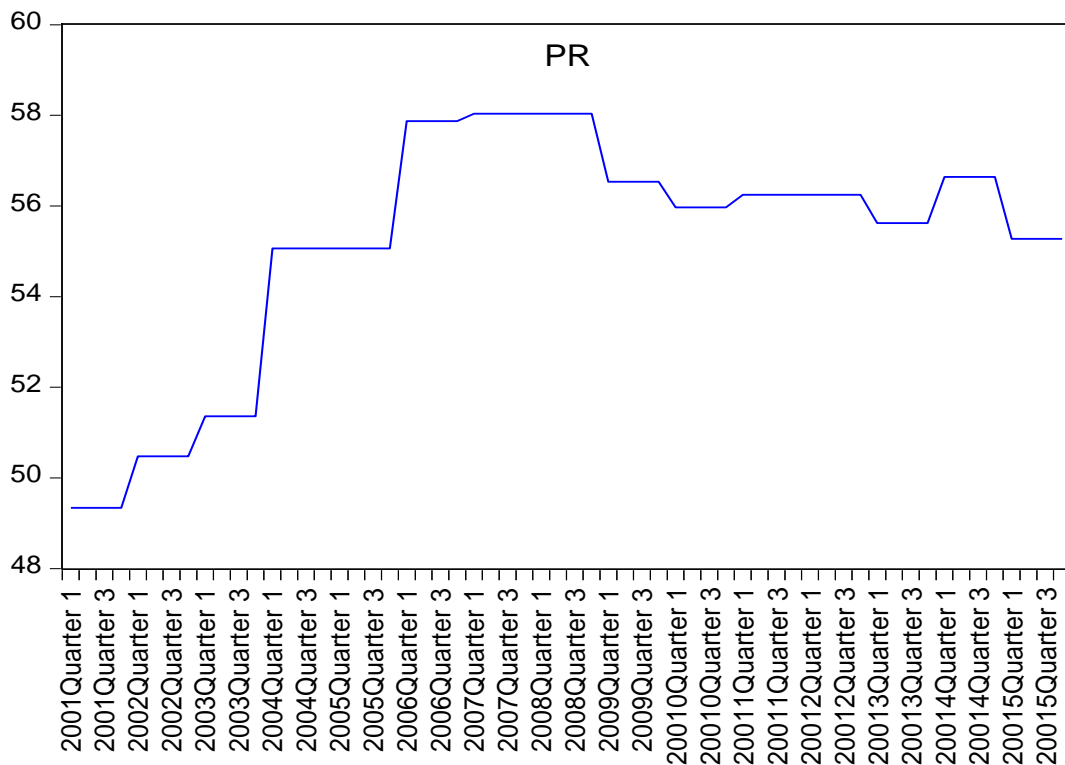
Source: Author computation (2016)

Figure 4.7: Trend Analysis for property rights

4.3.8 Trend Analysis for Corruption

The corruption index had unsteady increasing trends. The lowest corruption index was recorded in the year 2013 with an index score averaging 3.3 and the highest was recorded in the year 2001 with an average index score of 2.0. A higher index value means there is less corruption while a lower score means the corruption is higher. The interpretation of the trend is that corruption levels have been reducing over the years since the inception of EAC in the year 2000. The trends indicated by corruption index are highly predictable with increasing long moments which suggest non stationarity.
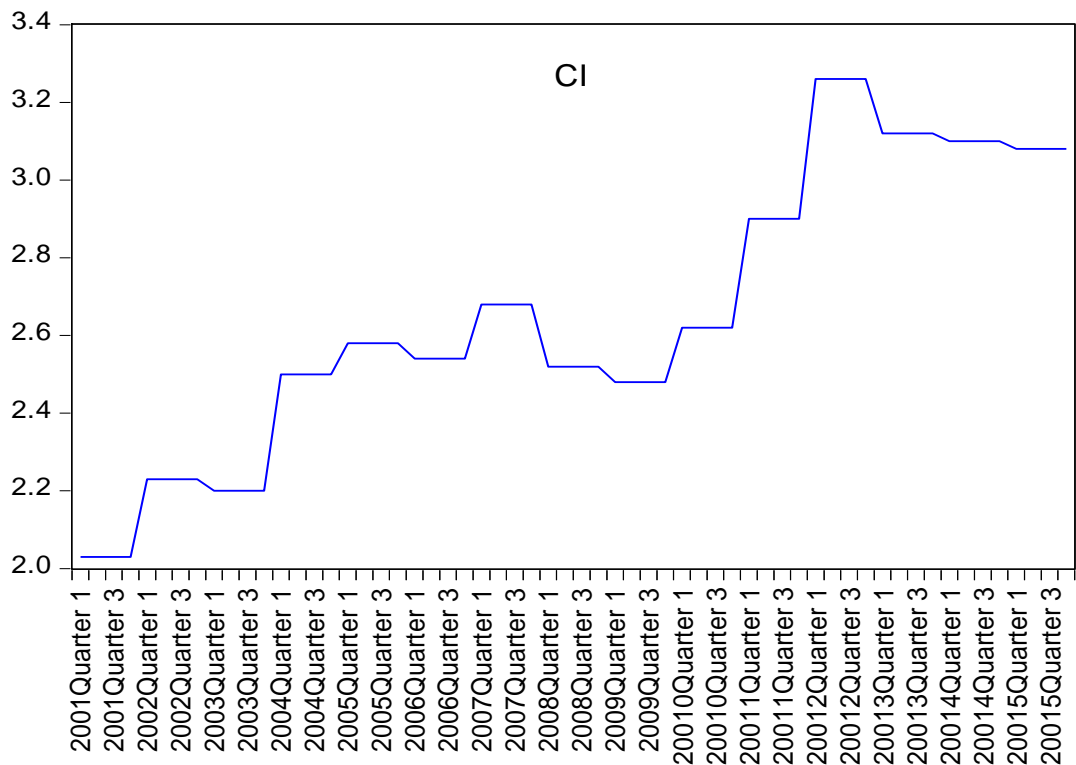
Source: Author computation (2016)

Figure 4.8a: Trend Analysis for Corruption

The corruption index data was further presented on a per country basis in Figure 4.8b. Figure 4.8b shows that at the beginning of the study period (the year 2001), corruption levels in the five member countries were not significantly different, with index score ranging from 20 to 28 points. However from the year 2008 onwards up to the end of study period, which is the year 2015 Rwanda, seems to have done remarkably well in reducing corruption levels as compared to the other four countries. From a low score of 28 index points in the year 2001, Rwanda recorded an index score of 54 points in the year 2015. The other four countries namely Kenya, Uganda, Tanzania and Burundi have not make any major strides in corruption reduction over the period 2001 to 2015: Kenya recorded a score of 20 points in the year 2001, changing only to 25 points in the year 2015; Tanzania recorded a score of 24 points in the year 2001, improving to 30 points in the year 2015; Uganda recorded a score of 22 points in the year 2001, changing marginally to 25 points in the year 2015; Burundi corruption index score

81

seems to have stagnated at 21 points in the years 2001 and 2015. In summary, corruption levels seem to be fairly at the same levels in Kenya, Tanzania, Uganda and Burundi over the study period (2001 – 2015). However Rwanda appears to have performed exceptionally better than the rest of EAC member countries in reducing corruption levels.
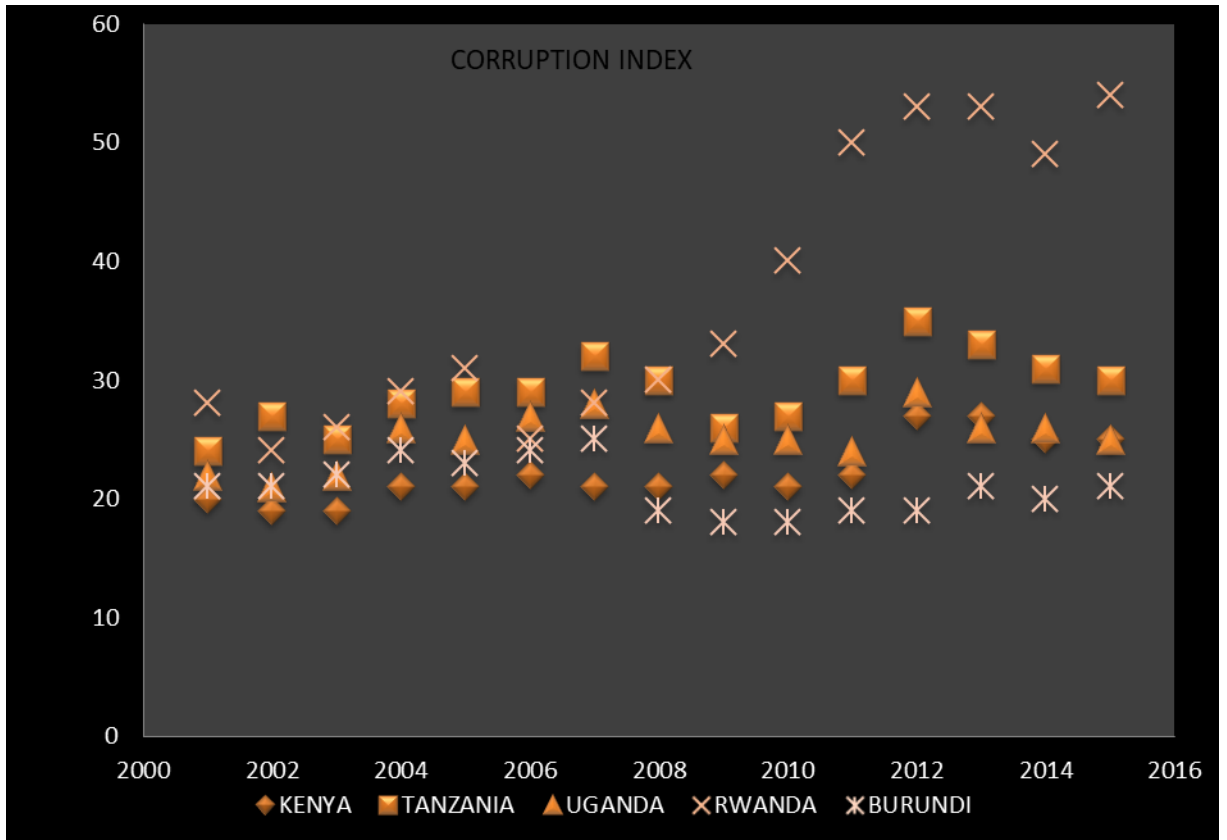
Source: Author computation (2016)

Figure 4.8b: Corruption index per country

4.3.9 Trend Analysis for Bureaucracy Index

Bureaucracy ranking index had increasing trends throughout the study period. The trends were however unsteady. This is an indication that the EAC member countries over the last fifteen years since 2001 have increasingly been reducing the time, money and effort businesses spend to comply with regulations.The trends were predictable

which indicates non stationarity. The graphical presentation is as captured in figure 4.9 below
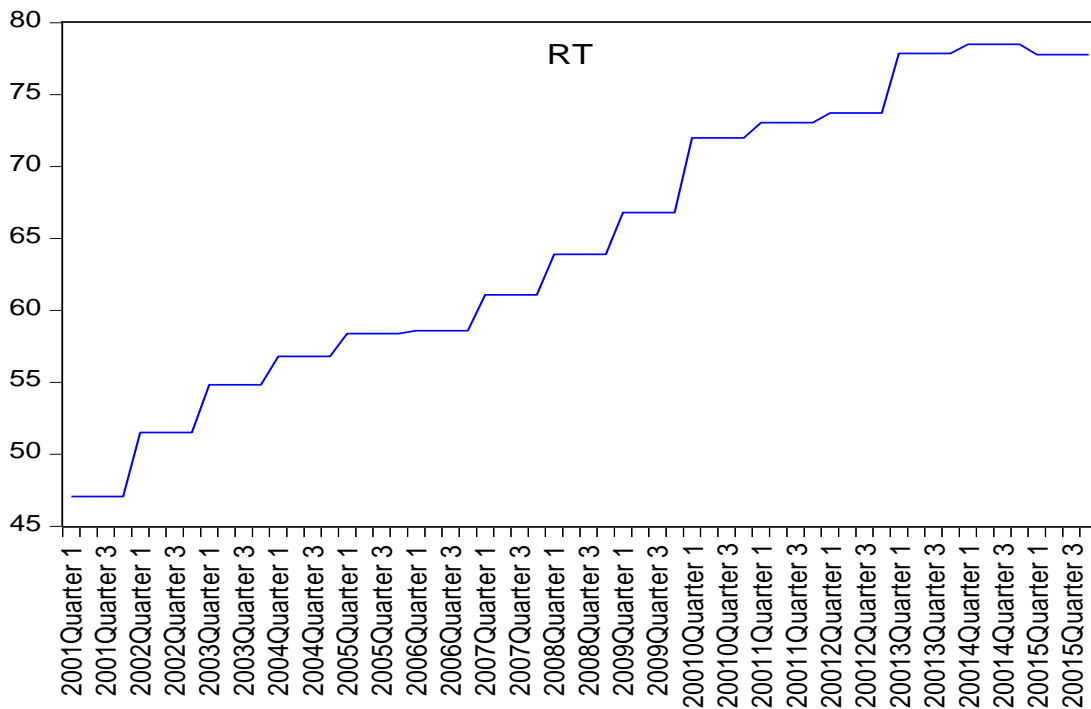
Source: Author computation (2016)

Figure 4.9: Trend Analysis for Bureaucracy

4.4 Test for Multicollinearity

According to William, Grajeles and Kurkiewicz (2013), multicollinearity refers to the presence of correlations between the predictor variables. In severe cases of perfect correlations between predictor variables, multicollinearity can imply that a unique least squares solution to a regression analysis cannot be computed (Field, 2009). Multicollinearity inflates the standard errors and confidence intervals leading to unstable estimates of the coefficients for individual predictors (Belsley, Edwin and Roy, 1980). Multicollinearity in this study was tested using Variance Inflation Factors (VIF). The objective of calculating VIF statistic is to determine the level of multicollinearity that can be tolerated without presenting any problems in regression analysis (Robinson and Schumacker, 2009).

