THE RELATIONSHIP BETWEEN INSTITUTIONAL FACTORS AND FOREIGN DIRECT INVESTMENT INFLOWS IN TANZANIA: EMPIRICAL EVIDENCE 1996-2015

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A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY OF THE OPEN UNIVERSITY OF TANZANIA

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by the Open University of Tanzania thesis entitled; "The Relationship Between Institutional Factors and Foreign Direct Investment (FDI) Inflows in Tanzania" in partial fulfillment of the requirements for the award of Degree of Doctor of Philosophy (PhD) of the Open University of Tanzania.

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DECLARATION

I, David S. M. Mfalamagoha, do hereby declare that this thesis is my own original work and that it has not been submitted and will not be submitted to any other University for a similar or any other degree award.

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Signature

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Date

DEDICATION

I dedicate this work to my beloved parents, my father Muwonakimehe-Saidi Muligakali Mfwalamagoha and Givembelimale-Anastazia Pangahesa-Andreas Semgimwa who without their parental care and love I wouldn’t have been what I am today.

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ABSTRACT

The aim of this study was to investigate the relationship between institutional factors and FDI inflows in Tanzania using time series annual data over the period 1996 to 2015. Multiple linear regression models, unit root test using Augmented Dickey Fuller test was employed to test whether each data in series had a unit root thereby testing the stationarity. Co integration test using Johansen co integration test was employed to test for co integration of variables, while Granger causality test was employed to test causality between the variables. It was revealed that regulatory quality, voice and accountability had significant positive influence on FDI inflows, while control of corruption had significant negative influence on FDI inflows. Rule of law and political stability had insignificant positive influence on FDI inflows, while government effectiveness had insignificant negative influence on FDI inflows. Access to land had insignificant positive influence on FDI inflows. Granger-Causality test revealed that political stability granger-caused FDI, implying that the direction of the relationship between the two variables was unidirectional. On the other hand corruption granger-caused FDI, implying that the direction of the relationship between the two variables was unidirectional. Based on empirical findings the study concluded that, over the period 1996-2015, voice and accountability and regulatory quality had significant positive influence on FDI inflows while control of corruption had significant negative influence on FDI inflows. Government effectiveness had insignificant negative influence on FDI inflows, political stability and rule of law had insignificant positive impact on FDI inflows. The study suggests that, measures should be adopted to combat corruption, in order to improve the investment climate for attracting FDI inflows in the country.

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LIST OF ABBREVIATIONS

BOT	Bank of Tanzania
BRICS	Brazil, Russia, India, China, South Africa
CTI	Confederation of Tanzania Industries
FDI	Foreign Direct Investment
FPI	Foreign Private Investment
GDP	Gross Domestic Product
IPT	Investment Promotion in Tanzania
LDCs	Least Developed Countries
LHRC	Legal and Human Rights Centre
MENA	Middle East and North Africa
MNCs/ MNEs	Multi-national Corporations/Enterprises
OECD	Organization of Economic Cooperation and Development
TPSF	Tanzania Private Sector Foundation
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development

CHAPTER ONE

INTRODUCTION

1.1 Overview of the Chapter

This chapter includes background of the study, statement of the research problem, general and specific objectives of the study, research questions, significance of the study, scope and limitations of the study.

1.2 Background of the Study

Globally and historically, there have been various sources of external financing for developing countries, but currently FDI has become an important external financing source for developing countries. Developing countries have made and are still implementing economic and structural reforms to attract more FDI inflows in their countries (Bayar and Alakbarov, 2016). FDI inflows as a source of external financing are preferred by majority of developing countries due to possible positive effects of FDI inflows on their economies.

Foreign Direct Investment (FDI) as a source of capital and a major catalyst towards achieving economic growth and development is associated with benefits such as new technologies, enhanced management skills, increased employment opportunities, access to global markets, and revenues to the government(Viksiz, 2013; Binsaeed, 2009; OECD, 2002; Loungani et al., 2001). According to Hill (2000) FDI occurs when a firm usually a MNC/MNE invests directly in facilities to produce and/or market a product or a service in a foreign country. Punnett and Ricks (1997) define FDI flow as movement of capital across borders. Such movement usually is accompanied by transfer of management, technical or other specialized

personnel, technology or other expertise, or equipment.

Quazi (2007) and Smith (1997) pointed out that FDI is a key factor of globalization, stimulates productivity enhancement, it brings about technological advancement and creates jobs. Foreign direct investment (FDI) is regarded as a factor that drives economic growth (Wang, 2009). Majority of governments from developed and developing countries accept that FDI can help them get through stagnation and even circumvent the poverty trap (Brooks et al., 2010). Many developing countries do not attract sufficient FDI inflow due to poor quality of public services, closed trade regimes, inadequate regulatory frameworks, lack of political stability, unreliable legal system, corruption, and rule of law, all of which prove to be disincentive to FDI flow (OECD, 2002; Binsaeed, 2009).

One of the problems sub-Saharan African (SSA) countries are confronted with is low levels of investment. However, there are many reasons behind the problem and they may vary from country to country. Among in the list of the reasons is the influence of institutional factors on FDI inflows. Unfavorable regulations and ineffective legal systems, have progressively been forcing foreign investors to be increasingly selective as to where to invest (Fiodendji, 2016). On the other hand researchers agree that there is a significant link between institutional factors and FDI inflows in SSA countries, and that foreign investors pay a great deal of attention to the institutional framework of the countries in which they want to undertake an investment (OECD, 2012).

Tanzania in her history towards economic development has passed through three major time epochs, the 1961-1967 epoch, the 1967 Arusha Declaration to mid-1980s

epoch and the third epoch is from the mid-1980s reforms to the present time, 2017 (Ngowi, 2009). After independence, the economy (i.e., industries, plantations, banks, mines and relatively large commercial activities) continued to be mainly within the hands of the British Colonial masters and Asian businessmen, mainly Arabs and Indians. The economy continued to be basically a market-oriented economy with private sector capitalism dominating (Ngowi, 2009).

The 1967-1980 epoch, the political and economic landscape of Tanzania changed dramatically, a result of which was a political decision that gave birth to the Arusha Declaration which was proclaimed in1967. This was a blueprint that declared Tanzania would be following *Ujamaa* policy; it took place six years after independence. The policy implied that the country would be following socialist oriented economic policies. The state owned and controlled economy, replaced the capitalist, private sector market-led economy that was inherited from colonial administration at independence. All the major means of production in the country, (i.e. industries, plantations, commerce, mines, banks, insurance companies, wholesale businesses, hotels, large commercial buildings etc) were nationalized and put under the control of the state, laws, rules, regulations, and policies were introduced to suit the requirements of the new political ideology and new economic system (Ngowi, 2009; Wangwe et al.,2004).

Ujamaa policy did not give any incentive to the private sector enterprises, private sector entrepreneurs were looked upon as exploiters and enemies of the state. Socialism had restrictive regulations, protective policies, even the rule of law was socialist oriented and in favor of socialist tendencies but unfavorable to private

investment both local and foreign. The system reduced individual initiative and creativity, which also discouraged entrepreneurship development in the country. Socialism created a large state bureaucracy and gave people less freedom in their lives economically. Almost everything was collectively owned and this hindered individual initiative and decision making in major spheres of life (URT, 2011).

Few years later on most of these public owned enterprises started to perform poorly due to poor management in 1970s to 1980s. The government supported public enterprises through subsidies, later most of them collapsed as result of poor performance. It is during this time, around 1980s Tanzania found that it could no longer cope with the ailing and ill-managed public enterprises and companies. Therefore, deliberate economic liberalization policies were initiated and implemented **(**ILO, 2005; Ngowi, 2009). This was during the mid- 1980s epoch; it is from this mid- 1980s and especially from 1985, another major political decision was made in Tanzania, which carried with it a package of economic reforms. Generally the reforms were opposite of the 1967 political decision to embrace socialism. In this epoch, Tanzania's political decision was to embrace the capitalist economy which is market-oriented and private sector led. This change involved establishment of new institutions and introduction of new laws, rules, regulations, and policies to suit another new political ideology and new economic system. The main aim was to create an enabling environment for private sector development (Ngowi, 2009).

According to Mnali (2012) changes in a number of investments related policies and laws were undertaken such as trade liberalization policy, whereby import restrictions

were either relaxed or removed. The following laws were enacted, Tanzania Investment Act No 26 of 1997 aiming at guiding investment activities in Tanzania, Land Act No5 and No 4 of 1999, Banking and Financial Institutions Act No 12 of 1991, which intended to harmonize the operations of all financial institutions in Tanzania, Capital Markets and Securities Act No 5 of 1995, Export Processing Zone Act No11 of 2002,Foreign Exchange Act No 1,of 1992,Corruption Prevention and Combating Act No 11 of 2007,and Immigration Act No 101 of 1997, just to mention a few amongst the changes in policies and laws introduced to facilitate foreign investments in the country.

Therefore, promotion of private investments in Tanzania can be traced from the late 1980s, when the role of local and foreign private investment activities in the development process of the country gained recognition and importance (IPT, 2003; Mnali, 2012). The r**e**forms in the financial institutions, public sector, civil service, and other areas were made and are still underway to fine tune the attraction of FDIs in the country. A law was passed in 1997 in order to promote local and foreign investments in the country (Ngowi, 2002).

However, despite these attractive economic reforms already carried out in Tanzania, investment climate in Tanzania is not yet conducive for doing business. The following areas are identified as the most severe particularly to foreign investors: regulations, access to land, taxation and fees, corruption, labor laws, contract enforcement, law and order, bureaucracy, trade openness, infrastructure, and restrictive laws (OECD, 2013; TPSF, 2015; Investment Climate Statement, 2015).

Foreign investors face obstacles in obtaining and enforcing land titles, moreover majority of foreign investors complain that land tenure security for agricultural investors is uncertain (Tanzania Governance Review; 2014; Donovan, 2015). Complaints presented by the Confederation of Tanzania Industries (CTI) (2013) allege that regulatory quality in Tanzania had negative impact on foreign direct investment (FDI) inflow in Tanzania. The complaints further allege that much as the enterprises in the food processing sector in Tanzania understand the importance of regulations and laws, however the complaints by the Confederation of Tanzania Industries (2013), allege that there were multiple laws and regulations governing food processing sector in the country and are overlapping, as result increase regulatory costs payable by business ventures in the sector. They allege that instead of facilitating compliance with regulations, regulators focused at maximizing revenue collections from business operators in the sector.

The complaints further alleged that the sector was the most regulated with 22 laws and regulations, governing business registration, licensing, permits and inspections. These laws and regulations were enforced by various regulatory bodies which also were found to be overlapping in various areas of their activities. For example; the responsibility of inspecting premises was assigned to six (6) regulatory authorities namely; Tanzania Bureau of Standards (TBS), National Environmental Management Council (NEMC), Tanzania Dairies Board (TDB), Tanzania Food and Drugs Agency (TDFA), Fire and Rescue Force (FRF), and Local Government Authority (LGA); TDB, TFDA, TBS and Weights and Measures Agency (WMA) were responsible to inspect production; TDB, TFDA, Vertinary Department were charged with the duty

to inspect product transportation while TDFA, TBS, LGA, NEMC, Occupational Safety and Health Agency (OSHA) were assigned to inspect premises and equipment. The labeling function was undertaken by TDFA, TDB, and WMA. The registration was carried out by TDB and Business Registration and Licensing Agency (BRELA), licensing was undertaken by TFDA, TBS, LGA and the related government ministry. It must be noted that these regulatory bodies were located in different locations and the duties were done separately or on individual basis.