Table 4.2: Variance Inflation Factors (VIF)

Variable	VIF	1/VIF
CI	8.41	0.118906
ET	14.67*	0.068167
GDP	4.97	0.201207
IT	21.93*	0.045570
OT	4.71	0.212314
PR	4.52	0.221239
PC	9.51	0.105152
RT	5.42	0.184501
Mean VIF	9.27	

* A VIF > 10 or a 1/VIF < 0.10 indicates trouble (Multicollinearity)

Source: Author computation (2016)

Table 4.2 above gives a summary of correlation coefficients between the various explanatory variables of study namely: regional price convergence(PC) and intra-regional trade intensity index (IT) which are measures of the independent variable, economic integration, the moderating variable as measured using gross domestic product (GDP) growth and the five indicators of the intervening variable (Ease of Doing Business) namely corruption index (CI), property rights(PR), ease of trade across borders(ET), openness to trade (OT) and red tape (RT)

The rule of thumb is that VIF greater than 10 is not tolerable because it presents problem of multicollinearity. The results in Table 4.2 indicate that ease of trade across borders (ET) and intra-regional trade intensity index (IT) presents a problem of multicollinearity. This is because the variables are likely to be a linear function of one another. To solve the problem, the study adopted a method to standardize the predictors by using a method known as centering the variables. This method removes the multicollinearity produced by interaction and higher-order terms as effectively as the other standardization methods, but it has the added benefit of not changing the interpretation of the coefficients (William, Grajeles and Kurkiewicz, 2013).

4.5 Unit Root Tests

This was a time series study. Most economic variables are usually non-stationary in nature and therefore prior to running a regression analysis it is important to test for stationarity. Unit root tests were thus conducted using the ADF test to establish whether the variables were stationary or non-stationary. The purpose of this is to avoid spurious regression results being obtained by using non-stationary series. The trend analysis indicated that the variables changed over time. However some variables indicated long increasing trends followed by long decreasing trends which was an indicator of predictability thus suggesting presence of unit roots. The tests were conducted to establish the presence of unit roots in the data.

Table 4.3 gives a summary of stationarity test results. The variables subjected to unit root test as captured in tables 4.3 include: foreign direct investment (FDI) which is the dependent variable, the two indicators of economic integration which is the independent variable namely regional price convergence (PC) and intra-regional trade intensity index (IT), Gross domestic product(GDP) growth rate which is a moderating variable, and the five measures of the intervening variable (Ease of doing business) namely corruption index(CI), ease of trade across borders(ET), openness to trade(OT), property rights(PR) and red tape (RT).

Table 4.3: Unit Root Test at Level

Variable name	ADF test	1% Level	5% Level	10% Level	Comment
CI	(1.3823)	(3.5461)	(2.9117)	(2.5936)	Non Stationary
ET	0.0183	(3.5461)	(2.9117)	(2.5936)	Non Stationary
FDI	0.24643	-3.5550	-2.9155	-2.5956	Non Stationary
GDP	-6.0957	-3.5461	-2.9117	-2.5936	Stationary
IT	-1.2560	-3.5504	-2.9135	-2.5945	Non Stationary
OT	-2.5762	-3.5461	-2.9117	-2.5936	Non Stationary
PC	-3.9032	-3.5461	-2.9117	-2.5936	Stationary
PR	-2.3200	-3.5461	-2.9117	-2.5936	Non Stationary
RT	-1.1327	-3.5550	-2.9155	-2.5956	Non Stationary

Source: Author computation (2016)

Table 4.3 shows the critical values at different significance levels and the corresponding ADF test statistic. The null hypothesis that the residuals ε_t are not stationary is rejected if the ADF test statistic is more negative than the critical value.

The findings indicated that all the variables were non stationary at level apart from economic growth and regional price convergence which did not indicate presence of unit root at 1%, 5% and 10% significance level. The study further conducted first differencing and tested for the presence of unit roots again. The results are presented in Table 4.4.

Table 4.4: Unit Root Test at First Differencing

Variable name	ADF test	1% Level	5% Level	10% Level	Comment
DCI	-8.5492	-3.5550	-2.9155	-2.5956	Stationary
DET	-11.7310	-3.5550	-2.9155	-2.5956	Stationary
DFDI	-7.3224	-3.5713	-2.9225	-2.5992	Stationary
DIT	-6.2086	-3.5627	-2.9188	-2.5973	Stationary
DOT	-8.1123	-3.5550	-2.9155	-2.5956	Stationary
DPR	-7.3088	-3.5654	-2.9200	-2.5979	Stationary
DRT	-16.4530	-3.5550	-2.9155	-2.5956	Stationary

Source: Author computation (2016)

The study findings indicated that all the non-stationary variables at level became stationary after first differencing.

4.6 Test for Normality of Residuals

The test for normality was first examined using the graphical method approach as shown in the Figure 4.10. The results in the figure indicate that the residuals are normally distributed hence appropriate to run the model to test the study variables.
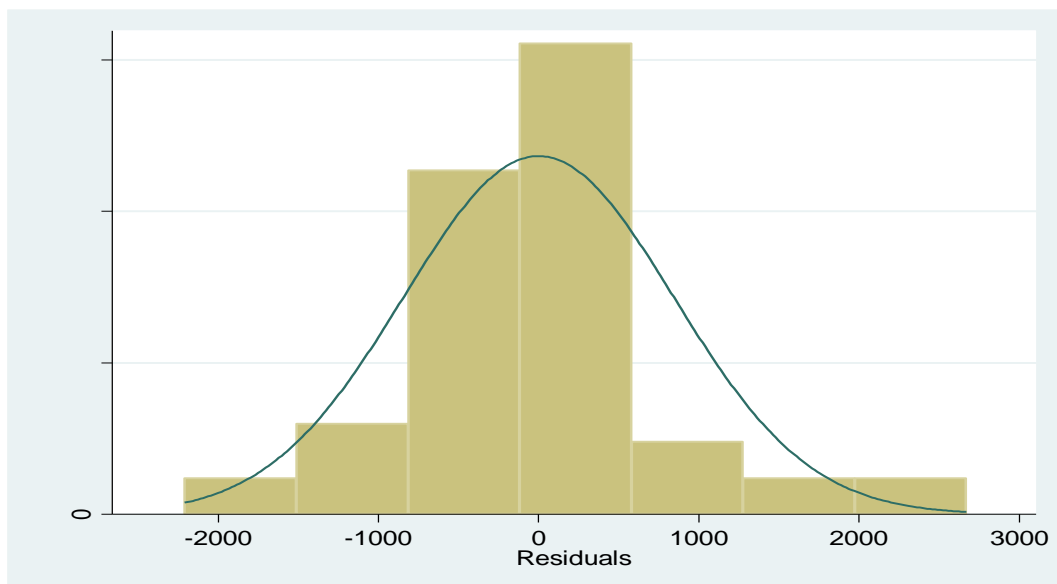
Source: Author computation (2016)

Figure 4.10: Normality of Residuals

To further establish whether the residuals are normally distributed, the study adopted the Jarque-Bera test which is a more conclusive test than the graphical inspection approach of testing for normality. The null hypothesis under this test is that the residuals are not significantly different from a normal distribution. Given that the p-value is greater than 5% for the residual, the null hypothesis is not rejected and thus the conclusion that the residuals are normally distributed.

Table 4.5: Normality Test of Residuals

Skewness/ kurtosis test for normality

Variable		Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Residual	60	0.0536	0.0052	9.74	0.077

Source: Author computation (2016)

4.7 Test for Heteroskedasticity

Ordinary least squares (OLS) assumption stipulates that the residuals should have a constant variance (i.e. they should be Homoscedastic). The plot presented in Figure 11 shows that the error terms are evenly spread above and below the reference line indicating constant variance. The results were further confirmed using the White's test where the null hypothesis of the test is error terms have a constant variance (i.e. should be homoscedastic).
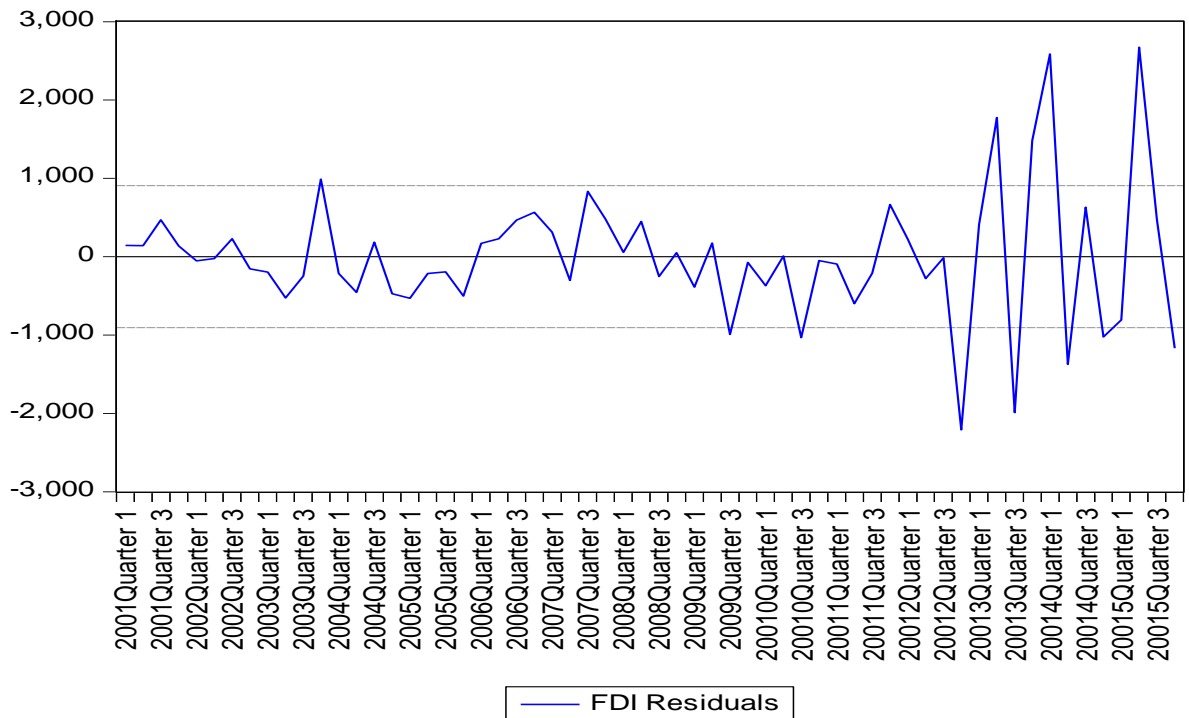
Figure 4.11: Residuals Plot for Heteroskedasticity

The white test results in the Table 4.6 indicate that the error terms are Homoskedastic, given that the p-value is greater than the 5% and thus no violation of the OLS assumption of constant variance of residuals.

Table 4.6: White Test for Heteroskedasticity

```
White's test for Ho: homoskedasticity
        against Ha: unrestricted heteroskedasticity

        chi2(44)      =      55.87
        Prob > chi2   =      0.1082
```

4.8 Test for Autocorrelation

The test for autocorrelation was performed to establish whether residuals are correlated across time. OLS assumptions require that residuals should not be correlated across time and thus the Breusch–Godfrey test which is also an LM test was adopted in this study. The null hypothesis is that no first order serial /auto correlation exists. The results of the Table 4.7 indicate that the null hypothesis of no autocorrelation is rejected

and that residuals are auto correlated (p-value=0.008). This means that the residuals suffer from first order autocorrelation. The study solved for this problem by using robust standard errors. Obs* R-squared means "(the number of observations times the R-square) statistic.

Table 4.7: Breusch- Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	4.745	Prob. F(2,49)	0.013
Obs* R-squared	9.735	Prob. Chi-Square(2)	0.008

Source: Author computation (2016)

4.9 Co-integration Test

The purpose of this test is to find out if the variables of study are linked by a long-run economic relationship. Co integration test is very important because it shows whether there is a need to conduct an error correction model in the next chapter. In testing for co integration two methods are usually used; two step Engle granger test and Johansen co integration test. In the two step Engle granger test, residual of the long run model are generated (step one). In the second step the residuals are converted in their first lag and unit root test is conducted on the lag residuals. The study used Engle granger method to test for co integration. Results of Engle granger presented in table 4.8 reveals that the lag residual is stationary at level this is evidence of co integration relationship between the long run and short run. In that case, the study conducted an error correction model so as to be able to establish a short run relationship between the variables.

Table 4.8: Engel Granger Co integration Test

Null Hypothesis: LAGRESID has a unit root			
Exogenous: Constant			
Lag Length: 3 (Automatic - based on SIC, Maxlag=10)			
		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.303	0.001
Test critical values:	1% level	-3.555	
	5% level	-2.916	
	10% level	-2.596	

Source: Author computation (2016)

4.10 Reverse Causality Test between Foreign Direct Investment and Economic Growth

Economic growth has been used as one of the explanatory variables, but some studies have shown that FDI is responsible for driving economic growth (Borensztein, Edwin and Roy, 1997; Alfaro, Chanda, Ozcan and Sayek, 2006; Katerina , 2004). Therefore, it was important that reverse causality should be conducted in this study to establish the direction of relationship. The study conducted a causality test to establish this relationship. Results are as presented in Table 4.9.

Table 4.9: Reverse Causality test between FDI and Economic growth

Pair wise Granger Causality Tests			
Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause FDI	54	2.8945	0.0648
FDI does not Granger Cause GDP		1.5526	0.2219

Source: Author computation (2016)

The results presented indicates that the null hypothesis that economic growth does not granger cause foreign direct investment is not rejected since the probability value is greater than 0.05 at 5% level of significance. This implies that economic growth granger causes foreign direct investment.

The results also indicates that the null hypothesis that foreign direct investment does not granger cause economic growth is not rejected since the probability value is greater than 0.05 at 5% level of significance. This implies that foreign direct investment granger causes economic growth.

The study findings indicate that there is bi-directional causality relationship between foreign direct investment and economic growth as each causes the other. Furthermore, the study went ahead to draw a graph to indicate the trend of the two variables as indicated in Figure 4.12.
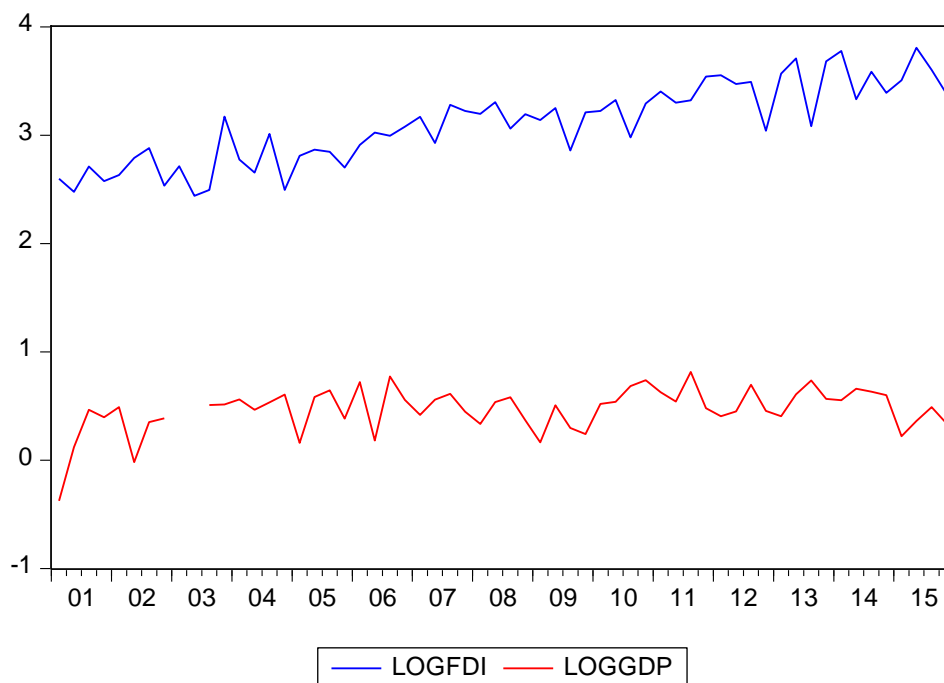
Source: Author computation (2016)

Figure 4.12: Graphical Representation of Causality between FDI and GDP

Granger (1969) indicates that when time series X Granger-causes time series Y, the patterns in X are approximately repeated in Y after some time lag and vice versa as indicated in Figure 10. Thus, past values of foreign direct investment can be used for the prediction of future values of economic growth and vice versa ceteris paribus.

4.11 Chapter Summary

This chapter presented descriptive statistics of the study data. The results obtained are explained in summarized form in this section. The normality tests conducted on the data using graphical plots and Jargue bera statistic showed that the residuals were normally distributed. Another important test conducted was homoskedasticity. A graphical plot and White's test showed that the error terms were homoskedastic. A test of serial correlation using Breusch–Godfrey test showed that residuals were not auto correlated. However, the correlation results showed absence of multicollinearity except for the following relationships: there was multicollinearity between ease of trade and intra-regional trade intensity index. To solve the problem, the study adopted a method to standardize the predictors by using a method known as centering the variables.

The ADF test results showed that all the variables were non stationary at level apart from economic growth and regional price convergence. However, after first differencing all the non-stationary variables became stationary; the results of Engle granger test revealed that the lag residual was stationary at level this is evidence of co integration relationship between the long run and short run; finally, the Granger causality results showed that economic growth granger causes foreign direct investment.

The above results are very important in validating a good predictive relationship among study variables as obtained from multiple regression, hierarchical regression and path analysis models used in the next chapter. The fact that there is evidence of co integration relationship between the long run and short run demands that an error correction model should be conducted in the next chapter so as to be able to establish a

short run relationship between the variables. The next chapter involves running of statistical models used for hypotheses testing.

CHAPTER FIVE

TESTS OF HYPOTHESES AND INTERPRETATION

5.1 Introduction

The study sought to investigate the relationship among economic integration, economic growth, ease of doing business and foreign direct investment in the East African Community. The tests were carried out using regression analysis and path analysis. The tests were done at 5 % significance level ($\alpha=0.05$).

5.2 Relationship between Economic Integration and Foreign Direct Investment

The first objective of this study was to determine the effect of economic integration on foreign direct investment in the East African Community. The study sought to test the hypothesis: *Economic integration does not significantly affect foreign direct investment in the East African Community*

The following two regression equations were applied in the measurement of relationship between economic integration and foreign direct investment.

$$\ln FDI_t = \beta_0 + \beta_1 PC_t + \mu_t \ldots\ldots\ldots\ldots\ldots\ldots..(a)$$

$$\ln FDI_t = \beta_0 + \beta_1 IT_t + \mu_t \ldots\ldots\ldots\ldots\ldots..\ldots..(b)$$

Where:

FDI = foreign direct investment

PC = regional price convergence

IT = intra-regional trade intensity index

The effect of each indicator of independent variable namely regional price convergence and intra-regional trade intensity was tested separately on foreign direct investment because it was not possible to generate a composite measure of economic integration from the two indicators. This can be inferred from the correlation matrix; while an increase in IT positively influences FDI, an increase in PC (inflation variance) decreases FDI. Hence, it's not possible to combine the two indicators

Table 5.1: Relationship between Regional Price Convergence and FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Price Convergence	-0.1543	0.0215	-7.1768	0.023
Constant	5.1240	0.1211	42.3121	0.000
F-statistic	6.1453	Durbin-Watson stat		0.1978
Prob (F-statistic)	0.023	R squared		0.1578

Source: Author computation (2016)

The results indicate a decrease in inflation variance (that is, an increase in price convergence) is associated with an increase in foreign direct investment in the East African Community. A decrease in inflation variance among the member countries means that there is a tendency towards regional price convergence. Therefore, the findings show that regional price convergence is positively and significantly (P value = 0.048 at α=0.05) related to foreign direct investment. This means that an increase in regional price convergence (decrease in inflation variance) leads to increase in foreign direct investment. More precisely, 15.78 % variation is FDI is influenced by regional price convergence. The model also fit as indicated by a significant probability statistic. The Law of One Price (LOOP) states that a product must sell for the same price in all locations of the integrated market (Barro and Sala , 1995). Morgan and Wakelin (1999) showed that regional price convergence leads to increased FDI.

Table 5.2: Relationship between Intra-Regional Trade Intensity and FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intraregional trade intensity	1.3015	0.1267	10.2723	0.0000
Constant	3.4915	0.0787	44.4647	0.0000
F-statistic	76.4039		Durbin-Watson stat	1.6494
Prob (F-statistic)	0.0000		R squared	0.5616

Source: Author computation (2016)

The study findings presented on Table 5.2 indicate that intra-regional trade intensity is positively and significantly (P value = 0.000 at α=0.05) related to foreign direct investment. The higher the values of intra-regional trade intensity index the higher the amount of FDI stock. The model also fit as indicated by a significant probability statistic. Further results indicated that intra-regional trade intensity explains 56.16% of the changes in FDI stock as indicated by an R square of 0.5616.

It can be concluded that economic integration has a significant positive influence on FDI. The findings indicate that the more integrated the East African countries become by say intensifying the agreement to reduce and ultimately remove, tariff and non-tariff barriers to the free flow of goods, services and factors of production among each other, the higher the flow of FDI into the region.

These findings lead to the rejection of null hypothesis that:

 Economic integration does not significantly affect foreign direct investment in the East African Community

These findings are as supported by Yannopoulous (1990) who found out that the formation of EU Common Market had attracted United States investment which might otherwise have located in other European countries. Similarly, Blomstrom and Kokko (1997) in a study focusing on North-North integration (Canada joining CUSFTA),

North-South integration (Mexico's accession to NAFTA), and South-South integration (MERCOSUR) similar results were obtained.

5.3 Testing the Moderating Effect of Economic Growth on the Relationship between Economic Integration and FDI

The second objective of the study was to find out the moderating effect of economic growth on the relationship between economic integration and foreign direct investment in the East African Community. The hypothesis related to this objective was:

Economic growth rate does not significantly mediate the relationship between economic integration and foreign direct investment in the East African Community

The moderating effect of economic growth on the relationship between economic integration and foreign direct investment was measured using hierarchical regression. Two regression models were run to test the moderation effect. The first model had foreign direct investment (dependent variable) being regressed against economic integration (independent variable) and economic growth (moderating variable). The second model had foreign direct investment (dependent variable) being regressed against economic integration (independent variable) and economic growth (moderating variable) and the interaction term. The interaction term was formulated from a product of the indicator of economic integration (intra-regional trade intensity index/regional price convergence) and the indicator of economic growth (GDP growth rate). The possibility of multicollinearity problem that might be occasioned by multiplying the indicators in this manner was addressed by rescaling the values of indicators such that they are centered near zero (this is accomplished by centering the values of indicators at their means).