Regardless of the good intention behind formulation of these laws, regulations and regulatory bodies, their impact on the sector was huge and ultimately affected the performance and development of the sector in the country. Moreover it discouraged foreign direct investors (FDI) and development of the private sector. It was also killing the private initiative and spirit towards industrialization. This tendency of having unnecessary, redundant and proliferation of institutions, regulations and laws in the country was found to be detrimental towards attracting FDI in the country.

In another survey study by Tanzania Investment Climate Statement also (2015) alleged that regulatory quality was an obstacle to FDI inflow in the country. Availed evidence tells that fees and charges for registering foreign companies were extremely high when compared with the local companies; also terms and conditions for competing in the market happened to affect foreign companies more that they affect local companies, for example in Tanzania The Tanzania Broadcasting Corporation (TBC), it is said that it enjoys favorable business conditions and terms if compared with other private media companies.

Sometimes foreign investors complained about availability of skilled labor in the country, but the current immigration and labor laws and regulations restrict employment of foreigners in foreign companies up to five people in senior posts only, the remaining positions should be filled or sourced from within the country. The importation of sugar, which is frequently done by the government to supplement local production, causes frustration among the domestic millers who are foreign investors.

Investors 'complaints are on the grounds that sugar imports have been affecting their sugar sales and their cash flows, as a result smallholders cane growers are not paid in time. The perception of investors is that this unfavorable business climate or environment is due to poor policies and business regulations in the country (Tanzania Governance Review, 2014). The survey of business leaders' in Tanzania alleged that, factors that make it difficult for businesses to grow include; tax administration, power (electricity), levels of taxes, corruption and access to finance. This gives an impression that it is difficult to do business and that the government is making insufficient effort to address any of the issues which are frustrating investors in the country (TPSF, 2015).

It is well known that Tanzania has undertaken many far-reaching institutional reforms including reforms in the political systems; economic management; and government administration (Ngowi, 2002; Mnali, 2012; CTI, 2013). These reforms were deliberately undertaken to facilitate FDIs inflows into the country. Institutional factors matter in influencing economic behavior generally and institutional reforms are important in attracting more FDIs into a country (Ngowi, 2002).

1.3 Statement of the Research Problem

The quality of institutional factors has significant effect on foreign direct investors' decisions when choosing location for investments in foreign countries. Quality institutional factors are important determinants of FDI inflows (Kurul and Yalta, 2017; Fiodendji, 2016; Babayan, 2015; Chab and Siham, 2014). According to OECD (2013), Tanzania Investment Climate Statement (TICS) (2015) and TPSF (2015), foreign direct investors in Tanzania have been complaining about corruption, bureaucracy, restrictive laws and regulations, labor laws, contract enforcement, access to land, taxation, and fees as the most severe challenges facing them. This is to say the quality of institutional factors in Tanzania is still not favorable for FDI inflows.

However, contrary to the complaints as raised by OECD(2013), Tanzania Investment Climate Statement (TICS) (2015) and TPSF (2015), on FDI inflows in Tanzania, the surveys on foreign private investments inflows conducted by the Bank of Tanzania (BOT), the National Bureau of Statistics (NBS), and Tanzania Investment Centre (TIC) in 2000, 2001, 2003, and 2010 and five sample surveys in 2005, 2007, 2009, 2012 and 2013, revealed that there have been an increase of FDI inflows into the country in recent years (TIR, 2013).

These findings show that FDI inflows grew sharply by 46.6% in 2012 to USD 1799.6 million from USD 1229.4 million recorded in 2011; this was the highest in East African region. According to African Economic Outlook report (2017) between July 2016 and March 2017 Tanzania Investment Centre (TIC) registered a total of 242 projects worth US dollars 2billion. Tanzania's share in Africa FDI inflows

improved to 3.4% in 2012 from 2.5% recorded in 2011(TIR, 2013).Against this background and circumstances what factors might be responsible for increase in FDIs inflows in Tanzania?

This study aspired to examine the relationship between institutional factors and foreign direct investment (FDI) inflows in Tanzania.

1.4 The General Objective of the Study

To examine the relationship between institutional factors and FDI inflows in Tanzania.

1.4.1 The Specific Objectives of this Study

The general objective for this study was supported by the following specific objectives which were:

i. To examine the relationship between regulatory quality and FDI inflows in Tanzania.
ii. To assess the relationship between rule of law and FDI inflows in Tanzania.
iii. To determine the relationship between government effectiveness and FDI inflows in Tanzania
iv. To assess the relationship between control of corruption and FDI inflows in Tanzania.
v. To determine the relationship between Political stability and absence of Violence and FDI inflows in Tanzania.
vi. To assess the relationship between Voice and Accountability and FDI inflows in Tanzania.

vii. To examine the relationship between land accessibility and FDI inflows in Tanzania.

1.4.2 Research Questions

i. Was regulatory quality related with FDI inflows in Tanzania?
ii. Was rule of law related with FDI inflows in Tanzania?
iii. Was government effectiveness related with FDI inflows in Tanzania?
iv. Was control of corruption related with FDI inflows in Tanzania?
v. Was political stability and absence of violence related with FDI inflows in Tanzania?
vi. Was Voice and Accountability related with FDI inflows in Tanzania?
vii. Was Land accessibility related with FDI inflows in Tanzania?

1.5 Significance of the Study

Despite the abundant literature on the relationship between institutional factors and FDI inflows globally, not much is known about the relationship between institutional factors and FDI inflows in Tanzania. There is scanty literature on the relationship between institutional factors and FDI inflows in Tanzania. It should be made clear that since the adoption of economic reforms almost twenty two (22) years ago no comprehensive study has been done to find out the contribution of institutional factors in attracting FDI inflows in Tanzania. The few studies carried out did not specifically focus on Tanzania and most of them focused on a few types of institutional factors (Basemera, et al., 2012).

Through this study, government and policy makers would be able to know to what extent each institutional factor is related with FDI inflow in Tanzania and to what

extent Tanzania investment climate had improved over the past ten years. Moreover, the study would also help the government and policy makers to know if there is anything more that needs to be addressed in order to improve the investment climate in the country.

1.6 Scope of the Study

This study covered the period between 1996 and 2015, and it dealt with seven (7) institutional factors, namely regulatory quality, control of corruption, government effectiveness, rule of law, political stability, voice and accountability, including access to land. This study employed time series data from World Bank Worldwide Governance Indicators developed by Kaufmann et al, (1999) which is the primary source of empirical research on institutions. It also employed time series data obtained from the bank of Tanzania (BOT). The study considered the period between 1996-2015.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter covers reviewed literature on the relationship between institutional factors and FDI inflows. It is structured as follows: the first section comprises conceptual definitions as used in this study, followed by theoretical literature review, and empirical literature review. The research gap follows after empirical literature review and lastly conceptual framework and description of variables.

2.2 Conceptual Definitions

The frequently used concepts in this study include: institutions, institutional factors, control of corruption, government effectiveness, regulatory quality, rule of law, political stability and absence of violence, voice and accountability, and foreign direct investment (FDI).

2.2.1 Institutions

North (1990)define institutions as the rules in a society, the constraints that human beings impose on human interactions, or, more formally, are the humanly devised constraints that shape human interactions. Moreover institutions are imposed procedures, regulations, rules, laws, practice, traditions, values, taboos, sanctions, customs which prohibit, permit, or lead to specific type of behaviors, socially, politically, and economically. Moreover, North (1990) states that institutions are rules, constitution, laws, property rights, sanctions, taboos, customs, traditions, beliefs, attitudes, customs, values which prohibit, or permit, or lead to specific type of behavior within a society or market. They are critical for reducing or increasing

transaction costs, by improving or denying accessibility to information, property rights and other resources.

Institutional factors are a sort of framework of laws and regulations with the major role of reducing uncertainty by establishing a stable structure for human interaction. Institutional factors are systems of established and prevalent social rules that structure social interactions in a society (Hodgson, 2006). Institutions are policies, legal frameworks, norms and codes of conduct that create the incentives that drive government decisions in shaping the behavior of public sector workers, in resource allocation and ultimately in the exercise of power within the state bureaucracy (Unsworth,2010).

2.2.2 Institutional Factors

According to Kurul and Yalta (2017), Kaufmann (2010), Erkekoglu and Kilicarslan (2016), Wernick, *et al.*, (2014) institutional factors refer to control of corruption, government effectiveness, regulatory quality, rule of law, political stability and absence of violence, and voice and accountability. This study adopted this definition, because the study was pursued to find out the relationship between institutional factors and FDI inflows. The following are the definitions of institutional factors according to Kurul and Yalta (2017), Kaufmann (2010), Erkekoglu and Kilicarslan (2016).

2.2.2.1 Control of Corruption

Captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the

state by elites and private interests.

2.2.2.2 Government Effectiveness

Captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.

2.2.2.3 Regulatory Quality

Captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

2.2.2.4 Rule of Law

Captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.

2.2.2.5 Political Stability and Absence of Violence

Measures perceptions of the likelihood of political instability and/or politically motivated violence.

2.2.2.6 Voice and Accountability

Capture perceptions of the extent to which country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free press.

2.2.2.7 Foreign Direct Investment (FDI)

Worthington and Britton (2006) define FDI as an establishment of production facilities in overseas countries representing a more direct involvement in the local economy with a longer term relationship. Hill (2000) FDI occurs when a firm invests directly in facilities to produce and/or market a product or a service in a foreign country. Punnett and Ricks (1997) define FDI flow as movement of capital across borders. Such movement usually is accompanied by transfer of management, technical or other specialized personnel, technology or other expertise, or equipment.

FDI is defined as a net inflow injected by an investor to acquire a 10% or more lasting management interest in a company that operates in an economy other than that of the investor (World Bank, 2014; Almfraji and Almsafir, 2014). An investment into a foreign country is considered an FDI if it establishes a lasting interest. A lasting interest is established when an investor obtains at least 10% of the voting power in the firm. The key to foreign direct investment is the element of control.

Control represents the intent to actively manage and influence a foreign firm's operations. For this reason, a 10% stake in the foreign company's voting stock is necessary to define FDI. Foreign direct investment (FDI) is defined as a case where a resident entity in one economy (creditor) acquires lasting interest in an enterprise in another economy (recipient) with significant degree of influence. Usually FDI is in the form of ownership of means of production like factories or equity share including equity purchase, reinvested earnings and intercompany loans and debt transactions (TIR, 20013).

Advantages (benefits) of FDI to foreigner (MNCs/MNEs) Include:-

i. Access to markets/market diversification
ii. Access to resources/raw materials
iii. Reduced costs of production/lower labor costs
iv. Preferential tariffs

The following are some of the benefits/advantages for the host country;

i. Economic stimulation
ii. Development of human capital
iii. Increase in employment
iv. Access to management expertise, skills, and technology.

For businesses, most of benefits are based on cost cutting and lowering risk. For host countries, the benefits are mainly economic.

Disadvantages of FDI: Despite benefits there are still some disadvantages such as:

i. Displacement of local businesses
ii. The entry of large firms may displace local businesses that cannot compete with their prices.
iii. Profit repatriation

There are two main types of FDI, horizontal and vertical, however Dunning (1993) describes types of FDI based on the motive behind the investment from the perspective of the investing firm.

The first type is called natural resource seeking FDI; The key driver in this case

is the non existence of natural resources in the home country of the foreign investor. The focus of this form of FDI is to gain access to specific natural resources, cheap labor and also skills such as marketing, operational and technology, etc.

The second type is called market-seeking FDI: This is where the MNC/MNE enters a new market in search for new clients and export markets in order to provide goods and services to the host country. Market-seeking FDI have preference to invest in large domestic markets that are growing at a faster pace (Kinda, 2010).