Since the independent variable (economic integration) is measured using two different indicators for which a composite indicator could not be obtained, two separate regressions were run using the procedure outlined in the previous paragraph. Tables 5.3 and 5.4 below show the multiple regression results obtained by the two models:

Table 5.3: Relationship between intra-regional trade intensity, economic growth, interaction term (IT*GDP) and foreign direct investment

	Model 1	Model 2
Constant	3.3960(0.000)	3.5144(0.000)
IT	1.2397(0.000)	1.2478(.001)
GDP	0.3198 (0.003)	0.3424(0.008)
IT*GDP		0.5572(0.003)
Adjusted R-squared	0.5685	0.5956
F statistic	38.8344 (0.000)	33.3732(0.000)

(P - Values are in parentheses)
Model 1: predictors – (constant), intra-regional trade intensity index, GDP
Model 2: predictors - (constant), intra-regional trade intensity index, GDP, IT*GDP

The results obtained from model 1 as captured in Table 5.3 above show that intra-regional trade intensity and economic growth have a significant (P value = 0.000 at α=0.05)   influence on foreign direct investment. Intra-regional trade intensity and economic growth explain 56.85% of the variation in foreign direct investment in the East African Community. In Model 2, the interaction term between intra-regional trade and economic growth (IT*GDP) is added as an extra explanatory variable on top of intra-regional trade intensity and economic growth. The results of model 2 show that intra-regional trade intensity, economic growth and the interaction term (IT*GDP) jointly have a significant (P value = 0.003 at α=0.05) influence on foreign direct investment in the East African Community. Model 2 further reveals that intra-regional trade intensity, economic growth and the interaction term (IT*GDP) explain 59.56% of variation in foreign direct investment in the East African Community. Furthermore, the

results given by model 2 compared to model 1 shows that when the interaction term is added to the model the explanatory power increases by 2.71% (from 56.85% to 59.56%). The interaction term coefficient shows the effect of economic integration (IT) on FDI given a unit increase in GDP. It is therefore concluded that economic growth has a significant ($\alpha = 0.003$) positive (positive coefficient = 0.5572) moderating effect on the relationship between economic integration and foreign direct investment.

The researcher then conducted a test of the moderating effect of economic growth on the relationship between economic integration and foreign direct investment using regional price convergence as the measure of economic integration. The hierchical regression results that were obtained are as captured in Table 5.4 below.

Table 5.4: Relationship between regional price convergence, economic growth, interaction term (PC*GDP) and foreign direct investment

	Model 1	Model 2
Constant	3.1818(0.000)	3.1875(0.000)
PC	-0.2123(0.006)	-0.2281(.002)
GDP	0.9083(0.018)	1.0730(0.000)
PC*GDP		0.1285(0.021)
Adjusted R-squared	0.1195	0.1419
F statistic	4.8822 (0.0130)	4.7527(0.0178)

(P values are in parentheses)

Model 1: predictors – (constant), regional price convergence, GDP

Model 2: predictors - (constant), regional price convergence, GDP, IT*GDP

Source: Author computation (2016)

The results in model 1 indicates that regional price convergence and economic growth have a significant (P value = 0.013 at α=0.05) effect on foreign direct investment. The two variables explain 11.95% of variation in the foreign direct investment in East African Community. Model 2 shows that regional price convergence, economic growth and the interaction term (PC*GDP) have a joint significant (P value = 0.0178 at α=0.05) effect on foreign direct investment. These three variables jointly explain 14.19% of variation in foreign direct investment in the East African Community. The introduction of interaction term (PC*GDP) increases the model explanatory power by 2.24% (from 11.95% to 14.19%) implying that economic growth moderates the relationship between economic integration and foreign direct investment. The moderation effect is positive meaning that an increase in economic growth leads to increased foreign direct investment in the East African Community. Hence, this study rejects the null hypothesis that, *Economic growth rate does not significantly moderate the relationship between economic integration and foreign direct investment in the East African Community*

The findings of this study are supported by previous studies which have established that there exists relationship between economic integration and economic growth, and also that economic growth affects foreign direct investment. For instance, Narendra and Goel (2014) found out that economic integration has a significant positive impact on economic growth. On the economic growth – foreign direct investment nexus, Mottaleb and Kalijaran (2010) in their study demonstrated that countries with larger GDP and high GDP growth rate, higher proportion of international trade and with more business friendly environment are more successful in attracting foreign direct investment. Consistent findings were realized by Iamsiraroj and Doucouliagos (2015) who after seeking to identify the significance and the strength of the impact of economic growth in a host country on FDI inflows found out that there is a robust positive relationship between growth and FDI. Similarly, Khan and Nawaz (2010) found that higher economic growth rate is associated with greater inflow of FDI.

5.4 Testing the Intervening Effect of Ease of Doing Business on the Relationship between Economic Integration and FDI.

The third objective of study was to determine the intermediating effect of Ease of Doing Business on the relationship between economic integration and foreign direct investment in the East African Community. The study sought to test the hypothesis:

Ease of Doing Business does not significantly mediate the relationship between economic integration and foreign direct investment in the East African Community

Ease of Doing Business is an intervening variable. It is expected to mediate the relationship between economic integration and foreign direct investment. The following causal sequence procedure (path analysis) as proposed by Nur, Zalina, Hafizah and Siti (2009) was followed in testing the mediating effect of Ease of Doing Business.

Economic integration ———— c ————→ FDI stock

c'

Economic integration ——→ Ease of Doing Business ——→ FDI stock

a   b   (FDI)
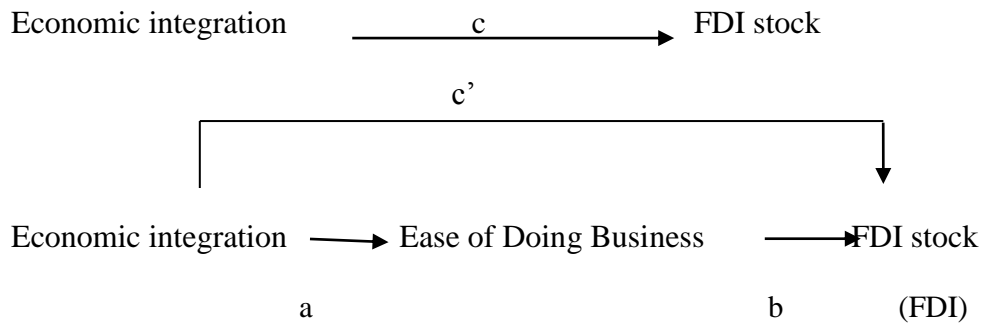
Step one: Testing whether economic integration predicts FDI stock (Route c)

Two simple linear regression equations were run to test this path.

$$\ln FDI_t = \beta_0 + \beta_1 PC_t + \mu_t \quad \ldots\ldots\ldots\ldots\ldots\ldots..(a)$$

$$\ln FDI_t = \beta_0 + \beta_1 T_t + \mu_t \ldots\ldots\ldots\ldots...\ldots\ldots..\ldots.(b)$$

Where:

FDI = foreign direct investment

PC = regional price convergence

IT = intra-regional trade intensity index

The following table (Table 5.5) presents the results showing relationship between regional price convergence and foreign direct investment.

Table 5.5: Relationship between Regional Price Convergence and FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Price Convergence	-0.1543	0.0215	-7.1768	0.023
Constant	5.1240	0.1211	42.3121	0.000
F-statistic	6.1453	Durbin-Watson stat		0.1978
Prob (F-statistic)	0.023	R squared		0.1578

Source: Author computation (2016)

The results confirm that there is a significant (P value = 0.023 at α=0.05) relationship between regional price convergence and foreign direct investment stock.

Further, the relationship between intra-regional trade intensity and foreign direct investment was tested and the results are presented as follows:

Table 5.6: Relationship between Intra-regional Trade Intensity and FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intraregional trade intensity	1.3015	0.1267	10.2723	0.0000
Constant	3.4915	0.0787	44.4647	0.0000
F-statistic	76.4039	Durbin-Watson stat		1.6494
Prob (F-statistic)	0.0000	R squared		0.5616

Source: Author computation (2016)

The results show that there is a significant (P value = 0.000 at α=0.05) relationship between intra-regional trade intensity and foreign direct investment stock.

Step Two: Testing Whether Economic Integration influences Ease of Doing Business (Path a)

Since economic integration is measured using two indicators in which a composite indicator could not be computed, the following two regression equations were used. A composite index combining ease of trade across borders, trade openness, property

rights, corruption and red tape was computed to form a single variable representing Ease of Doing Business.

$$lnEDB_t = \beta_0 + \beta_1 PC_t + \mu_t \dots\dots\dots\dots\dots\dots.(a)$$

$$lnEDB_t = \beta_0 + \beta_1 IT_t + \mu_t \dots\dots\dots\dots\dots..\dots..(b)$$

Where:

EDB = ease of doing business

PC = regional price convergence

IT = intra-regional trade intensity index

The results on the relationship between ease of doing business and regional price convergence are as presented in table 5.7 below:

Table 5.7: Relationship between Regional Price Convergence and Ease of Doing Business

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Price Convergence	-0.1450	0.111719	-1.298	0.0000
Constant	3.4569	0.0510	67.751	0.0000
F-statistic	75.6474	Durbin-Watson stat		1.6331
Prob (F-statistic)	0.0000	R Squared		0.02822

Source: Author computation (2016)

The results indicate that there exists a significant relationship between regional price convergence and Ease of Doing Business (P value = 0.000 at α=0.05). A trend towards regional price convergence leads to improved Ease of Doing Business in the East Africa Community. More specifically economic integration explains 2.8% improvement in the ease of doing business in the East Africa community. The

relationship between economic integration (as measured using intra-regional trade intensity) and Ease of Doing Business was also tested.

Table 5.8: Relationship between Intra-regional Trade intensity and Ease of Doing Business

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intra-regional trade intensity	1.4457	0.156107	9.261031	0.0000
Constant	5.5196	0.053760	102.6700	0.0000
F-statistic	85.7667	Durbin-Watson stat		0.4549
Prob (F-statistic)	0.0000	R Squared		0.5966

Source: Author computation (2016)

The results captured in table 5.8 shows that there is a significant (P value = 0.000 at α=0.05) positive relationship between intra-regional trade intensity and Ease of Doing Business. An increase in intra-regional trade intensity index which is an indication of a deepening in economic integration leads to improvement in the Ease of Doing Business within the East African Community. Precisely, 59.7% improvement in the Ease of Doing Business is explained by intensity of intra-regional trade.

Step Three: Testing whether economic integration and Ease of Doing Business jointly influence foreign direct investment (Path c')

This test was conducted using the following two multiple regression equations. The study used two different equations because economic integration is measured using two different variables namely regional price convergence and intra-regional trade intensity index.

$\ln FDI_t = \beta_0 + \beta_1 PC_t + \beta_2 EDB_t + \mu_t$ …………………..(a)

$\ln FDI_t = \beta_0 + \beta_1 IT_t + \beta_2 EDB_t + \mu_t$ ………………..…...(b)

Where:

FDI = foreign direct investment

EDB = ease of doing business

PC = regional price convergence

IT = intra-regional trade intensity index

The results about the effect of regional price convergence and Ease of Doing Business on foreign direct investment presented in table 5.9 below:

Table 5.9: Relationship between Regional Price Convergence, Ease of Doing Business and Foreign Direct Investment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Price convergence	-0.2000	0.0519	-3.8536	0.0495
Ease of Doing Business	0.7749	0.0601	12.8937	0.0000
Constant	-0.7834	0.3207	-2.4427	0.0177
F-statistic	90.7905	R Squared		0.7611
Prob (F-statistic)	0.0000	Adjusted R Squared		0.7549

Source: Author computation (2016)

The results obtained showed that price convergence and Ease of Doing Business jointly predicts FDI. This is as attested by the P value of 0.000 at 5% significance level. In addition, the results indicated that 76.11% variation in foreign direct investment is explained by regional price convergence and Ease of Doing Business. Further, the study evaluated the joint effect of intra-regional trade intensity and Ease of Doing Business on foreign direct investment. The results are as summarized in table 5.10 below:

Table 5.10: Relationship between Intra Regional Trade Intensity, Ease of Doing Business and Foreign Direct Investment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intra-regional trade intensity	0.3561	0.1726	2.0629	0.0437
Ease of Doing Business	0.6451	0.0922	6.9955	0.0000
Constant	-0.1036	0.5104	-0.2029	0.8399
F-statistic	93.5510	R Squared		0.7665
Prob (F-statistic)	0.0000	Adjusted R Squared		0.7583

Source: Author computation (2016)

The results reveal that intra-regional trade intensity and Ease of Doing Business are good joint predictors of foreign direct investment. The results returned a p value of 0.000 at 5% significance level. Furthermore, the study found out that 76.7% variation in foreign direct investment can be explained by intra-regional trade intensity and Ease of Doing Business.