The third type is called efficiency seeking FDI: In this case, the motive is to reduce production costs using new technologies and cheaper production inputs. The idea is to take advantages of economies of scope, scale and risk management.

The fourth type is called strategic asset seeking FDI: The aim here is to gain access to strategic assets located in the host country to obtain a competitive position and enhance skills in regional and global markets. Examples of these types of assets are brands, distribution channels and new technologies.

Determinants of FDI: The following factors have been identified and discussed as determinants of FDI inflow(Jadhar, 2012; Luiz and Charalambous, 2009; Chang Lo, 2013; Busse, 2007):

i. Market size
ii. Trade openness
iii. Natural resources

iv. Exchange rate considerations

v. Labor considerations

vi. Geographical proximity

vii. Economic agglomeration

viii. Institutional factors

FDI flow: Is a movement of private investments between two countries in specified period.

FDI inflow: Is an increase in international indebtedness (liabilities) to a country' private sector during a specified period of time, usually one year.

2.3 Theoretical Framework

According to Abend (2008) theoretical framework refers to concepts together with their definitions and reference to relevant scholarly literature, existing theory that is used for a particular study. It involves understanding of theories and concepts relevant to the topic of the research and that relate to the broader areas of knowledge being considered. Theoretical literature review helps to establish what theories already exist, the relationship between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested.

Often this form is used to help establish a lack of appropriate theories or reveal that current theories are inadequate for explaining new or emerging research problems (Baumester and Leary, 1997). The theory employed to guide this study is Dunning's theory (2006) of Institutional factors, propounded by him by extending his

prominent Dunning's (1993) eclectic paradigm/theory.

2.3.1 Background of the Theory

Before Dunning's theory (2006) of Institutional factors and Dunning's eclectic paradigm/theory there were various theories developed since 1960s trying to explain factors that determine FDI inflows. Their explanations were mainly based on micro organizational aspects and macro resource allocation dimensions (Dunning and Lundan, 2008). In 1960s, Hymer out of his dissertation developed a theory which stated that foreign direct investment (FDI) inflows occurred mainly in oligopolistic industries rather than in industries operating near perfect competition. This implied that the firms in these industries must possess advantages which are lacking in local firms in the host country. Hymer (1960) stipulated that for FDI to move or surge in a foreign market those advantages should include superior technology, superior knowledge in marketing, management, and finance. On the other hand this theory which was branded a name as the monopolistic advantage theory stated that, foreign direct investment is made by firms in oligopolistic industries possessing technical and other advantages over indigenous firms.

In expanding Hymer's theory (1960), Caves (1971) introduced what he called Product and Factor market Imperfections to show that superior knowledge gave chance the investing firm to produce a variety of products that customers would prefer to similar locally or home made goods and thus would enable the firm to enjoy some control over the selling price and an advantage over local firms. But such activities were possible through research and marketing effort.

According to neo-classical micro-economic theory as examined by Aggrawal (1984) the price of capital is determined by the interest rate and therefore capital movements are driven by what appears to be the difference in interest rates which exists between countries. Neo-classical theory viewed capital as a commodity which its price determines supply as well as its demand and its allocation. Iverson (1953) concluded that capital would thus flow freely from countries with low rates of return to that location with relatively high rates of return under conditions of perfect competition. However the limitation of this theory was its inability to explain the role of Trans-National Corporations (TNCs) in capital mobility because it limited itself to explaining how and where firms decide to obtain the capital needed to finance their global plans. Moreover, other critics also hold the view that because the theory was silent about the purpose of its investment its role was suited only to explanation of portfolio investments rather than on FDI (Fiodendji, 2013).

Intangible capital approach theory is another theory which tried to explain factors related to FDI inflow. According to this theory, the possession by a firm of specific monopolistic advantages or intangible assets was a *sine qua non* (absolute essential) for its overseas production (Lal, 1980). These advantages include production techniques, managerial skills, industrial organization, and knowledge of the product as well as the factor markets. The theory outlined three useful purposes which these advantages would serve.

First, advantages must provide a competitive edge to the firm concerned and they must outweigh those of foreign rivals as well as those in the perspective country in which it plans to invest, this kind of an arrangement was referred to as Ownership

advantage (O). Second, the monopolistic advantage that the firm possesses must be transferable abroad and should be employed most economically at the foreign location. This arrangement was referred to as Location advantage (L).

Thirdly, the firm itself must profit from the exploitation of these advantages rather than licensing or selling them out to an independent firm, this kind of an arrangement was referred to as Internalization advantage (I). Rugman (1986), attempted to provide another explanation of FDI based on internalization theory, however his theory was criticized that it was only focused at examining FDI from the point of view of a need to internalize transaction costs in order to improve profitability and to explain the emergency of FDI effectiveness.

A critical review involving nine previous theoretical models of FDI was presented and discussed early studies of determinants of FDI. The findings of the discussion revealed that there was no single theory that could adequately explain determinants of FDI on its own, but were a variety of theoretical models trying to explain FDI and the location decisions (Faeth, 2008). The theories were not capable to explain satisfactorily why the FDI investors chose to invest in a country rather than in another and particularly the marginalization of African continent.

After a long time of dissatisfaction on the inadequate explanation of determinants of FDI inflows by a series of existing theories, Dunning through a series of publications in 1980, 1981, 1988, and 1992, and later in 1993, introduced a single theory referred to as Dunning's (1993) Eclectic Paradigm, abbreviated as OLI paradigm. OLI was referring to the three main elements namely Ownership (O) advantages, Location (L)

advantages, and Internalization (I) advantages. The theory considered the three factors as determinants of international activities of multinational enterprises (MNEs).

According to theory, *Ownership **(O)** advantages,* included; superior technology, managerial skills, trademarks, brand name, corporate identification and other tangible and intangible assets. *Location **(L)** advantages,* these are economic and political characteristics that make a country attractive such as: cheap labor costs, lower cost of transport and communication, size of the domestic market, political stability, and taxation policy that encourage investments. *Internalization **(I)**advantages,* that the company or companies should be able to use such benefits or advantages of ownership and location on its authority through protection of its technology, quality, and brands. There should also be liberalization of trade regime or openness to international trade to allow companies externalize their operations by licensing manufacturing of their products to other companies.

Thus, Dunning's eclectic paradigm theory suggests that MNEs develop competitive Ownership advantages at home and then transfer these abroad to specific countries (depending on Location advantages) through FDI, which allows the MNEs to internalize the ownership advantages. It should be clearly understood that Dunning's Eclectic Paradigm (1993), did not consider institutional factors as important determinant of FDI inflows.

2.3.2 Emergency of Dunning's Institutional Factors Theory

According Kersan-Skabic, (2013) and Babayan, (2015) it was observed that the role

of institutional factors caught researchers' attention sometime around 1990s. Fiodendji (2016) obseved that a growing interest to study the link between institutional factors and FDI inflows emerged since 1990. Fiodendji (2013) noticed that researchers felt that there was a need for the host country to provide other incentives in order to improve and support advantages already available in host countries for attracting more FDIs in their countries. This led to the emergency of the concept of institutional factors to Dunning's eclectic paradigm or OLI paradigm.

Moreover the development of the concept of 'institutional factors' also emerged from the studies by Rodrik, (1999); Acemoglu et al(2001); Sachs,(2003),Glaeset et al,(2004) these studies concluded that economic development of a country is explained mainly by *its institutional factors, resources, and economic policies.* According to Acemoglu et al., (2001), Asiedu, (2003), Asiedu and Lien, (2011); Banga, (2003); Busse, (2003); Gleser et al., (2004); it was revealed that institutional factors were important for FDI inflows. It was pointed out those institutional factors as a concept became the focus of any economic reforms (Sachs, 2003).

Moreover, Dunning (2002) argued that institutional factors, such as good governance and economic freedom are becoming highly popular determinant of FDI as the priorities of multinational companies (MNCs) are shifting from market and resource seeking to efficiency seeking. It was after these observations Dunning suggested an extension of his theory, popularly known as Dunning's Eclectic Paradigm (1993) by inclusion of institutional factors (Kersan-Skabic, 2013, and Babayan, 2015). He realized that his eclectic paradigm theory was not yet a perfect theory to adequately explain determinants of FDI inflows.

Dunning's Institutional factors theory (2006), as it stands now is comprised of six variables which include: Government effectiveness, Regulatory quality, Control of corruption, Rule of law, Voice and accountability, and Political Stability and absence of violence (Stein and Daude, 2004; Babayan, 2015; Kurul and Yalta, (2017); Wernick, Haar, and Sharma, 2014; Erkekoglu and Kilicarslan, 2016; Dehshir and Sameti, 2012). Dunning (2006) Institutional factors theory which has been clearly stated and explained by Babayan (2015), Fiodendji (2016), and Kersan-Skabic (2013), points out that the key factors that influence investment decisions of foreign direct investors (FDI) are those institutional factors which are attractive for policy implementation.

They are the most important factors influencing foreign direct investment decisions existing in the recipient country. Effective institutional factor allow foreign investors to conduct their business in an environment based on clearly defined rules. Highly attractive institutional factors reduce uncertainty and risks of investing in a foreign country, thus, giving investors' confidence for the future. Dunning (2006) Institutional factors theory states that: FDI inflow in a specific foreign market is positively associated with attractiveness of the institutional factors in a host country.

Dunning's (2006) institutional factors theory include control of corruption, government effectiveness, and regulatory quality, rule of law, political stability and absence of violence, and voice and accountability. The major role of these institutional factors in the society is to reduce uncertainty by establishing a stable structure to human interaction. Institutional factors provide an environment through which investors emerge and operate. Institutional factors structure incentives in

human exchange, in social, economic and political arenas.

According to Bull and Willard (1995) as cited by Nkya (2002), behavior of an investor depends heavily on the reward structure in the economy as given by the existing institutional framework which is characterized by a particular rule and norm structure. Nkya (2002) argued that changing the rule and norm structure or institutional arrangements can modify the behavior of investors. The decision and behavior of investors is determined by institutional factors arrangement in the country. Engelmann (1994) as cited by Nkya (2002) said regulations and laws should be credible and enforceable because their enforcement is a critical link between institutional factors and investment flows.

Table 2.1: Studies which Used Dunning's Institutional Theory

AUTHOR	STUDY	THEORY	YEAR
Bellos, S. and Subasat, T.	Governance and FDI inflow in Latin America	Dunning's Institutional factors theory	2013
Nunes, P. and Castro, C	Does corruption inhibit FDI?	Dunning's Institutional factors theory	2013
Kersan-Skabic, I.	Institutional Development as a determinant of FDI attractiveness in South -east Europe	Dunning's Institutional factors theory	2013
Polat,B. and Payashoglu, C.	Determinants of FDI in Turtey: A setoral Approach	Dunning's Institutional factors theory	2014
Salem, M. and Baum, A.	Determinants of FDI in Real Estate Investment in selected MENA countries	Dunning's Institutional factors theory	2015
Babayan, G.	The Impact of Institutional factors on attracting FDI flow	Dunning's Institutional theory	2015
Hailu, G.Y. et al	Does institutional quality matter in FDI: Evidence from Sub- Saharan African countries	Dunning's Institutional factors theory	2016
Phung, H.	Impact of Institutional and political variables on FDI in developing countries.	Dunning'sInstitutional factors theory	2017

Source: Researcher, 2018

Institutional factors arrangement is an important determinant of economic opportunities and changes in economic opportunities. Institutional factors reduce chances for the abuse of power; reduce bureaucracy and corruption and lowers transaction costs to foreign investors. If these are realized they will tend to motivate foreign direct investment (FDI) flow across the country's economy.

2.3.3 Choice of the Theory

This study employed Dunning's (2006) theory of Institutional factors, which stipulates that FDI inflow abroad is influenced by attractive institutional factors available in a particular location. The researcher considered it to be appropriate for this study due to its ease of application, and explanatory power as it was able to capture all the variables involved and link them with the study. Dunning's (2006) theory of Institutional factors is strong since it was able to link the study with the environment in which the study was taking place. Another good quality of this theory was its ability to strengthen the study by connecting the researcher to the existing knowledge about the variables; guided by the relevant theory a researcher was given a basis for hypotheses and choice of research methods.

Moreover the theory was able to articulate the theoretical assumptions of a research study and it forced the researcher to address questions of why and how. It permitted the researcher to intellectually transition from simply describing a phenomenon s/he had observed to generalizing various aspects of that phenomenon. Having this theory helped the researcher identify the limits to the generalizations. Moreover this theory helped the researcher specify which key variables influence the phenomenon of

interest and highlights the need to examine how those key variables might differ and under what circumstances.

2.3.4 Weakness of the Theory

Despite Dunning's (2006) Institutional factors theory being a popular theory in the study of FDI; however this theory is still rigid, as it does not keep pace or align with the current changes in the international business environment. Consistent with the above observation Tihanyi, *et al.* (2012) argued that Dunning's (2006) institutional factors theory is likely continue owing to several recent and ongoing trends in business practices and academic research, the growing number of MNEs in the global marketplace, the growing political, and economic importance of emerging country groupings, and the growing need for managers and firms to understand the regulations, customs and norms in different countries.

In agreement with observations by Tihanyi et al. (2012), Acemoglu, *et al.*, (2001), Easterly and Levine (2002), Sachs (2003), Glaeset, *et al.* (2004) as quoted by Fiodendji (2016), concluded that economic development of a country is to a greater extent explained by its institutional factors, its resources, and its economic policies. Basing on the above conclusion of the previous studies it is vividly seen that there is a theoretical gap in Dunning (2006) institutional factors theory. This study suggests filling the theoretical gap by adding another construct. The study selected 'accessibility to land' as a new construct or variable to be included in the Dunning (2006) theory of institutional factors. Land is the basic factor of production it is critical and crucial for investments whether local or foreign.

2.4 Empirical Literature Review

The relationship between institutional factors and FDI inflows has been explained by various studies including the following: Gastanaga et al (1998) investigated the role of contract guarantee, corruption, and risk of nationalization among other factors on FDI inflws; they found out that corruption positively influenced FDI. But contrary to Gastanaga and his colleagues, Wei (2000) and Asiedu (2005) found out that corruption affects FDI inflows negatively. Their results suggested that foreign direct investors generally avoid investing in highly corrupt countries because it leads to operational inefficiencies.

Henisz (1998), Jensen (2003), Richard and Nwankwo (2005) argued that institutional factors particularly corruption, political restrictions and lack of protection of property rights were not attractive to FDI inflows. Moreover, Henisz (2000), Henisz and Williamson (1999) argued that in countries where property rights are poorly protected Multi-National Companies' (MNC) investments feared expropriation risks hence discouraging FDI inflows. Kapuria-Foreman, (2007) found out that greater assurances to conform or comply with contracts agreements and honor or respect for property rights were among the important determinants for attracting more FDI.

Ali et al., (2010) concluded that property rights were more critical in attracting FDI inflows. Compos, Asiedu and Villamil, (2000) Liien and Pradhan (1999), confirmed that majority of investor surveys suggested that one of the most critical institutional factor that deters FDI inflows was corruption. Cuerzo-Cazura, (2006, 2008) further argued that generally countries which are more corrupt received fewer FDI inflows,

and those with lower corruption index scores had positive relationship with investment inflows, as corruption levels would be lower.

Asiedu and Lien (2011),Banga (2003), Chan and Gamayel (2003), Buse (2003), Nsouli(2000), Wheeler and Mody(1992), Daude and Stein (2007) found out that inward FDI was significantly influenced by institutional factors, while Mauro (1995) stressed that corruption lowers investment inflows and consequently lowers economic growth. Gomes-Casseres (1991) found out that intellectual property rights and political stability and absence of violence were considered crucial for guaranteeing conducive business environment in the country. Beavan et al. (2004) found out that institutional factors significantly influenced FDI inflows, and there was a positive relationship between institutional factors and FDI inflows, particularly the rule of law.

Kersan-Skabic (2013), found out that among the institutional factors only corruption had a significant negative impact on FDI inflow. Government effectiveness, rule of law, and political stability had no significant impact on FDI inflow, though in fact they were expected to have a greater influence on FDI inflows. Maric and Kristina (2017) observed that countries with rigid regulations and high level of bureaucracy, corruption could help to remove barriers and accelerate the exercise or the process of investment in the host country. Kaufmann and Wei (1999) in a study of more than 2000 firms found out that firms spent longer time dealing with negotiations with authorities in countries with higher level of corruption while in countries with low level of corruption firms spent shorter time for negotiations.

Ngodi and Mburu (2016) found out that control of corruption, political stability, and rule of law were among the factors that attracted FDI inflow to East Africa. Manamba and Massawe (2017) noted that corruption was one of the greatest barriers to FDI inflow in many of low income countries. Rodriguez-Pose and Cols[1] found out that institutional indicators such as; political stability, government effectiveness, lower level of corruption, voice and accountability, and rule of law were highly influential in attracting FDI in Sub-Saharan Africa. Erkekoglu and Kilicarslan (2016) carried out a study in 91 countries between 2002-2012 the results were that an increase in government effectiveness reduced FDI inflows while a study by Daude and Stein (2004) found out and concluded that sometime unpredictable policies were a threat to FDI inflow.

Siddica and Angkur (2017) carried a study in 40 countries comprising developing and developed countries over the period of 1990-2010 employing panel econometric model and noted that rule of had positive effect on FDI while government effectiveness had negative effect and also statistically significant. Another study by Amal et al (2010) found out that government effectiveness was found to be negatively significant, implying a negative relationship with FDI inflows in eight Latin American countries for the period of 1996 to 2008.

The findings of the survey study conducted by the Tanzania Private Sector Foundation (2015) demonstrated that, government effectiveness (GE) was not favorable to FDI inflow in Tanzania. The findings categorically stated that, among

[1]http://econ.geog. Uu.nl/peeg/peeg.html

the challenges facing foreign investors include bureaucracy, whereby investors spent a lot of time in processing licenses, property registration, in paying taxes, difficult in obtaining and registering land, enforcing contracts and starting business operations. Foreign investors also alleged that policy instability is among of the challenges affecting their investment decisions. Frequently and unpredictable changes in policies in various sectors interfere and frustrate foreign investors' decisions. In this case GE appears to be deterrent and unfriendly to foreign direct investors.

Moreover, consistently with the findings of the Tanzania Private Sector Foundation (TPSF) (2015), the findings of the survey study conducted by Tanzania Investment Climate Statement (2015) also revealed that government effectiveness (GE) was not favorable to FDI flow in Tanzania. The findings further explained that incentives offered to foreign investors were unpredictable and were offered on discriminatory basis, performance requirements were not considered.

Buse, and Goizard (2006), found out that in the most regulated economies, excessive regulations very often were restricting foreign direct investment inflow. Daude and Stein (2004), Buse and Goizard (2006) argued that multiplications of regulations very often happened to be barriers to foreign investors and it was difficult to comply with. On the other hand, Sedik and Seoudy (2012) conducted a study in 20 MENA countries in the period between 1999 and 2010; and revealed that regulatory quality seemed to have positive and significant effects on FDI inflows in MENA countries. Saidi et al (2013) investigated the relationship between institutional variables and FDI inflows in 20 developed and developing countries in the period between 1998 and 2011, the result showed that regulatory quality had

positive impact on FDI inflows. Yonis, Ochi and Ghadri (2013) also found out that regulatory quality had positive and statistically significant impact on FDI inflows.

Lucke and Eichler (2016) performed a study on institutional determinants of FDI in 94 countries between 1995 -2009 the result indicated that regulatory quality had positive impact on FDI inflow. Bellos and Subasat (2013) revealed that under certain circumstances regulatory quality deterred FDI inflows. Mramba; (2015) found out that regulatory quality had no significant relationship with FDI inflows in Tanzania. Hailu (2016) found out that institutional factors had no statistical significant relationship with FDI inflows. OECD (2013) found out that regulatory quality in Tanzania was still restrictive to foreign direct investors. Various studies including the following; Grosse and Trevino (1996), Tallman (1998), Zhoa (2003) pointed out that a better rule of law attracted more FDI, implying that there was a positive relationship between rule of law and FDI inflow.

Jensen, N. (2003) concluded that rule of law had a positive effect on FDI. Daude and Stein (2004) also stressed that deficiency enforcement of property rights and lack of commitment on the part of the government seemed to play major role in deterring FDI flow. Asiedu (2005) concluded that reliable legal system has a positive impact on FDI inflow**.** Busse and Hefeker (2007) found out and concluded that rule of law was a determinant of FDI inflow. Mishra and Daly (2007) concluded that, the legal system in host countries had a direct impact on FDI inflows in those countries.

Samini and Ariani (2010) studied the impact of political stability, control of corruption and rule of law; they found out and concluded that improvement of rule

of law had a positive impact on FDI inflows in MENA countries. Mengistu and Adhikary (2011) concluded that rule of law was one of the main determinants of FDI inflow in the host country. Aguiar et al., (2012) concluded that rule of law tended to attract FDI inflow. Dehshiri and Sameti (2012) studied the impact of human development index and rule of law to attract FDI in selected developing countries in the period between 2001 and 2010, the results showed that rule of law had positive and significant impact on attracting FDI in developing countries. Saidi, Ochi and Ghadri (2013) found out and concluded that a reliable legal system had a positive and a significant impact on FDI inflow I developing countries.

Demirtus (2013) examined the effects of institutional factors on FDI flow using data from 71 developed countries and developing countries between the years 1995 and 2002. The results of his study indicated that there was a positive relationship between rule of law and FDI inflow. Kunsch, et al., (2014), Tanzania Investment Climate Statement (2014, 2015), and Gangi, Y. (2017), had similar conclusion, that rule of law was one of the main institutional factors which attract FDI inflow in the host country.

However, on the other hand Bayar and Alakbarov (2016) findings and conclusion showed that rule of law had statistical insignificant impact on attracting FDI in overall panel of emerging market economies. On the other hand, the studies by Dehshiri and Sameti, (2012), Kunsch, et al.(2014), Wang, Xu and Zhu (2012), Wenick et al. (2014), LHRC (2013, 2015), Biglaiser and Staats (2010), Haggard, Maclntyre and Tiede, (2008), Globerman and Shapiro (2003), La Porta et al.(2000 found out and offered explanation that rule of law was an important indicator which

must be given due consideration by an investor for FDI decisions, simply because investors want to know whether there would be be protection for their investments in the foreign location or in the host country.

Investors believe that is only through the presence of reliable rule of law protection of their investment is guaranteed. Therefore, it is logical to accept that one among of the risks to be assessed before investing in a foreign market should be the country's rule of law. In the absence of rule of law investors have no confidence in security of various issues related with their business operations. Investors need to be certain of protection of their property rights, they need fair competition in the market, they need fair exchange in the market, and they need appropriate conformation and loyalty to contracts and contract supervision. They are interested to see a reliable legal system, in which there is sufficient independence of the judicial system and there is trust in the judicial system for resolving legal disputes.