A summary of the results obtained through the three casual sequence steps is summarized in table 5.11 below:

Table 5.11: Summary of causal sequence procedure (Path analysis) results

Steps	Path and test	Results	Coefficient and (P – Value)	
1.	**Path C**: Effect of economic integration on foreign direct investment	Regional price convergence significantly affects FDI	-0.1543** (0.0481)	
		Intra-regional trade intensity significantly affects FDI	**1.3015** (0.0000)	
2.	**Path a**: Effect of economic integration on the Ease of Doing Business	Regional price convergence significantly affects Ease of Doing Business	-0.1450 (0.000)	
		Intra-regional trade intensity significantly affects Ease of Doing Business	1.4457 (0.0000)	
3.	**Path C'**: The joint effect of economic integration and Ease of Doing Business on foreign direct investment	Regional price convergence and Ease of Doing Business have significant effect on FDI	Regional price convergence: **-0.2000 **** (0.0000)	
			Ease of Doing Business 0.7749 (0.0000)	
		Intra-regional trade intensity and Ease of Doing Business have significant effect on FDI	Intra-regional trade intensity **0.3561** (0.000)	
			Ease of Doing Business 0.6451 (0.000)	

Source: Author computation (2016)

** Regional price convergence occurs when the regional inflation variance declines over time (tends towards zero). In other words an increase in regional price convergence occurs when inflation variance (the statistic used in this study) decreases. From the results, a decrease in inflation variance (an increase in price convergence) leads to an increase in FDI.

The results obtained above meets the following conditions: Economic integration predicts FDI; Economic integration predicts Ease of Doing Business; Both economic integration and Ease of Doing Business predict FDI; But economic integration has a smaller regression coefficient when both economic integration and Ease of Doing

Business are jointly used to predict FDI than when only economic integration is used. It is noted from the results that the regional price convergence coefficient declines from -0.1543* to -0.2000* while the intra-regional trade intensity coefficient reduces from 1.3015 to 0.3561.

Hence it is concluded that Ease of Doing Business partially mediates the relationship between economic integration and FDI. Therefore this study rejects the null hypothesis that:

Ease of Doing Business does not significantly mediate the relationship between economic integration and foreign direct investment in the East African Community

These findings are in line with outcomes of previous studies. Kofarbai and Bambale (2016) found out that "ease of doing business" indicator; play an important mediating role between investment climate and FDI. They noted that the cost of a poor business environment and investment climate constraints add substantially to the cost of doing business hence discouraging FDI. Similar results were echoed by Kastrati (2013) who after carrying out a study to highlight the most important channels through which FDI makes a significant impact on the economic growth of the host countries concluded that FDI is best attracted when there is presence a healthy enabling environment for business. Related results were obtained by Ebero and Begum (2016) who evaluated the effect of doing business indicators on the flow of foreign direct investment (FDI) and concluded that costs of starting business, cost to get electricity connection, cost of registering property, resolving insolvency and cost of construction permit had a strong negative relation to the FDI flow to Ethiopia. Anita, Vito and Tina (2015) also found out that corruption, government instability, and inefficient government bureaucracy are

influencing negatively on the international capital flows into the Southern Euro-Med states.

5.5 Joint Effect of Economic Integration, Economic Growth and Ease of Doing Business on Foreign Direct Investment

The fourth and final objective of the study was to investigate the joint effect of economic integration, Ease of Doing Business, and economic growth on foreign direct investment in the East Africa Community. The study sought to test the hypothesis:

Economic integration, Ease of Doing Business, and economic growth do not have a significant joint effect on foreign direct investment in the East African Community

The following two multiple regression models were applied in testing the joint effect of economic integration, economic growth and Ease of Doing Business on foreign direct investment where:

$\ln FDI_t = \beta_0 + \beta_1 PC_t + \beta_2 GDP_t + \beta_3 EDB_t + \mu_t$ ……………………….. (a)

$\ln FDI_t = \beta_0 + \beta_1 IT_t + \beta_2 GDP_t + \beta_3 EDB_t + \mu_t$ ……………………….. (b)

Where:

FDI = foreign direct investment

PC = regional price convergence

IT = intra-regional trade intensity index

GDP = Gross Domestic Product

EDB = Ease of Doing Business composite index computed from the indices of: Ease of trade across borders, corruption index, trade openness, property rights and bureaucracy.

Equation (a) measures economic integration using regional price convergence while equation (b) measures economic integration using intra-regional trade intensity index

The results obtained from equation (a) are summarized as follows:

Table 5.12: Relationship between Regional Price Convergence, Economic Growth, Ease of Doing Business and Foreign Direct Investment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Price Convergence	-1.2456	0.21025	-5.9187	0.000
Economic growth	0.6218	0.20014	3.10683	0.0039
Ease of Doing Business	0.6758	0.1074	6.2927	0.0000
Constant	0.8347	0.5847	1.4276	0.7114
F-statistic	29.6514	R squared		0.6192
Prob (F-statistic)	0.0021	Adjusted R squared		0.5847

Source: Author computation (2016)

The summarized in table 5.12 shows that regional price convergence, economic growth and Ease of Doing Business jointly have a significant (p value = 0.0021 at α=0.05) effect on foreign direct investment. The results show that regional price convergence, economic growth and Ease of Doing Business explain 61.9% of variation in the foreign direct investment stock in East African Community.

The study further investigated the joint effect of economic integration, economic growth and Ease of Doing Business on foreign direct investment using intra-regional trade intensity index as the measure of economic integration. The results summarized in table 5.13 were obtained.

Table 5.13: Relationship between Intra Regional Trade Intensity, Economic Growth, Ease of Doing Business and Foreign Direct Investment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intra-regional trade intensity	0.4144	0.1045	3.9656	0.0056
Economic growth	0.2003	0.0558	3.5896	0.0201
Ease of Doing Business	0.6124	0.0216	3.7635	0.0070
Constant	0.9052	1.2458	0.7266	0.2457
F-statistic	31.4775	R squared		0.7674
Prob (F-statistic)	0.0000	Adjusted R squared		0.7409

Source: Author computation (2016)

The results reveal that intra-regional trade intensity, economic growth and Ease of Doing Business have a significant (p value = 0.0000 at α=0.05) joint effect on foreign direct investment. Specifically the results show that intra-regional trade intensity, economic growth and Ease of Doing Business account for 76.7% of variation in the foreign direct investment stock in East Africa.

Generally it is concluded that economic integration, economic growth and Ease of Doing Business have a significant joint effect on foreign direct investment stock in the East African community. These results lead to the rejection of the null hypothesis that:

Economic integration, Ease of Doing Business, and economic growth do not have a significant joint effect on foreign direct investment in the East African Community

To give a complete picture of how each individual indicator in this study influences foreign direct investment, a disaggregation of the constituents of Ease of Doing and how they related to FDI follows:

5.5.1 The Effect of Individual Indicators of Ease of Doing Business on Foreign Direct Investment

The study disaggregated Ease of Doing Business to study the influence of the individual constituent indicators on foreign direct investment. The effect of each measure of Ease of Doing Business namely; GDP growth rate, Trade openness, Ease of trading across borders index, Property rights index, Corruption index and Bureaucracy index was separately tested on foreign direct investment. The results are presented below:

Table 5.14: Effect of Trade Openness on FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
OT	2.191	0.296	7.395	0.0000
Constant	3.797	0.099	38.168	0.0000
F-statistic	54.686	R squared		0.485
Prob (F-statistic)	0.0000	Adjusted R squared		0.476

Source: Author computation (2016)

The study findings indicate that trade openness is positively and significantly (p value = 0.0000 at α=0.05) related to FDI. The findings indicate that the higher the trade openness a score, the more the flow of FDI into the region. The model also fit as indicated by a significant probability statistic. The findings indicate that trade openness explains 48.5% of the changes in FDI inflow ceteris paribus. Consistent to the findings of this study, after performing an examination of the benefits of FDI as a key component for successful and sustainable economic growth, Kastrati (2013) concluded that the factors that hold back full benefits of FDI in some developing countries include insufficient openness to trade, weak competition and inadequate regulatory frameworks.

Table 5.15: Effect of Ease of Trading across Borders on FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ET	1.821	0.150	12.180	0.0000
Constant	0.422	0.222	1.905	0.062
F-statistic	148.341	R squared		0.719
Prob (F-statistic)	0.0000	Adjusted R squared		0.714

Source: Author computation (2016)

The study findings also indicate that ease of trade across borders is positively and significantly (p value = 0.0000 at α=0.05) related to FDI. The findings indicate that the higher the rank of ease of trade across borders a country receives, the more the flow of FDI into the region. The model also fit as indicated by a significant probability statistic. The findings indicate that ease of trade across borders explains 71.9% of the changes in FDI inflow ceteris paribus. These findings agree with Athukorola (2013) who wrote that cross border liberalisation of trade sets the stage for the emergence of FDI in a region. Further, Blomstrom and Kokko (1997) added that positive FDI occurs when regional integration agreements coincide with domestic liberalization in the member countries

Table 5.16: Effect of Property Rights on FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PR	9.943	1.831	5.429	0.0000
Constant	(14.208)	3.189	(4.455)	0.0000
F-statistic	29.474	R squared		0.337
Prob (F-statistic)	0.0000	Adjusted R squared		0.326

Source: Author computation (2016)

Property rights was also found to be positively and significantly (p value = 0.0000 at α=0.05) related to FDI. The findings indicate that the higher the rank of property rights a country receives, the more the flow of FDI into the region. The model also fit as indicated by a significant probability statistic. The findings indicate that property rights explain 33.7% of the changes in FDI inflow ceteris paribus. These results lend credence to Azzimonti and Sarte (2007) findings in which they noted that quality of institutions, and in particular, the degree of protection of property rights, is key in determining the expected return to foreign investors. Countries with relatively poor legal protection of assets, and a high degree of political instability, generally exhibit high rates of expropriation and this makes investment less attractive.

Table 5.17: Effect of Corruption on FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CI	5.028	0.466	10.789	0.0000
Constant	0.992	0.198	5.017	0.0000
F-statistic	116.397	R squared		0.667
Prob (F-statistic)	0.0000	Adjusted R squared		0.662

Source: Author computation (2016)

Further findings indicated that corruption index ranking was also found to be positively and significantly (p value = 0.0000 at α=0.05) related to FDI. Logically, the higher the rank in corruption towards 10 points, the better the performance in terms of having low corruption. These therefore indicates that the higher the rank, the lower the corruption and the higher the inflow of FDI. The model also fit as indicated by a significant probability statistic. The findings indicate that corruption explains 66.7% of the changes in FDI inflow ceteris paribus. Similarly, Estrin and Uvalic (2013) concluded that institutional quality (proxied by property rights and corruption) had significant effect on FDI among the Western Balkans countries.

Table 5.18: Effect of Bureaucracy on FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RT	4.559	0.352	12.940	0.0000
Constant	(5.129)	0.637	(8.054)	0.0000
F-statistic	167.456	R squared		0.743
Prob (F-statistic)	0.0000	Adjusted R squared		0.738

Source: Author computation (2016)

The findings related to bureaucracy indicated that bureaucracy is positively and significantly (p value = 0.000 at α=0.05) related to FDI. The higher the rank in bureaucracy towards 100 (that is, Distance to Frontier), the better the performance in terms of curbing the red tape effect. These therefore indicate that the higher the rank, the better the performance in terms of curbing red tape and the higher the inflow of FDI. The model also fit as indicated by a significant probability statistic. The findings indicate that bureaucracy explains 74.3% of the changes in FDI inflow ceteris paribus. These results are as supported by Slavica and Andreja (2014) who noted that the most prominent weaknesses inhibiting FDI inflows in EAC among other factors include: high country risk, slow progress in structural and institutional reforms, high administrative barriers, inefficient government bureaucracy, high level of corruption, and poor implementation of laws.