Kunsch et al. (2014), argued that foreign investors from countries with high-level rule of law indices do not prefer to invest in countries with low-level or mid-level rule of law indices, and foreign investors from countries with mid-level or low-level indices might not find it difficult to invest in countries with corresponding or similar circumstances. Wang and Swain (1997**)** found out and concluded that corruption harmed the business climate and deterred foreign direct investment inflow. Morisset (2000) concluded that corruption increases administrative costs and therefore reduced FDI inflow, while, Wei, (2000) found and concluded that corruption reduced FDI; and had a negative impact on capital structure and capital volume.

Jensen (2003) concluded that corruption has negative effect on FDI. Asiedu (2005) using panel data for 22 countries during the period 1984-2000 concluded that corruption has negative impact on FDI flow in Africa. Smith-Hilman and Omar (2005) accomplished a study employing survey to investigate the effects of regulations and political stability on 121 English firms between 1994 and1996. The findings from the study indicated that countries with weak governments and corruption received less FDI. Another study by Busse and Hefeker (2007) examined the relationship between political risk, corporations and FDI in 83 developing countries between 1984-2003, the results showed that corruption was detrimental to FDI inflow.

Nilsson-Hakkala, et al. (2008) carried out a study on effects of corruption on FDI; using panel regression found out that corruption has negative effects on FDI inflows. Al-Sadig (2009), conducted a study to find out the impact of corruption on FDI inflows in 117 countries between 1984-2004 using regressions and found that corruption had negative impact on FDI inflows. Woo (2010) conducted study on the impact of corruption on FDI inflows in 90 countries during 1984-2004 period employing panel regression model and found out that corruption had negative impact on FDI inflows. Samini and Monfared (2011**)** examined the impact of corruption on FDI inflows in 16 organizations of Islamic cooperation countries between 2002-2008 periods and concluded that there was negative correlation between corruption and FDI inflows.

Mengistu and Adhikary (2011) concluded that corruption was one of the factors determining FDI location. Brada et al., (2012) in another study conducted a study on

the relationship between corruption and FDI in 84 countries during 2000-2003 period, they found out and concluded that corruption had negative impact on FDI inflows. On the other hand, Pupovic (2012) investigated the impact of corruption in FDI inflows in Montenegro using questionnaire method and concluded that corruption had negative impact on FDI inflows.

Another study was conducted by Alemu (2012) to investigate the impact of corruption on FDI inflows in 16 Asian countries in the period between 1996-2009 using panel data and found out that corruption had negative impact on FDI inflows. Another study by Kersan-Skabic (2013) on institutional determinants of FDI in 8 South Eastern European countries between 2001-2010 periods found that corruption had significant impact on FDI inflows. Castro and Nunes (2013) did a study on the relationship between corruption and FDI inflows in 73 countries during 1998-2008 periods and concluded that countries with lower corruption level attracted more FDI inflows.

On the other hand, Quazi (2014) carried out a study on the impact of corruption on FDI in 14 South and Eastern Asian countries in the period between 1995-2011 and found out that corruption had negative impact on FDI inflows. Tanzania Investment Climate Statement (2014, 2015), and TPSF (2015) found out that corruption had negative impact on FDI inflow. Ofori, Ato-Mensah and Jinsheng (2015) revealed that corruption was a social menace because it created social disorder and instability in the form of social unrest, poor provision of social services,and poses threat due to the high costs of business operations to both private and public sectors and business investment in the long run.

Peres, Ameer and Xu (2018), noted that one of the most important institutional factors that deters FDI inflows was corruption while, Yalta and Kurul (2018) noted that reducing corruption increased FDI. Bradhan (1997) noted that corruption had a significant positive impact on FDI inflows. Bellos and Subasat (2011) conducted a study to find out the relationship between FDI inflows and corruption in 15 transition economies during 1990-2005 employing panel gravity model, they found out that corruption had no statistically significant impact on FDI inflows. Bellos and Subasat (2012), Basemera and Mutenyo (2012), Gutierrez (2015), noted that corruption significantly did not deter or influence FDI inflow negatively.

Demirtus (2013) carried out a study on the impact of institutional factors on FDI inflows in 71 developed and developing countries between 1995-2002, the results showed positive relationship between corruption and FDI inflows. Mudambi et al. (2013) carried out a study on the relationship among corruption, government regulations in 55 countries in the period between 1985-2000 employing panel regression models their results demonstrated that corruption had no independent impact on FDI inflows.

Helmy (2013) accomplished a study on the impact of corruption on FDI in 21 countries of Middle East and North Africa (MENA countries) in the period between 2003 -2009 and conluded that corruption had no significant impact on FDI inflows. Bayar and Alakbarov (2016) concluded that control of corruption had no statistical significant impact on attraction of FDI in 23 emerging market economies. Yalta and Kurul (2017) in their study revealed that voice and accountability (VA) had significant and positive impact on FDI inflows.

Another study with similar results is a study by Gangi (2017) who investigated the impact of governance or institutional factors on FDI inflow in 50 African countries in the period between 1996-2010, among the findings and conclusion of the study was that voice and accountability was statistically significant in attracting FDI in African countries. However, this study did not clearly explain the nature of the impact of governance or institutional factors on FDI inflow in Africa, whether it was positive or negative. On the other hand, Chaib and Siham (2014) found out and concluded that voice and accountability had the expected positive impact on FDI inflows in Algeria.

Bannaga et al. (2013) carried out in 18 Arab countries in the period between 2000-2009 and concluded that voice and accountability negatively and significantly affected FDI inflow in 18 Arab countries. Berden, et al. (2012) analyzed the impact of institutional factors in attracting FDI inflows in Algeria between 1995 and 2011 and concluded that high level of voice and accountability reduced inward FDI in Algeria. Salem and Baum (2016) in their study revealed that political stability and absence of violence (PSV) had a positive impact on FDI inflows and was significant at 5% level; political stability and absence of violence was found to be significant determinant in attracting FDI inflows in real estate.

On the other hand Yalta and Kurul (2017) revealed that improvements in political system, exercising policies that enhance participation of citizens in selecting their government, as well as protecting civil rights tended to increase FDI inflows in the country. Basu and Srinivasan (2002) revealed that political stability and absence of violence was a key determinant of FDI inflow. Erramilli and Rao (1993), Gastanaga,

et al. (1998), Wei (2000), Grosse and Trevino (2005), Demirhan and Masca (2008), Wyk and Lal (2008), found out that lack of political stability and prevalence of violence deters FDI inflow.

Moreover, Grosse and Trevino (1996), Tallman (1998), Zhoa (2003), Aguiar et al. (2012) concluded that absence of political stability in the host country reduced foreign investment inflow in the host country. Reinforcing the above previous studies ; Wang and Swain (1997)Stevens (2000)Stein and Daude (2001) Asiedu (2005), Vadlamannati (2012), Lee and Rajan (2009), Krifa- Schneider and Matei (2010)**)**Mishra and Daly (207),Samini and Ariani (2010), Saidi, *et al* (2013), Al-khour and Khalik (2013), Demirtus (2013), Pan (2003),Baek and Qian (2011), Smith-Hilmaon and Omar (2005) concluded that political stability had a positive and significant impact on FDI inflow.

Erkekoglu and Kilicarslan (2016) carried out a study on whether political stability had effect on FDI inflow in 91 countries in the period between 2002-2013; the findings were that an increase in political stability and absence of violence reduced FDI. On the other hand Wheler and Moody (1992), Noorbaksh, *et al.,* (2001), Sedik and Seoudy (2012) found out that political stability had no effect on FDI flows. What has been revealed from the previous studies on the relationship between institutional factors and FDI flow; is that there is a substantial inconsistency in findings by different researchers. Jensen (2003) and Ahliquist (2006) state that more democratic countries attract more FDI than authoritarian countries because democratic regimes tend to reduce political risks of nationalization, expropriation and increase the credibility of the host country for foreign investors. Li and Resnick

(2003) on the contrary found that democracy in host country has a negative effect on FDI inflows because of the impact of the provision of a lower cost workforce, the repression of labor unions, entry deals, and operation affordance in authoritarian regimes.

Studies by Bradhan (1997), Emery et al. (2000), Wei (2000), Kinoshita and Compos (2001), Bassu and Srinivasan,(2002), Meon and Sekkat,(2005**),** Swaleheen and Stancel (2007) found out that corruption had significant positive effect on FDI, reduces bureaucracy and increases the speed of investments and FDI inflows, contrarily Morisset and Neso (2002),Fedderke and Romm (2006), found out that corruption had a deterrent effect on FDI flow. Dupesquier and Osakwe (2006) revealed that, lack of good legal and judiciary systems were possible deterrent to FDI inflows in Africa. Quere et al (2007) revealed that institutions matter for attracting FDI.

Poor institutions e.g. corruption, weaknesses regarding enforcement of property rights and poor domestic legal system were responsible for additional costs to FDI. Busse and Hefeker (2007) found out that law and order, quality of bureaucracy were highly significant in determining FDI inflows. Du et, al;(2008) argued that FDI in China preferred regions that had better protection of intellectual property rights, lower degree of governmental intervention in business operations and a lower level of corruption. Vadlamanati et al. (2009) confirmed that institutional factors were crucial determinants of FDI flow in South East Asia.

Mottaleb and Kalirajan (2010) argued that good rules and regulations, motivated FDI flows while a study by Woo (2010), found out negative relationship between

corruption and FDI flow. Ballos and Subasat (2013a and 2013b), Mutenyo and Basemera (2012), using various categories of variables such as aggregate variables or macroeconomic variables (ERR-economic risk rating, PRR-political risk rating and governance) and individual variables (corruption and law and order), with multiple sources of data (PRSG-political risk service group) and World Bank Development Indicators (WDI), found out that corruption had significant positive effect on FDI inflow in East African countries, governance, law and order were insignificant.

In addition FDI was found to be influenced by other factors such as inflation, GDP per capita and openness to trade in Tanzania, Uganda and Kenya). However they suggested further studies on the impact of institutional factors on the FDI inflows. On the contrary Staats and Biglaiser, (2012); Arezki et al. (2012); found out that corruption had significant negative effect on FDI inflow. Another study by Jadhar (2012) found out that institutional factors had no significant impact on FDI flow in BRICS countries. Karim (2012) argued that several institutional variables, such as government stability, friendly policies, the level of corruption and bureaucracy were statistically significant in influencing the inflow of FDI in Malaysia. Anyanwu (2012) argued that there is a positive relationship between prevalence of rule of law, and FDI flows.

The study by Amal et al. (2010) revealed that Government effectiveness had negative and significant impact on FDI flow while Koen Berden et al. (2012) found that Government effectiveness reduced the FDI inflows, on the other hand Sharma et al. (2014) countries with strong formal institutions such as independent judiciary,

effective legal systems, secure property rights tended to receive more FDI than others. Chaib and Siham (2014) found institutional quality to be an essential factor in attracting FDI in Algeria.

Gutierrez (2015) conducted a research on the effects of corruption in Argentina and revealed that corruption in Argentina did not deter FDI inflows contrary to what most literatures suggested. Mramba (2015) investigated the relationship between government terms and regulations, technological and infrastructure factors, and abundant of natural resources in Tanzania (as independent variables) and FDI (as dependent variable), the results of linear regression analysis showed that government regulations had no relationship with FDI inflow in Tanzania. However, Senkuku (2015) suggested further research on other factors that influence FDI inflows in Tanzania. Fiodendji (2016) basing on his findings suggested that the impact of institutional quality in host countries was more important determinant of FDI inflows than many other characteristics of host countries, such as macroeconomic stability.

Hintosova, *et al.* (2016) found out that the higher corruption perception of a country led to lower FDI in Visegrad countries in Central European countries. Hailu et al. (2016) using panel data in 49 sub Saharan African countries (Tanzania inclusive), found out that there was no statistically significant relationship between institutional quality and FDI inflows to Sub-Sahara countries. In another study by Bayar and Alakbarov (2016) found out that control of corruption and rule of law had no statistically significant impact on attracting FDI in 23 emerging market economies during the period 2002-2014.

Samini and Monfared (2011) investigated the impact of corruption on FDI inflows in 16 Organization of Islamic Cooperation countries during 2002-2008 period using panel regression and found that out a negative relationship between corruption and FDI inflows. Buchanan, *et al.* (2012) investigated the interaction between FDI and institutional quality in 164 countries during 1996-2006 period using panel regression and found out that institutional quality had positive impact on FDI. Brada, *et al.*, (2012) examined the relationship between institutional variables and FDI inflows in 84 countries during 2000-2003 periods and found out that corruption had negative impact on FDI inflows.

On the other hand Pupovic (2012) investigated the impact of corruption in FDI inflows in Montenegro using questionnaire method and concluded that corruption had negative impact on FDI inflows. Castro and Nunes (2013) examined the interaction among corruption and FDI inflows in 73 countries during 1998-2008 period employing panel regression and found out that countries with lower corruption attracted more FDI flows. In another study by Mudambi et al. (2013) investigated the interaction among government regulation, corruption and FDI in 55 countries during 1985-2000 period using panel regression and found out that corruption had no independent impact on FDI inflows.

Consistent with Mudambi (2013), Helmy (2013) examined the impact of corruption on FDI inflows in 21 Middle East and North African countries during 2003-2009 period and found out that corruption had no significant impact on FDI inflows in those countries. Kurul and Yalta (2017) using panel data in 113 developing countries (Tanzania inclusive) found out that control or reducing corruption, government

effectiveness and reducing the excessive burden of bureaucracy and improvement in the political system tend to increase FDI inflows in developing countries.

Table 2.2: Summary of the Reviewed Studies

Researcher	Year	Sample	Empirical Approach	Results
Amal, et al	2010	Latin American countries	Panel data analysis	Government effectiveness has a negative and significant impact on FDI flow
Koen Berden, et al	2012	124 OECD countries	Gravity equation, OLS Method	Government effectiveness and high level of accountability reduces the FDI inflows
Turan Subasat and Sotios Bellos	2013a and 2013b	18 Latin American countries	Panel data Gravity model	There is a statistically significant positive relationship between poor or weak institutions/poor governance indicators and FDI inflows in selected Latin American countries
Basemera and Mutenyo	2012	East African countries	Dunning's eclectic model, Random effects and Fixes effect	Corruption has significant positive effect on FDI inflows
Gutrierrez	2015	Argentina		Corruption does not deter FDI inflow
Hailu et al	2016	Sub-Sahara African countries	Fixed effect technique	There is no significant relationship between institutional factors and FDI inflow
Bradhan	1997	India		Corruption has a significant positive impact on FDI inflows
Jadhar	2012	BRICS countries	Panel data unit-root test and multiple regression	Institutional factors have no impact on FDI inflows
Senkuku	2015	Tanzania	Linear regression	Regulations had no significant relationship with FDI
Turan Subasat and Sotirios Bellos	2012	14 Eastern European countries and South American countries	Panel Gravity Model	Weak or poor institutions/governance do not deter FDI inflows, instead it encourages FDI inflows
Kurul and Yalta	2017	113 developing countries	Dynamic Panel Approach	Better quality institutions have significant positive effect on FDI inflows.

Source: Researcher, 2018

Bimal (2017) found that improving institutional quality by controlling corruption was found to attract more FDI. Yimer (2017) observed that government effectiveness and regulatory quality, and better performance of the rule of law were found out to have positive effect on FDI inflows in Ethiopia. Phung (2017) argued that countries with less corruption and more effective governments tended to attract more FDI and were more appealing to investors.

2.5 Research Gap

This section addresses research gaps as identified in the reviewed empirical studies.

Overall there is a substantial literature highlighting the importance of institutional factors and linking them with FDI inflows, however, none of these studies focus on Tanzania and most of them tended to focus on a few types of institutional factors (Basemera, 2012). This study aimed to fill the existing gaps in the literature and in the body of knowledge. Moreover, reviewed previous studies show that there are two main views on the impact of corruption on FDI inflows. One view suggests that corruption affects FDI inflows negatively, because it increases costs and tends to weaken transparency, property rights and competitive environment and prevents efficiently functioning of governments (Wei, 2000; Morisset, 2000).

Contrarily the other views suggest that corruption affects FDI inflows positively, because corruption can eliminate problems arising from poor institutions and regulations (Bellos and Subasat, 2011). The two views are reflected in the following previous studies. Studies by Udenzi (2014), Staats and Biglaiser, (2012); Arezki et al. (2012); and Woo, 2010), and Asiedu (2005) found out corruption to have a significant negative effect on FDI flow. While Gastanaga et al., (1998), Mutenyo and

Basemera (2012), Ballos and Subasat (2013a and 2013b), and Bradhan (1997) found out that corruption had a significant positive impact on FDI flow; Gutierrez (2015) conducted a research on the effects of corruption in Argentina and concluded that corruption in Argentina did not deter FDI inflows.

Amal, *et, al.* (2010) in his study revealed that, Government effectiveness had a negative and significant impact on FDI inflow, Koen Berden et al.(2012) found out that Government effectiveness and high level of accountability reduced FDI inflows, Sedik (2012) found out voice and accountability was significantly and negatively related to the inward FDI. However, this review has observed that; there are findings which neither confirm nor contradict the theory, these include: studies by Jadhar (2012) on institutional factors revealed that there was no significant impact on FDI flow in BRICS countries. Hailu et al. (2016) in their study concluded that there was no statistically significant relationship between institutional quality and FDI inflows to Sub-Sahara countries in Africa. Mramba (2015) investigated the relationship between government regulations, and FDI. The results of his study suggested that government regulations had no relationship with FDI inflow in Tanzania.

Dunning (2006) theory of institutional factors was criticized that it was lagging behind time due to its failure in capturing other variables. Tihanyi et al. (2012), Acemoglu et al. (2001), Easterly and Levine (2002), Sachs (2003), Glaeset et al. (2004) as quoted by Fiodendji(2016) in their studies concluded that economic development of a country is to a greater extent explained by its institutional factors, its resources, and its economic policies. Basing on the above conclusion of the previous studies it was clearly seen that there is a theoretical gap in Dunning (2006)

institutional factors theory. This study aims to fill the existing theoretical gap by adding another construct as a new variable in this study. This study suggested "accessibility to land" to be included in the Dunning (2006) theory of institutional factors. Land is among the critical and crucial resources in social and economic development in any country, among the foreign investors' complaints were directed to land policy and land tenure system in Tanzania.

This study attempted to address the relationship between Institutional factors and FDI inflows in Tanzania by empirically examining the linkage between Institutional factors(rule of law, government effectiveness, regulatory quality, control of corruption, voice and accountability, political stability and non-violence and accessibility to land) and Foreign direct investment (FDI) inflows in Tanzania by using institutional indicators (*indices)* from World Bank Worldwide Governance Indicators developed by Kaufmann et al. (1999), which is the primary source of empirical research on institutions.

2.6 Conceptual Framework

Conceptual framework refers to the specific ideas a researcher uses in the study. It consists of the ideas that are used to define research and evaluate data. Moreover conceptual framework identifies the necessary components of the study. FDI inflows in the foreign market (country) is influenced by the attractive institutional factors (*rule of law, government effectiveness, regulatory quality, control of corruption, voice and accountability, political stability and absence of violence, access to land*) available in the recipient or host country (Dunning, 2006).

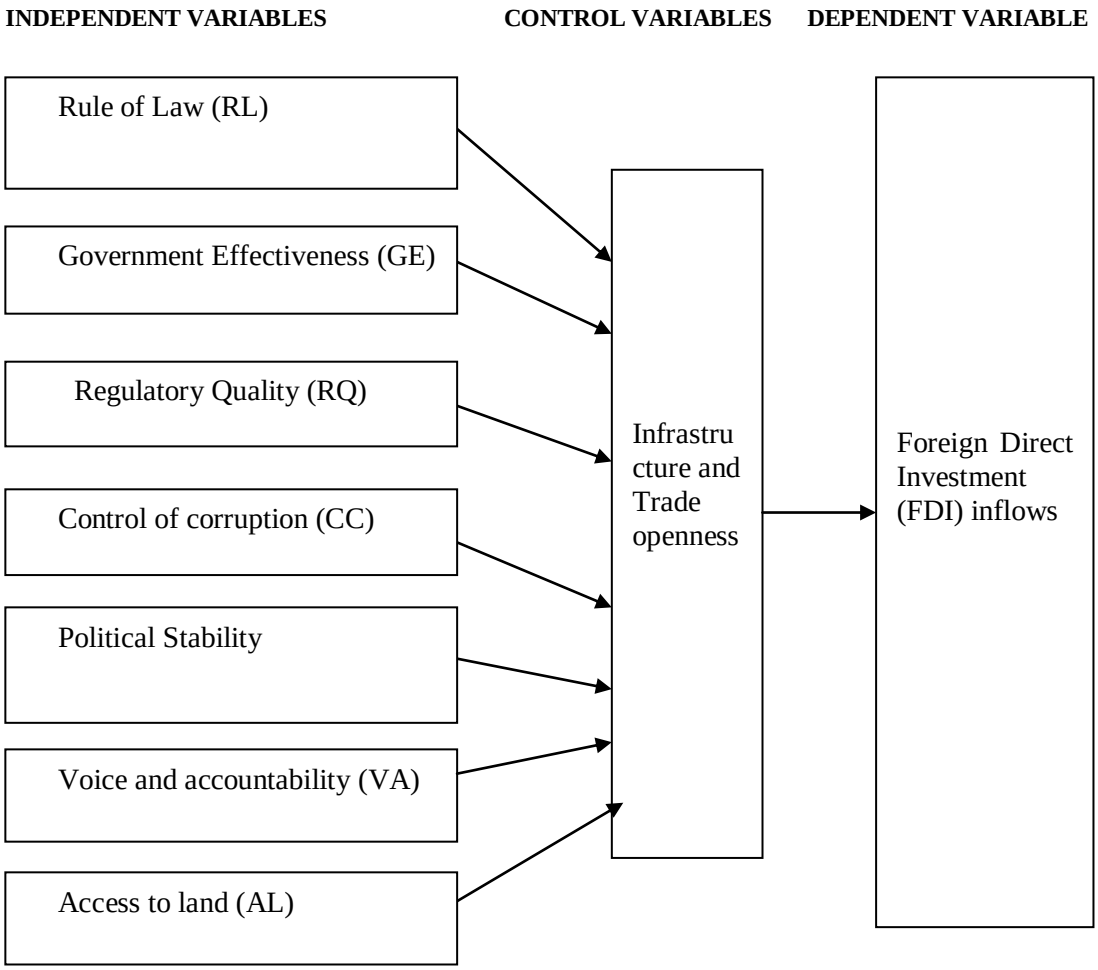

Figure 2.1: Conceptual Framework
Source: Researcher, 2019

2.6.1 Description of Variables in the Conceptual Framework

The conceptual model has been constituted by independent, dependent and control variables. Independent variables includes Institutional Variables, namely, rule of law, government effectiveness, regulatory quality, control of corruption, voice and accountability, political stability and absence of violence, and land accessibility. Dependent variable includes only the Foreign Direct Investment (FDI) inflows in Tanzania. The FDI is calculated using FDI inflows and measured as % of GDP. These are the variables which have been included in the conceptual framework of this study; they have effect similar to that of other independent variables, but were

not measured, instead they were held constant to avoid a biasing effect on the other variables, and also to avoid multicollinearity problems and biasness in the analysis results. In this study Trade openness and Infrastructure were the control variables.