5.5.2 Error Correction Model

The error correction model is a model consisting of stationary variables. It is applicable only when co integration is found to exist among long run/non stationary variables. Since the variables in the model are co integrated as earlier indicated using Engel granger test, then an error-correction model was used to link the short-run and the long-run relationships. Residuals from the co integrating regression are used to generate an

error correction term (lagged residuals) which is then inserted into the short-run model. The estimates of the error-correction model are given in table 5.19

Table 5.19: Error Correction Model for relationship between economic integration, ease of doing business, economic growth and foreign direct investment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DIT	-0.543217	0.013803	-39.354995	0.00000
DPC	0.78976	0.038519	20.503128	0.00000
DGDP	-0.188654	0.034747	-5.429361	0.00012
DOT	0.365432	0.068759	5.314679	0.00025
DPR	-0.675432	0.037654	-17.937855	0.00000
DCI	-0.332145	0.087123	-3.812369	0.00175
DET	-0.241176	0.078985	-3.053441	0.00535
DRT	0.976112	0.076532	12.754299	0.00000
LAGRESID	0.421780	0.098754	4.271017	0.00000
Constant	0.678902	0.087654	7.745249	0.00000
R-squared	0.2300786	Mean dependent var		0.321149
Adjusted R-Squared	0.1987640	S.D. dependent var		0.654321
F statistic	14.650907	Schwarz criterion		0.677548
Prob (F-statistic)	0.000000	Durbin-Watson stat		2.008765

Source: Author computation (2016)

The short run results indicated that all the variables are significantly (p value = 0. 0.000 at α=0.05) related to FDI in the short run. The coefficient of determination (R squared) for the short run model was 23%. This implies that the variables explain 23% of the changes in FDI in the short run.

The results show that the unique effect of each of the variables namely economic integration, ease of doing business and economic growth on foreign direct investment is significant. Similarly, the results also show that all the three variables taken together predict the dependent variable better than just predicting the mean of everything. In addition, the results obtained from the error correction model show that a short run significant relationship among the four variables exists. Therefore, this leads to the rejection of the null hypothesis that:

Economic integration, Ease of Doing Business, and economic growth do not have a significant joint effect on foreign direct investment in the East African Community

The results of this study confirm findings by previous studies: Penev and Rojec (2014) found out that economic integration and ease of doing business had a joint significant effect on the attraction of foreign direct investment in the European Union ; Lipsey and Sjöholm (2010) showed that foreign direct investment has been important in the economic growth and global economic integration of developing countries; and Mottaleb and Kalijaran (2010) demonstrated that countries with larger GDP and high GDP growth rate, higher proportion of international trade and with more business friendly environment are more successful in attracting FDI.

5.6 Chapter Summary

In this study, four hypotheses were tested for acceptance or rejection. This chapter tested the hypotheses and gave interpretations of the results. The four hypotheses tested are: (1) economic integration does not significantly affect foreign direct investment in the East African Community; (2) economic growth rate does not significantly moderate the relationship between economic integration and foreign direct investment in the East African Community;(3) Ease of Doing Business does not significantly mediate the relationship between economic integration and foreign direct investment in the East African Community; (4) and economic integration, Ease of Doing Business, and economic growth do not have a significant joint effect on foreign direct investment in the East African Community.

The four hypotheses were tested using simple regression, hierchical regression, path analysis and multiple regression models respectively. The results obtained were as follows: economic integration has a significant positive effect on FDI; economic growth moderates the relationship between economic integration and FDI; Ease of Doing Business partially mediates the relationship between Economic Integration and FDI; and economic integration, economic growth and Ease of Doing Business have a significant joint effect on FDI.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter gives the summary of findings, conclusions and contributions of the study. It also presents policy implications and conclusions. Finally the limitations of this study are highlighted as well as suggestions for further research.

6.2 Summary of the Study

This study sought to pursue one broad objective and four specific objectives. The broad objective of the study was to evaluate the relationships among economic integration, ease of doing business, economic growth and foreign direct investment in the East African Community. In this study, foreign direct investment is the dependent variable. Economic integration is the independent variable; economic growth is the moderating variable while Ease of Doing Business is a mediating variable. It was expected that variations in the depth of economic integration, economic growth and Ease of Doing Business would influence foreign direct investment.

The first objective of the study was to establish the effect of economic integration on foreign direct investment in the East African Community. The effect of each measure of economic integration that is regional price convergence and intra regional trade intensity was tested separately on foreign direct investment. These relationships were tested using two sets of simple regression models. The regression coefficients tested the unique effect of each of the two indicators economic integration on foreign direct investment. The study obtained statistically significant coefficients for both intra regional trade intensity and regional price convergence after conducting regression

analysis. Specifically the results indicated that the two indicators of economic integration have a significant positive effect on foreign direct investment.

The second objective was to determine whether economic growth moderates the relationship between economic integration and foreign direct investment in the East African Community. A hierarchical regression model was used to test the moderating effect. An interaction term was computed as a measure of the moderation effect. The results showed that economic integration has an enhancing moderating effect on the relationship between economic integration and foreign direct investment, that is, increasing the economic growth rate would increase the effect of economic integration on the foreign direct investment.

The third objective of the study sought to find out whether Ease of Doing Business mediates the relationship between economic integration and foreign direct investment. After an evaluation this relationship was done using a path analysis causal sequence procedure. The results obtained were as follows: Economic integration predicts foreign direct investment; Economic integration predicts Ease of Doing Business; both economic integration and Ease of Doing Business predict foreign direct investment, but economic integration had a smaller significant regression coefficient when both economic integration and Ease of Doing Business were used to predict foreign direct investment than when economic integration was used alone. The implication of these results is that Ease of Doing Business partially transmits the influence of economic integration to foreign direct investment. In other words, Ease of Doing Business partially mediates the relationship between economic integration and foreign direct investment in the East African Community.

The study also evaluated the joint effect of economic integration, economic growth and Ease of Doing Business on foreign direct investment. A multiple regression model was used for the analysis. F statistic test was used to test whether the model as a whole is significant. All the three explanatory variables returned positive significant coefficients. This means that economic integration, economic growth and Ease of Doing Business have a significant joint effect on foreign direct investment in the East African community.

Furthermore, the study performed some supplementary analysis to give a more complete picture on the relationship among the four variables of interest. An analysis was done to establish whether there exists reverse causality between economic growth and foreign direct investment. After conducting granger causality it was established that there is bi-directional causality relationship between foreign direct investment and economic growth as each causes the other. Finally, the study examined whether there exist co integration among long run/non stationary variables. The study used Engle granger method to test for co integration in which case the results revealed that the lag residual was stationary at level, this is evidence of co integration relationship between the long run and short run. In that case, the study conducted an error correction model so as to be able to establish a short run relationship between the variables. The analysis found that economic integration, economic growth and Ease of Doing Business significantly explain foreign direct investment in the short run. However the explanatory power of the three variables was relatively lower in the short run at 9.9% as compared to the long run.

6.3 Conclusions

The study makes the following conclusions as deduced from the findings. The study concludes that there exists a statistically significant positive relationship between economic integration and foreign direct investment in the East African Community. That is, a deepening in economic integration is associated with increased foreign direct investment into the East African Community.

The research further concludes that economic growth and ease of doing business are important drivers of the extent to which economic integration achieves attraction of foreign direct investment into the East African Community. That is, ease of doing business is important in transmitting the effect of economic integration to the attraction of foreign direct investment. Equally, economic growth enhances (moderates) the effect of economic integration on foreign direct investment in the East African Community. That is, an increased economic growth rate leads to an increase in foreign direct investment.

The final conclusion is that economic integration, economic growth and ease of doing business jointly play an important role in the attraction of foreign direct investment into the East African Community. There is synergy in the attraction of foreign direct investment into the East African Community if these three variables are emphasized simultaneously. In addition, it is also concluded that economic integration, economic growth and ease of doing business have a stronger effect on foreign direct investment in the long run as compared to the short run.

6.4 Contributions of the Study

The findings of this study have made an important contribution to theory, knowledge and practice. The specific contributions are as articulated below

6.4.1 Contributions to Theory

The findings of this study make an important contribution to the theory. The eclectic theory of foreign direct investment as advanced by Dunning (1977) tries to explain why firms set up subsidiaries abroad instead of simply servicing the markets via exports. The theory identifies one of the motivators for foreign direct investment as an attempt to reap from "location advantages". However, the theory leaves the term "location advantages" as an abstract term – it does not identify the specific elements that constitute these location advantages. This study makes a contribution by highlighting in a clear and precise manner some of the most important constituents of location advantages. From the findings of this study the elements of location advantages include: economic growth, ease of trade across borders, property rights, bureaucracy levels, corruption levels, trade openness and access to large market.

The customs union theory (Viner 1950) as expanded from its original version to explain foreign direct investment by Kindleberger (1966) argues that investment creation could occur as a likely response to the trade diversion brought about by economic integration. As the member countries trade more among themselves as opposed to previously it means that outside firms might lose export market into the region because their former customers turn to suppliers based in the region since regional trade is not obstructed by trade barriers. Therefore, the affected firms might be forced to engage in strategic investment responses by investing in the region in order to continue accessing their customers. This study makes a contribution to this theory by highlighting that the

increased trade among member countries (trade diversion) as a result of forming an economic bloc can best be measured using the level of intra-regional trade intensity index. Increased intra -regional trade means that trade is being diverted away from non-members of an economic bloc to the members. The Customs Union theory does not give a precise measure of trade diversion.

The internalization theory argues that FDI takes place only if the benefits of exploiting firm-specific advantages through licensing outweigh the relative costs of the operations abroad. This study identifies these "costs of operating abroad" that could be reduced to lead to foreign investment. Economic integration is expected to bring advantages of economies of scale in terms of enlarged market size as well as elimination of tariff related costs; economic growth is expected to bring benefits of increased return; and improved ease of doing business is expected to lower operation costs and increased efficiency. If all these advantages outweigh benefits of licensing, MNCs are expected to invest abroad.

6.4.2 Contributions to Knowledge

This study found out that economic integration leads to attraction of foreign direct investment. As measured using regional price convergence, economic integration has a significant positive effect on foreign direct investment. The results returned a coefficient of -2.00 and P - value of 0.048 implying that a decrease in regional price variance (that is, a tendency towards regional price convergence) leads to increased foreign direct investment. Similarly, as measured using intra-regional trade intensity economic integration has a significant positive effect on foreign direct investment. The results returned a coefficient of +1.29 and P - value of 0.00.

However, the study added another dimension to the extent that the influence of economic integration on foreign direct investment should not be evaluated in isolation. There are other important variables that dictate how economic integration relates with foreign direct investment. Some of these important influencers is economic growth and ease of doing business. Economic growth has an enhancing moderating effect on the relationship between economic integration and foreign direct investment. When economic integration is measured using regional price convergence the resulting interaction term returns a coefficient of +0.1285 and P-value of 0.021 while when economic integration is measured using intra-regional trade intensity, the resulting interaction term coefficient and P-value are +0.5417 and 0.004 respectively. In addition, ease of doing business also influences the extent to which economic integration affects foreign direct investment. The path analysis procedure used to measure the intervening effect returns a P value of 0.00.

Furthermore, the results indicate that economic integration, ease of doing business and economic growth are good joint predictors of foreign direct investment. All the three variables have a significant positive effect on foreign direct investment. When economic integration was measured using regional price convergence the following coefficients were obtained: regional price convergence (-1.2456), economic growth (+0.6218), and ease of doing business (+0.0678). The joint P – value was 0.0021. While when economic integration was measured using intra-regional trade intensity, the coefficients obtained were: intra-regional trade intensity (+0.4144), economic growth (+0.2003), and ease of doing business (+0.6124). The joint P-value was 0.00. This study makes a contribution by extending the literature to the extent that the determinants of foreign direct investment are broad and multifaceted.

The pursuit of location advantages argument by the Eclectic theory (Dunning, 1977and 1981) resonates with the findings of this study. According to this theory, location advantages of different investment destinations play a significant role in determining which country or region will play host to the activities of multinational corporations. It relates to the 'where' of production. Some of the location advantages include geographical factors or public intervention in the allocation of resources as reflected by market size, legislation towards the production and licensing of technology, patent system, tax, government behavior, and other environmental factors which a multinational would like either to avoid or to exploit. Ease of Doing Business would be interpreted in this context to mean location advantages.