2.6.2 Independent Variables

The independent variables are the institutional variables, which in case of this study include; rule of law, government effectiveness, regulatory quality, control of corruption, voice and accountability, political stability and absence of violence, and land accessibility.

2.6.2.1. Rule of Law (RL)

Captures to the perceptions regarding the effectiveness and predictability of the judiciary, as well as the quality of contract enforcement, the extent to which agents have confidence in and abide by the rule of society, property rights, the police, and the courts as well as the likelihood of crime and violence (Saleh and Baum, 2016; Bimal, 2017).

2.6.2.2. Government Effectiveness (GE)

Captures the perceptions of the quality of public services, quality of bureaucracy, quality of the civil service and the degree of its independence from political pressure, the quality of policy formulation and implementation and the credibility of the government's commitment to such policies(Baum and Salem,2016; Bimal, 2017).

2.6.2.3. Regulatory Quality (RQ)

Captures the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development, it is believed to

positively influence FDI flow(Baum and Salem, 2016; Bimal, 2017).

2.6.2.4. Control of Corruption (CC)

Captures the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as capture of the state by elites and private interest (Baum and Salem, 2016).

2.6.2.5. Political stability and Absence of Violence (PS)

Captures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism.

2.6.2.6. Voice and Accountability (VA)

Capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

2.6.2.7. Accessibility to Land (AL)

Land policy is a factor which greatly affects the flow of FDI. Where land policy is transparent and security of tenure is guaranteed, FDI flows in at higher rate. The opposite seems to hold true for countries where land policy is clouded and where there is uncertainty about the security of tenure. Captures the perception that the process of land acquisition is not cumbersome and information about it can be freely accessed, not only that, but also security and certainty of land tenure is guaranteed. The issue of land cuts across many sectors and therefore touches interests of majority

of FDI investors.

2.6.3 Dependent Variable

The dependent variable for this study is the Foreign Direct Investment (FDI) inflows in Tanzania. The FDI as dependent variables is calculated using FDI inflows and measured as % of GDP.

2.6.4 Control Variables

These are the variables which have been included in the conceptual framework of this study; they have effect similar to that of other independent variables, but were neither measured nor analyzed, instead they were held constant to avoid a biasing effect on the other variables, and also to avoid multicollinearity problems and biasness in the analysis results. This approach was adopted from the previous studies including a study by Basemera et al.,(2012) and another study by Castro and Nunes (2013).

In this study Trade openness and Infrastructure were the control variables. Moreover according to Salkind (2010), in observational design and data analysis, the term control variable refers to variables that are not of primary interest and thus constitute an extraneous or third factor whose influence is to be controlled or eliminated. The aim is to isolate their effect on the dependent variable. Therefore in order to validly make the claim that independent variable A causes changes in outcome variable B, all other potential causes of changes in B must be ruled out. According to Schechter (2014) adding to the model a variable that is related to the predictor may result in less precise (i.e. higher standard error) estimation of the coefficient of the predictor

as it ‘steals’ variance from the predictor itself. A variable can be added to the model only for the purpose examining the joint effect of the Original predictor and the variable.

Control variables are selected from a larger list of relevant variables many of which were excluded due to their high co linearity with institutional variables. The choice of control variables is motivated by the literature and the previous empirical studies on the determinants of FDI inflows and the availability of data. However, in essence the choice of control variables is determined by the related theoretical literature.

2.6.4.1. Trade Openness

According to Eclectic theory as developed by Dunning (1993), Trade openness is a socio-economic indicator which encourages FDI flow whereas trade restriction entices tariff- jumping FDI. It is measured by the ratio of the sum of exports and imports to GDP; it is often interpreted as the quantification of trade restrictions. TOP is one of the traditional determinants of FDI inflow (OECD, 2013).

2.6.4.2. Infrastructure

It reflects the perception of the extent or degree by which a country’s infrastructure is available and reliable to support economic and business activities in the country. It includes telecommunication systems, roads, ports, airports, electricity, and railways. Reliable infrastructure not only stimulates FDI inflows but it reduces operating costs for the foreign investor. It is one of the traditional determinants of FDI inflow, it is measured by infrastructure index (scaled from 1-100), the higher the better (World Bank Development Indicators, 2017; OECD, 2013).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Chapter Overview

This chapter includes, research philosophy, research design, research approach or research strategy, data and sources of data, data analysis, multiple linear regression assumptions, model specification, unit root test, co integration test, error correction model, Granger Causality test, normality test, heteroscedasticity test, multicollinearity test, hypothesis, and ethical considerations.

3.2. Research Philosophy

This study employed positivism research philosophy. Positivism is a basic research philosophy which prefers scientific quantitative methods. It prefers quantitative methods such as structured questionnaires and official statistics because these have good reliability and representativeness. Positivism philosophy is relevant for this study because it tends to look for relationships between two or more variables. The emphasis is on quantifiable observations that lend themselves to statistical analysis (Saunders, e t al., 2012).

3.3. Research Design

This is an operational plan to undertake the various procedures and tasks required to complete the study. This operational plan ensures that the procedures are adequate to obtain valid, objective and accurate answers to the research questions (Kumar, 2005). According to Kasaidi (2010) research design is also viewed as a conceptual framework or structure in which the study was conducted, it describes the way data were collected and measured and the way data were analyzed.

The research design enables the researcher to conduct the study easily and in an organized way since it is used as a road map for the study (Schindler, and Cooper, 2008). Is a blueprint for the collection, measurement and analysis of data, it aids the researcher in allocation of limited resources by focusing on crucial choices in methodology. Is a plan and structure of investigation imagined or conceived by the researcher to obtain answers to the research question, (Cooper and Schindler, 2008).

Is structure of research which puts together all elements in a research project together. It shows how all of the major parts of the research project work together in addressing the central research question. (Kombo and Tromp, 2006). Is a scheme, an outline or plan that is used to generate answers to the research problem. Is an arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance with the research purpose (Orodho, 2003). Is the conceptual structure within which research is conducted? It constitutes the blue-print for the collection, measurement and analysis of data (Kothari, 2006). Is a plan of action prepared by a research scholar for his study, is a catalogue of the various phases and facts relating to the formulation of a research effort (Kothari, 2006; Mustapha, 2012). Research design is a plan, structure and strategy of investigation so conceived as to obtain answers to research questions or problems.

The plan is the complete scheme or program of the research. It includes an outline of what the investigator does from writing the hypotheses and their operational implications to the final analysis of data (Keslinger, 1986). Is a blue print or detailed plan for how a research study is to be completed including activities such as operationalizing variables to be measured, selecting a sample of interest to the study,

collecting data to be used as a basis for testing hypotheses and analyzing the results (Thyer, 1993). Is a procedural plan that is adopted by the researcher to answer questions validly, objectively and economically.

An arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Seltiz et al., 1962).The researcher employed time series research design, because the nature of the study required the use of time series data in order to achieve its objectives. The study observed FDI inflows over a specified period of time (1996-2015). The problem confronting the researcher was to determine whether the independent variables (X) have effect on variable (Y). To what extent this is possible partly depends on the problem, the number of observations, and the observed patterns (Ghauri and Gronhaug, 2005).

3.4. Research Strategy

The study employed quantitative methods, because the emphasis is on quantifiable observations that lend themselves to statistical analysis (Saunders, M. et al., 2012).

A research strategy is simply a plan of how researcher aims to achieve a research goal. Is a broad plan of action which provides direction to the researcher's study. It helps in choosing the right methods for collecting and analyzing the data for the research. It entails such actions and activities that focus on the appropriate approach for data analysis. Generally there are two basic types of research strategies, namely qualitative and quantitative. Quantitative strategy looks at patterns in numerical data, which can only be analyzed using statistics. Usually the statistical, mathematical and numerical analysis of collected data comes under the quantitative strategy of

research. It focuses on when, where, what, how long and how often a specific phenomenon occurs. In quantitative strategy, the researcher plays with variables for the desired outcomes. Quantitative research data can be collected through questionnaire, polls, survey and sometime use secondary data.

3.5. Data and Sources of Data

In order to examine the relationship between institutional factors and FDI inflows in Tanzania this study used secondary quantitative data for institutional variables (Independent variables) which was drawn from the World Bank Worldwide Governance Indicators (w.w.w.govindicators.org) developed by Kaufmann et al.,(1999) which is the primary source of data for research on institutions and institutional factors. This data source has been used by various researchers including: Mutenyo and Basemera (2012), Kurul and Yalta (2017), Chain and Siham (2014), and Babayan (2015). The World Bank Worldwide Governance Indicators are categorized in six groups each of which represents a different aspect of institutional quality in a country.

The variables for this study were; Rule of Law, Regulatory Quality, Government Effectiveness and Control of Corruption, Voice and Accountability, Political Stability and absence of Violence. All of these indicators take values from the scale between –2.5 and +2.5; the larger values indicate better institutional quality. The Worldwide Governance Indicators cover over 200 countries and territories, measuring six dimensions of governance starting in 1996: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. In addition to the above, data on

access to land variable obtained from WBG, (2017) will also be included.

The data reflect the views on governance of surveyed respondents and public, private, and NGO sector experts worldwide which include the World Economic Forum's Global Competitiveness Report, The Institute for Management Development's World Competitiveness Yearbook, the World Bank/EBRD's Business Environment and Enterprise Performance surveys, the Gallup World Poll, Latinobarometro, Afrobarometro, and America barometer (Kaufmann, 2010). The study also used quantitative secondary data for FDI inflows (Dependent variable) drawn from the Bank of Tanzania (BOT), Tanzania Investment Report (TIR) (2012, 2013, 2014, the data is also available at (w.w.w.bot-tz.org). The data used were annual time series data for the period 1996-2015 obtained from published sources.

3.6. Data Analysis

The quantitative institutional data were obtained from the secondary source (World Bank Worldwide Governance Indicators, by Kaufmann, 1999), FDI data were obtained from the Bank of Tanzania (BOT). Multiple-Linear Regression Model was employed; this analysis is adopted when the study has one dependent variable which is presumed to be a function of two or more independent variables. The objective of this analysis is to make a prediction about the dependent variable based on its covariance with all the concerned independent variables. EVIEWS 10 software was used for running regression analysis in this study. Usually according to Greene (2002) and Gujarat (2009) multiple linear regression models is the appropriate model for estimating the relationship between the dependent variable and one or more independent variables.

3.7 Description of Variables and Measurement Procedures

In order to measure and analyze the relationship between institutional variables and the FDI flow variable the study used institutional indicators from World Bank Worldwide Governance Indicators developed by Kaufmann et al, (1999) which is the primary source of empirical research on institutions. The indicators can be categorized in groups each of which represents different aspects of institutional quality in a country. The indicators include: Control of corruption, Government effectiveness, Regulatory Quality, Rule of Law, Voice and Accountability, and Political Stability and non- violence. These indicators are scaled between -2.5 and +2.5, where a higher score means better quality of institutions or institutional factors (Chaib and Siham; 2014).