In terms of statistical modeling procedures this study also makes a contribution. In order to have a reliable regression model for analyzing time series data all the requisite tests must be performed namely diagnostic tests of multicollinearity, heteroskedasticity, normality and autocorrelation to validate the model; stationarity tests to ensure that results are not spurious; and co integration tests to establish if relationships hold in the long run. Failure to have a foolproof model that is subjected to all these tests might yield unreliable results.

6.4.3 Contributions to Practice

This study has brought to the fore the fact that the influencers of economic integration are multifaceted and interlinked. Economic integration that is not supplemented with a good investment environment might not lead to effective attraction of foreign direct investment. Additionally, the rate of regional economic growth also dictates the pace at which strides made in deepening economic integration would lead to the attraction of

foreign direct investment. Economic growth enhances the rate at which economic integration leads to increased foreign direct investment.

This information is helpful to the East African Community in informing policy decisions on how to effectively attract foreign direct investment. In addition, policy makers would benefit from an extended literature on economic integration – foreign direct investment nexus which they could consult as they formulate policies. The specific policy implications are discussed in the following section.

6.5 Implications to Policy

Economic Policy makers within East African Community (EAC) are informed by the findings of this study that economic integration is an important ingredient in stimulating increased foreign direct investment. Therefore, there is a need to continue deepening the integration. Towards this end, the East African Community would achieve more integration if concerted efforts were made in taking measures that would intensify intra-regional trade. The study has shown intra-regional trade as a measure of integration that better explains the behavior of foreign direct investment to a much greater extend as compared to regional price convergence. The extent of integration is typically observed in bilateral trade of countries. Trade volume is an all-encompassing variable that is responsive to changes over time in the advancement of regional integration. It is also a fact that trade and investments are interdependent flows.

The policymakers should focus on growing the regional economies because an increase in economic growth catalyzes the rate at which a deepening in economic integration increases foreign direct investment. The foreign investor is not just interested in the degree of EAC integration but also the potential return on investment and the population purchasing power and economic growth is the indicator of this.

As the EAC member countries intensify the economic integration they should also take note of the fact that regional integration alone is not sufficient to attract foreign direct investment in the East African Community. There is a need also to improve investment climate, including having a business regulatory environment that is conducive for the modernization of the regional economy and attraction foreign direct investment. In other words, improving investment climate in the East African Community is an essential ingredient for successful integration and attraction of foreign direct investment.

Specifically, the EAC would achieve an improvement in the Ease of Doing Business if the following measures were taken. Firstly, the governments should make it easier to trade across the borders through reconciliation of regional trade policy, trade logistics, border procedures, and reduction of transit costs. Secondly, there should be a progressive reduction of investment bureaucracy within the region by reducing the duration, funds and strain businesses spend to conform to regulations e.g. business registration and licensing process. Thirdly, there must be a deliberate effort towards reduction and elimination of corruption in the region. More specifically the governments should fight petty and grand forms of corruption, as well as "capture" of the states by elites and private interests in order to introduce certainty and also reduce costs in the running of businesses. Fourthly, foreign investors should be guaranteed a protection of property rights. This would include measures to ensure protection of physical property rights, protection of intellectual property rights, patent protection, and copyright piracy.

6.6 Limitations of the Study

While acknowledging that this study made an important contribution it was not short of some limitations. Firstly, the scope of the study was fairly narrow because it only focused on the experience of the East African Community. Regional integration agreements are too diverse to allow for generalized verdicts. Therefore, it might be difficult to generalize the outcome of this study to other contexts. EAC as an economic bloc has experienced some unique challenges. For instance, the speed of implementation of EAC integration has not been as fast and successful as envisaged in the 1999 protocol because of high level of mistrust among EAC member states.

The current East African Community is made up of the Republics of Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. However, this study excluded one member state namely South Sudan. The reason for this exclusion is because South Sudan became a member of EAC on 2nd March, 2016 while this study analyzed data for the period 2001 – 2015. However, the researcher believes that the other five member states would still be a good representation of the EAC economic bloc.

This study evaluated the effect of economic integration on EAC as a bloc. The effect on individual member countries was not analyzed. Despite the fact that most previous researches on major economic blocs like the EU, NAFTA, ASEAN, and APTA used a similar approach it might be more informative if the effects of economic integration were also disaggregated on a per member country basis. This argument gains prominence especially in the advent of Brexit which implied that Britain as a member of EU has probably not been benefiting as the entire EU bloc viewed as one unit.

6.7 Suggestions for Further Research

This study sought to determine the influence of economic integration on foreign direct investment. Foreign direct investment is the act of purchasing an asset in a foreign country and at the same time acquiring control of it. Another study might focus on the effect of economic integration on portfolio investment which is the acquisition of an asset (mainly securities) that does not give the purchaser control of it, for instance purchase of less than 10% of shares in a foreign company. This would be a timely study for EAC as there are plans to establish a regional securities exchange market. Would this lead to attraction of foreign portfolio flows into the EAC?

The researcher noted that majority of the previous studies have evaluated the effect of economic integration on the economic bloc as a whole without paying regard to the effects on the individual member states. It is possible that some countries might be gaining at the expense of others even though the net effect is positive for the whole bloc. Therefore, it is suggested that a future study that evaluates the effect of economic integration on the individual member states should be conducted.

It is also suggested that a future study employing a more comprehensive data set covering different contexts (several economic blocs) and longer time periods to make inter regional economic blocs' comparisons on the different aspects covered in this study can be conducted. A juxtaposition of different economic blocs' experiences might yield more comprehensive findings for the most effective policy actions.

REFERENCES

Abala, D.O. (2014). Foreign direct investment and economic growth: An empirical analysis of Kenyan data, *DBA Africa Management Review*, 4 (1), 62-83

Adar, K.G. (2011). "EAC". International Democracy Watch: The Democratization of International Organizations, edited by Giovanni Finizio, Luciano Levi, and NicolaVallinoto.<http://www.internationaldemocracywatch.org/attachments/458_EAC-adar.pdf?>

African Development Bank. (2011). Eastern Africa regional integration strategy paper, 2011- 2015. African Development Bank/African Development Fund

Africa Development Bank (2014). East Africa annual report 2014. African Development Bank group- East Africa regional resource centre (EARC), Nairobi

Alfaro, L., Chanda, A., Ozcan, S.K. & Sayek, S. (2006). How Does Foreign Direct Investment Promote Economic Growth? Exploring the Effects of Financial Markets on Linkages. Working paper 07-013, Harvard Business School

Amal, M., Tomio, B.T. & Raboch, H. (2010).Determinants of foreign direct investment in Latin America, *Revista Journal,* 2(1), 116-27

Anita, M., Vito, B. & Tina, V. (2015). Foreign Direct Investment as a Driver of Economic Development in Thailand, *International Journal of Economics and Management Sciences (IJEMS),* 8 (2), 49–74

Anwar, A.I. & Mughal, M.Y. (2014).Why do Russian firms invest abroad? A firm level analysis, *Munich Personal RePEc Archive*

Asiedu, E. (2002). On the Determinants of foreign direct investment to developing countries: is Africa different? *World Development*, 30(1), 107-119

Athukorola, P.M. (2013). Intra-regional FDI and economic integration in South Asia: Trends, patterns and prospects, UNCTAD, regional value chains, Background Paper No. RVC 7

Barro, R.J. & Sala, X. (1995). "Technological Diffusion, Convergence and Growth," Papers 735, Yale - Economic Growth Center.

Belsley, D.A., Edwin, K & Roy, E.W. (1980). Regression diagnostics: Identifying influential data and sources of collinearity. New York: John Wiley and Sons

Bevan, A.A. & Estrin, S. (2004). The determinants of foreign direct investment into European transition economies, *Journal of Comparative Economics* 32, 775-787

Blomstrom, M. & Kokko, A. (1997).Regional integration and foreign direct investment, Working Paper Series in Economics and Finance No. 172

Boreinsztein, E., Gregorio, J.D. & Lee, J.W. (1998). How does foreign direct investment affect economic growth? Journal of Intenational Economics 45(1998) 115 – 135

Buckley, P.J. & Casson, M.C. (1976): "The Future of the Multinational Enterprise", Homes & Meier:London.

Chen, M.X. (2008). Regional economic integration and geographic concentration of multinational firms, working paper No. IIEP-WP-2009-7, Institute for International Economic Policy, Washington, USA

Coolican, H. (2004) Research methods and statistics in psychology. 4th edition. London: Hodder Arnold

Cooper, W.H. (2014). Free trade agreements: impact on U.S trade and implications for U.S trade policy, US Congressional Research Service, 7-5700

Creswell, J.W. (2003).Research design, qualitative, quantitative, and mixed methods approaches, Second Edition, Sage Publications, London/New Delhi

Dabour, N.M. (2000).The Role of foreign direct investment (FDI) in development and growth in OIC member countries, *Journal of Economic Cooperation,* 21(3), 27 - 55

Demirhan, E. & Musca, M. (2008). Determinants of foreign direct investment flows to developing countries: a cross-sectional analysis. *Prague Economic Papers*, 2008 (4) 356-369

Devan, J. & Matsaert, F. (2013). Doing business in the East African Community 2013: smarter regulations for small and medium –size enterprises, World Bank report

Dickey, D.A. & Fuller, W.A. (1979). Distribution of the estimators for autoregressive time series with a unit root, *Journal of American Statistical Association,* 74(366), 427-431

Dunning J. (1977). Trade, location of economic activity and MNE: a search for an eclectic approach" in Ohlin B., Hesselborn P. and Wijkman P/M/eds. The International Allocation of Economic Activity, Lacmillan, London

Dunning (1981). International production and the multinational enterprise, George Allen and Unwin, London

Dupasquier, C. & Osakwe, P.N. (2005). Foreign direct investment in Africa: performance, challenges and responsibilities. United Nations. Economic Commission for Africa; United Nations. Economic Commission for Africa. African Trade Policy Centre.

Ebero, E.M. & Begum, M. (2016).The desirability of Doing Business and Flow of Foreign Direct Investment nexus: The Case of Ethiopia , *International Research Journal of Engineering and Technology (IRJET),* 03(5): Page 2049 – 2057

Engel, C.M & Rose, A.K. (2001). Currency Unions and International Integration, CEPR Discussion Papers 2659, C.E.P.R. Discussion Papers.

Engle, R.F. & Granger, C.W.J. (1987). Cointegration and error correction: representation, estimation and testing", *Econometrica* 55(2), 251-276

Estrin, S. & Uvalic, M. (2013). Foreign direct investment into transition economies: Are the Balkans different? LSE Discussion Paper Series-LEQS Paper No.64/2013, London School of Economics and Political Science

EY. (2015). EY's attractiveness survey Africa 2015 Making Choices. EY, London

Field, A. (2009). Discovering Statistics Using SPSS: Introducing Statistical Method (3rd ed.). Thousand Oaks, CA: Sage Publications.

Gigineishvili, N., Mauro, P. & Wang, K. (2014). How solid is economic growth in the East African Community? IMF Working Paper, WP/14/150

Granger, C. W. J. (1969). Investigating causal relations by econometrics models and cross spectral methods. *Econometrica* 37(3), 424−438.

Gomez-Mera, L., Kenyon, T., Margalit, Y., Reis, J.G. & Varela, G. (2015). New voices in investment: a survey of investors from emerging countries, World Bank-United Nations Industrial Development (UNIDO), ISBN 978-4648-0371-0

Hakim, C. (2000) Research Design: Successful designs for social and economic research, (2nd ed.) London, Routledge

Helpman E. (1984). A simple theory of international trade with multinational corporations. *Journal of Political Economy*, 92(31)

Helpman E. & Krugman P. (1985) Market structure and foreign trade, MIT Press, Cambridge

Hornberger, K., Battat, J. & Kusek, P. (2011). Attracting FDI: How much does investment climate matter? Note Number 327, World Bank

Hossan, M.I. (2015). Intra-regional trade, intra-regional FDI and economic integration: The South Asian Perspective, *International Journal of Economics, Commerce and Management*, 5, 2348- 2386

Hughes, P. (2001a) Paradigms, methods and knowledge, doing early childhood research: international perspectives on theory and practice, Open University Press

Iamsiraroj, S. and Doucouliagos, H. (2015). Does growth attract FDI? *ECONOMICS-the open access, open assessment journal.* Discussion Paper No. 2015-18

Institute of Economic Affairs. (2011). Trade notes, Issue 33, Nairobi

IMF (International Monetary Fund) 1993, Balance of Payments Manual 5th Edition, Washington DC.

Ismail, N.W., Smith, P. & Kugler, M. (2009).The effect of ASEAN economic integration on foreign direct investment, *Journal of Economic Integration* 24(3), 385 – 407

Jaumotte(2004). Foreign direct investment and regional trade agreements: The market size effect revisited. International Monetary Fund working paper WP/04/206

Johnson, H.G. (1965). An economic theory of protectionism, tariff bargaining and the formation of customs union, *Journal of political economy* 73, 256 – 283

Kabuye,F.M.(2008). East African Farmers at Centre Stage: Towards an Integrated Approach to Sustainable Agricultural Development – Potentials, Challenges and Interdependencies. Conference on Sustainable Agricultural Development 7-8 May, 2008, Buziga Country Resort, Kampala, Uganda

Katerina, L. (2004). Foreign direct investment and economic growth in transition economies. *South Eastern Europe Journal of Economics* 1(2004) 97 – 110

Kastrati, S.K. (2013). The effects of foreign direct investments for host country's economy. *European Journal of Interdisciplinary Studies, 5(1)*

Kawai, M., & K. Naknoi. 2015. ASEAN Economic Integration through Trade and Foreign Direct Investment: Long-Term Challenges. ADBI Working Paper 545. Tokyo: Asian Development Bank Institute. Available:http://www.adb.org/publications/asean-economic-integration-through-trade-and-foreign-direct-investment-long-term/

Khan, R.E. & Nawaz, A. (2010). Economic determinants of foreign direct investment in Pakistan. *Journal of Economics*, 1 (2), 99-104

Kindleberger, C.P. (1966). European integration and the international corporation. *Columbia Journal of World Business* 1: 65-73.

Khorana, S., Kimbugwe, K. & Perdikis, N. (2009). Assessing the welfare effects of the East African Community customs union's transition arrangements on Uganda, *Journal of Economic Integration* 24(4), 685 – 708

Kim, J.S.,Kaye, J. & Wright, L.K. (2001). Moderating and mediating effects in causal models. *Issues in Mental Health Nursing*, 22:63–75

Kim, J.S. & Oh, Y. (2007). Determinants of intra-FDI inflows in East Asia: Does regional economic integration affect intra-FDI? KIEP Working Paper 07-01, Korea Institute for International Economic Policy (KIEP), China, Japan, and Korea

Kodongo, O. & Natto, D. (2014).The drivers of cross-border banking expansion: Evidence from East Africa, Working Paper Series- WPS/03/14, KBA Centre for Research on Financial Markets and Policy

Kofarbai, H.Z. & Bambale, A.J. (2016). Investment Climate and Foreign Direct Investment in Nigeria: The Mediating Role of Ease of Doing Business, *Journal of Energy and Economic Development,* 2(2), 10-39

Kothari C. R. (2004). Research Methodology: Methods and Techniques. New Delhi: New Age International (P) Ltd, Publishers.

Krieger – Boden, C. and Soltwedel, R. (2010). European economic integration in econometric modelling – concepts, measures and illustration. Kiel Institute for the World Economy, Working Paper No. 1661

Kunby, J., Molders, F. & Nunnenkamp. (2008). Regional integration and FDI in emerging markets, Kiel Working Paper No. 1418, Kiel, Germany

Lipsey, R.G. (1960). The theory of customs union: A general survey*, Economic Journal 60, 496 – 513*

Lipsey, R.E. & Sjöholm, F. (2010). FDI and Growth in East Asia: Lessons for Indonesia, IFN Working Paper No. 852, Research Institute of Industrial Economics, Stockholm, Sweden

Lutkepohl, H. (2007). Vector autoregressive models, In Mills, T.C and Paterson, K.D(eds.), *Palgrave Handbook of Econometrics*, Vol. 1(Econometric Theory), Macmillan, New York

Madura, J. (2008), International financial management. Cengage Learning, New Delhi India.

Mansur, Y. (2012). Overcoming barriers to foreign direct investment in Jordan, Discussion Paper

Marszk, A. (2014). Economic integration and foreign direct investment: Review of main theoretical concepts. *Entrepreneurial Business and Economics Review*, 2(3)

Mateev, M. (2008).Determinants of foreign direct investment in Central and Southeastern Europe: New Empirical Tests, 8th Global Conference on Business & Economics, Florence, Italy, ISBN: 978-0-9742114-5-9

Mauro, F. (2000). The impact of economic integration on FDI and exports: A gravity approach, working paper No. 156, Centre for European Policy Studies

Meade, J.E. (1955). The theory of customs union, North Holland Publishing Company, Amsterdam

McIntyre, A. (2005).Trade integration in the East African Community: An Assessment for Kenya, IMF Working Paper, WP/05/143

Medith, A.C. (2005). Trade integration in the East African Community: An Assessment for Kenya, IMF Working Paper – African Department, WP/05/143

Medvedev, D. (2012). Beyond trade: the impact of preferential trade agreements on FDI inflows. *World Development,* 40(1), 49-61

Morgan, W. and Wakelin, K. (1999). The impact of European integration on FDI: the UK food industry in the 1990s, working paper No. 99/10, Centre for research on globalization and labour markets

Mottaleb, K.A. & Kalirajan, K. (2010). Determinants of foreign direct investment in developing countries: A comparative analysis, ASARC Working Paper 2010/13

Morrissey, O., (2006).Investment provisions in regional integration agreements for developing countries. Centre for Research in Economic Development and International Trade, University of Nottingham, Credit Research Paper No. 08/06

Masca, M. & Demirham, E. (2008).Determinants of foreign direct investment flows to developing countries: A cross-sectional analysis, Prague Economic Papers, 4, 2008

Narendra & Goel, A. (2014). Impact of Regional Economic Integration on Economic Growth – A Review of Literature, Tactful Management Research Journal. Vol. 2, Issue. 4 (Pg. 1 -10)

Newton, H.J. (2001). Residual Diagnostics for Cross-Section Time Series Regression Models, the *Stata Journal*, 1, 101-104

Nunnenkamp, P. (2002).Determinants of FDI in developing countries: Has globalisation changed the rules of the game? Kiel Working Paper No. 1122, Kiel Institute for World Economics, Kiel, Germany

Nur, R.M.S., Zalina, M.A., Hafizah, Z.M.A. & Siti, N.M.R. (2009). International Conference on Quality, Productivity and Performance Measurement (ICQPPM'09)

Ochieng, D.E. (2014). Effects of market geography and institutional quality on financial markets integration in the East African Community, Unpublished PhD Thesis, University of Nairobi

OECD. (2002). Foreign direct investment: Maximizing benefits, minimizing costs. OECD, OECD Publications Service, Paris, France

OECD. (2008).Benchmark definition of foreign direct investment, Fourth Edition 2008, Peggy Ford-Fyffe King www.oecd.org/publishing/corrigenda.

Omondi G. (2016). Boost for Kenyan workers as South Sudan Wins EAC admission, Business Daily, Nairobi.

Otty M. & Sita, A. (2011). Ernst and Young's 2011 Africa attractiveness survey. Cape Town SA.

Penev, S. & Rojec, M. (2014). The future of FDI in South Eastern european countries: Messages from new EU member states, *Economic Annals*, Volume LIX, No.202, Pg. 43 – 67

Robinson, C. & Schumacker, R. E. (2009). Interaction Effects: Countering Variance Inflation Factor and Interpretation Issues. *Multiple Linear Regression View Points*, 35(1), 6-11.

Robson, C. (2002) Real World Research (2nd ed.), Oxford, Blackwell

Rogers, J. (2007). Monetary union, price level convergence, and inflation: how close is Europe to the USA? *Journal of Monetary Economics* 54 (3): 785-796.

Ruspin, E. (1999). Longitudinal research and the analysis of social change. *Kluwer Academic Publishers*, Quality & Quantity 33: 219–227, Netherlands

Segre, G. (2000). European economic and monetary union and foreign direct investment: A survey of the theoretical and empirical literature, Discussions Paper Series (DPS) 00.09, Centre for Economic Studies, (Katholieke Universiteit Leuven)

Shahadan, F., Sarmidi, T. & Faizi, F.J. (2014). Relationships between Doing Business indexes and FDI net inflows: Empirical evidence from six Asian countries (Afghanistan, Bangladesh, India, Iran, Pakistan and Sri Lanka), *PROSIDING PERKEM*, (2014) 609 - 625 ISSN: 2231-962X

Shinyekwa, I. & Othieno, L. (2013). Trade creation and diversion effects of the east african community regional trade agreement: A gravity model analysis, Economic Policy Research Centre (EPRC) - Research series No. 112

Singh, G. (2015). Relationship between doing business index and foreign direct investment. International conference on "ease of doing business: contemporary issues, challenges and future scope" Gujarat Technological University, 9th and 10th, 2015 Ahmadabad, Gujarat (India)

Slavica, P. & Andreja, M. (2014). Attractiveness of East African Community (EAC) for foreign direct investment. *Economic Review,* Vol. 47, No. 3-4, 35-49.

Soubbotina, T.P. & Sheram, K.A. (2000). Beyond economic growth: Meeting the challenges of global development. WBI Learning Resources, Washington D.C;WorldBank.https://openknowledge.worldbank.org/handle/10986/1578 9 License: CC BY 3.0 IGO.

Stein, E. & Daude, C. (2001). Institutions, integration, and the location of foreign direct investment, inter-American Bank- Research Department, Washington DC, United States

te Velde, D.W. and Bezemer (2006). Regional integration and foreign direct investment in developing countries, *Transnational corporations,* Vol 15(2)(2006), pp 41 - 70

Tuluce,N.S., Dedeoglu, M. & Yaprak, Z.O (2016). The Relationship between FDI and Regional Economic Integrations: An Empirical Analysis of BSEC Countries, *International Journal of Advances in Management and Economics*, Vol. 5, Issue 1, Pg. 01 -12

UNCTAD. (2015). World Investment Report 2015: Reforming international investment governance. New York and Geneva: UNCTAD

UNCTAD. (2010). World Investment Report 2010: Investing in a low-carbon economy. New York and Geneva: UNCTAD

UNCTAD (2009). The role of international investment agreements in attracting foreign direct investment to developing countries, UNCTAD Series on International Investment Policies for Development, Geneva, Switzerland

United Nations (2005). Economic development in Africa, rethinking the role of foreign direct investment, United Nations, New York and Geneva

Viner, J. (1950). The customs union issue, Carnegie Endowment for International Peace

Waters, J. (2005).Correlational Research, Capilano University, British Columbia

William, M.N., Grajeles, C.A.G. & Kurkiewicz, D. (2013). Assumptions of multiple regression: Correcting two misconceptions. *Practical Assessment, Research & Evaluation.*18 (11) – ISSN 1531 - 7714

Wooldridge, J. M. (2006). Introductory econometrics: A modern approach. Mason, OH: Thomson/South-Western.

World Trade Organisation. (2014). some figures on regional trade agreements notified to the GATT/WTO and in force. Retrieved on July 8th, 2015, from http://rtais.wto.org/UI/publicsummarytable.aspx

WTO (2016). Evolution of Regional Trade Agreements in the world, 1948 – 2016. World Trade Organisation secretariat, Geneva

Yannopoulous, G.N.(1990). Foreign direct investment and European integration: the evidence from the formative years of the European Community, Journal of common market studies, XXVIII, 235-259

Zarzoso, I.M. & Lehmann, F.N. (2003).Augmented gravity model: an empirical application to mercosur-european union trade flows. *Journal of Applied Economics*, 2003(6) 291-316

Appendix 1: Data Collection Form

Abbreviation	Description	Data source
FDI	Foreign direct investment stock	UNCTAD and tradingeconomics.com
IT	Intra-regional trade intensity index	IMF's Direction of Trade Statistics (DOTS) and tradingeconomics.com and EAC statistics portal
PC	Regional price convergence	tradingeconomics.com
GDP	Gross Domestic Product (regional growth rates)	tradingeconomics.com, EAC statistics portal and Africa Development Bank
OT	Openness to trade	tradingeconomics.com
ET	Ease of Trade	World Bank
CI	Corruption index	Transparency International
PR	Property rights	World Bank
RT	Red tape	World Bank

Source: Author (2016)