Table 3.1: Measurement of Variables

Independent variables	**Measurement Indicators**
Control of Corruption(C)	This variable was measured by control of corruption indicator, which measured perceptions of corruption, bribes, illegal activities of bureaucrats and protection of foreign investors from illegal payments to public officials (Kaufmann, et, al.(1999),World Bank Worldwide Governance Indicators; Siham an Chaib, 2014; Kurul and Yalta, 2017).
Government Effectiveness (GE)	The variable was measured by government effectiveness indicator, the indicator measured the quality of bureaucracy, the competence of civil servants, the quality of public service provision, the credibility of government's commitments to policies and the independence of civil servants from political pressures (Kaufmann, et, al. (1999), World Bank Worldwide Governance Indicators; Siham and Chaib, 2014; Kurul and Yalta, 2017).
Regulatory Quality (RQ)	The variable was measured by regulatory quality indicator, the indicator measured perceptions of the ability of government to formulate and implement sound policies and regulations that permit and promote private sector development. (Kaufmann, et al. (1999) World Bank Worldwide Governance Indicators;Siham and Chaib, (2014); Kurul and Yalta, (2017).
Rule of Law (RL)	The variable measured by the rule of law indicator; the indicator measured perceptions regarding the effectiveness and predictability of the judiciary, as well as the enforceability of contracts. (Kaufmann, et al. (1999). World Bank Worldwide Governance Indicators; Baum and

	Salem (2016), Kurul and Yalta, (2017).
Political stability and Absence of Violence (PV)	Capturing perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism. Was measured by political stability and absence of violence indicator**.**
Voice and Accountability (VA)	Capturing perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
Accessibility to Land (AL)	Captures the perception that the process of land acquisition is not cumbersome and information about it can be freely accessed, not only that, but also security and certainty of land tenure is guaranteed. Measured by land accessibility indicator.
Dependent variable	
Foreign Direct Investment (FDI)	Foreign Direct Investment (FDI)as a dependent variable was measured as a percentage (%) of FDI inflows to the GDP of a country (World Bank).
Control Variables	
Trade Openness (TOP)	According to Eclectic theory as developed by Dunning (1993), Trade openness is a socio-economic indicator which encourages FDI flow where as trade restriction entices tariff- jumping FDI. It is measured by the ratio of the sum of exports and imports to GDP; it is often interpreted as the quantification of trade restrictions. TOP is one of the traditional determinants of FDI inflow (OECD, 2013).
Infrastructure (IS)	It reflects the perception of the extent or degree by which a country's infrastructure is available and reliable to support economic and business activities in the country. It includes telecommunication systems, roads, ports, airports, electricity, and railways. Reliable infrastructure not only stimulates FDI inflows but it reduces operating costs for the foreign investor. It is one of the traditional determinants of FDI inflow, it is measured by infrastructure index (scaled from 1-100), the higher the better (World Bank Development Indicators, 2017; OECD, 2013).

Source: World Bank Worldwide Governance Indicators developed by Kaufmann et, (1999)

3.8 Assumptions of the Multiple Linear Regression Model

The aim of this study was to find out the relationship between FDI (dependent variable) and the institutional factors (independent variable). According to Greene (2003) and Gujarat (2009) the following are the assumptions of the multiple linear regression model on the relationship between the dependent variable and the independent variables.

3.8.1. Linearity

Linearity test usually aims to determine whether the relationship between independent variables and the dependent variable is linear or not. Regression model requires the data of independent and dependent variable to be linearly related. The model specifies a linear relationship between Y and X_1…..Xk. Linearity in econometric analysis implies that the average or the mean of the response variable is a linear combination of the parameters (regression coefficients) and the predictor variables. Usually multiple linear regression analysis makes a number of key assumptions, among the assumptions is that there must be a linear relationship between the dependent or the outcome variable and the independent variables. Whenever there is a linear relationship between independent and dependent variables any given change in the independent variable will definitely produce a corresponding change in the dependent variable.

3.8.2. Heteroscedasticity and no Autocorrelation

The error term, **ε**, has an equal or constant variance, $\boldsymbol{\sigma^2}$ in each time and for all values of **x**, and is uncorrelated with every other disturbance, **ε**. By homoscedasticity, it is assumed that variance of error terms are similar across the values of the independent variables involved in the study.

3.8.3. Normal Distribution

The disturbances are normally distributed. To comply with such assumptions diagnostic tests have been performed to verify and confirm or ascertain the assumptions of the linear regression model by performing a number of tests. Among the tests performed include; normality test, heteroscedasticity test, multicollinearity

test, serial correlation or autocorrelation test and pair wise correlation test.

3.9 Diagnostic Tests

Everitt (2002) and Dodge (2003) define diagnostic tests as set of procedures available for regression analysis that seek to assess the validity of a model in any of a number of different ways. This assessment may be an exploration of the model's underlying statistical assumptions, an examination of the structure of the model by considering formulations that have fewer or different explanatory variables or a study of subgroups of observations looking for those that are either poorly represented by the model (outliers) or that have a relatively large effect on the regression model's predictions. A regression diagnostic or diagnostic test therefore may take the form of graphical results, informal quantitative results or a formal statistical hypothesis test each of which provides guidance for further stages of regression analysis.

Therefore to ensure that parameters are consistent and unbiased diagnostic test has been carried out, for Normality, Heteroscedasticity, and Multicoullinearity tests. Diagnostic testing is a necessary process in economic analysis, since many time series data are faced by or confronted by multicollinearity, heteroscedasticity, and serial correlation just to name few of them. This test is crucial since it handles problems associated with time series data regression analysis.

3.10 Normality Test

Most statistical tests rest upon the assumption of normality. Deviations from normality called non-normality render statistical tests inaccurate, so it is important to

know if the data are normal or non-normal. A normality test is a statistical process used to determine if a sample or any group of data fits a standard normal distribution. The importance of normality test dwells on the fact that most statistical tests rest upon the assumption of normality. Deviations from normality called non-normality render those statistical tests inaccurate, so it is important to know if data in the study are normal or non-normal.

Tests that rely upon the assumption or normality are called parametric tests, if data is not normal, then one would use statistical tests that do not rely upon the assumptions of normality, called non- parametric tests. However, non –parametric tests are less powerful than parametric tests, which mean the non –parametric tests have less ability to detect real difference or validity in the data. In other words one would need to conduct parametric tests because he/she wants to increase the chances of getting or finding significant results. In this study, a normality test was performed; Jacque Berra test was used to test whether sample had skewness and kurtosis matching a normal distribution. The main aim for this test was to evaluate if the value of variables under study were normally distributed. The study tested the variables without natural logarithm and found that variables were not 'normally distributed'. After realizing the study instituted all variables with the natural logarithm and tested for normal distribution using 'Jarque Bera statistics and found that all variables had normal distribution.

3.11 Heteroscedasticity Test

The existence of heteroscedasticity is a problem that results from having variances of the error term that are not constant for each value of the independent variables.

Among the causes of heteroscedasticity include data sets that have a large range between the largest and the smallest observed values. Time series model can also have heterscedasticity if the dependent variable changes significantly from the beginning to the end of the series. Heteroscedasticity is a problem because ordinary least squares (OLS) regression assumes that all residuals are drawn from a population that has a constant variance (homoscedasticity). Moreover heteroscedasticity is a problem because it makes coefficients estimates less precise, as a result this leads into biased standard errors and hence to statistical tests that are not correct. In order to satisfy the regression assumptions and be able to trust the results, the residuals should have a constant variance.

Breusch-Pagan test was used to test whether the variance of the errors from a regression was dependent on the values of the independent variables. Testing for heterscedasticity is one of the most important assumptions in OLS or multiple regression models. Under linear regression model the study assumes (Vi) of regression analysis are homoscedastic. Homoscedasticity means they have the same variances, “homo” stands for equal and “scedasticity” stands for spread (equal spread variances). Therefore homoscedasticity means spreading of equal variances (Gujarat, 2009). It is important to note that, it is troublesome to employ OLS in estimation while there is heteroscedasticity.

It is critical to check for heteroscedasticity in the linear regression model since failure to do so most likely the inference and conclusion drawn by the study will be misleading. In order to determine the heterscedasticity there are various techniques which include both formal and informal tests. According to Gujarat informal tests

usually employ graphical presentation where as formal tests use various techniques like " Park test, Glejser test, Spearmann's Rank Correlation test, Goldfeld-Quandt test, and Breusch-Pagan Godfrey test" among others (Gujarat, 2009). However many studies employ formal test for heteroscedasticity. Breusch-Pagan- Godfrey test appears to be the most powerful of all tests named, this study preferred Breusch-Pagan-Godfrey test found in Eviews10 to be employed in this regression analysis.

3.12 Serial Correlation or Autocorrelation Test

Testing for autocorrelation is as important as testing for heteroscedasticity. Ordinary least squares (OLS) estimates assume that the error term relating to any observation (variable) is not influenced by the error term relating to any other observation (variable) (Gujarati, 2004). By definition, serial correlation which is also known as autocorrelation is a correlation between members of series of observations ordered in time [as in time series data] or space [as in cross-sectional data] (Gujarati, 2004, p.442).

Koutsoyiannis (2010), defines autocorrelation or serial correlation as a special case of correlation, it refers to the relationship, not between two or more different variables but between the successive values of the same variable. According to Ngailo (2009) Serial correlation occurs when we have correlated consecutive errors or residuals. When consecutive residual values have the same sign, we have positive serial correlation while a negative serial correlation occurs when signs change for consecutive residuals. The serial correlation problem can be encountered when one is using time series data in which current year errors may be correlated with previous year errors because current year data are following previous year trend.

Serial correlation can be detected through the use of informal and formal tests. However the most appropriate test is the formal test from various ways or techniques. The most popular tests are Durbin-Watson statistic and Bruesch-Godfrey test. Moreover, Durbin-Watson statistic has some weaknesses as compared to Bruesch-Godfrey test. Durbin-Watson test assumes that the independent variables are nonstochastic as such if this condition is violated then the test is not valid in any sample (Gujarati, 2004). This condition was found to be difficult to hold under time series data. Therefore, in order to overcome this weakness, the study uses the powerful Bruesch-Godfrey test.

Bruesch-Godfrey (BG) test which accommodates the weakness of D-W test. BG test is viewed as a general test since it allows for non stochastic independent variables even the lagged values of the dependent variable, — high order autoregressive schemes like AR (1), AR (2), AR (3), AR (4) and so forth. BG also allows for — simple or higher order moving averages (MA) of white noise error terms in computation. With this regard, BG test becomes more powerful than D-W test. The study estimates BG statistic using EViews 10 and inferences regarding autocorrelation are made from BG test statistic.

Serial correlation results into biased standard errors, although the estimated regression coefficients might not be biased at all. This tends to exaggerate the values of t-statistic leading one to fail to reject the null hypothesis most often than not. In addition values of the $R^2$and the F- statistic become unreliable as well. This problem can be overcome, or at least minimized, by running a first difference regression

model for both the dependent and the independent variables. If this does not work one may try to run a regression model without the constant term (Ngailo, 2009).

3.13 Multicollinearity Test

According to Koutsoyiannis (2010), when any two explanatory (independent) variables are changing in nearly the same way, it becomes extremely difficult to establish the influence of each one regressor on Y separately. Therefore the term multicollinearity is used to denote the presence of linear relationships (or near linear relationships) among explanatory variables. If the explanatory variables are perfectly linearly correlated, that is, if the correlation coefficient for these variables is equal to unity, the parameters become indeterminate; it is impossible to obtain numerical values for each parameter separately and the method of least squares breaks down.

Multicollinearity is a state of very high inter-associations among the independent variables. It occurs when two or more independent variables have high correlation coefficients amongst themselves. This situation creates redundant information, skewing the results in the regression model. It is a type of disturbance in the data the statistical inferences made about the data may not be reliable. It occurs when variables are highly correlated to each other and when there is repetition of the same variable. Multicollinearity makes it difficult to gauge the effect of independent variables on dependent variables. According to Gensa, (2016), and Stephenie (2017), causes of multicollinearity include; insufficient data, variables in the regression that is actually a combination of two other variables, and two identical (or almost identical) variables.

It was tested using a Variance Inflation Factor (VIF) and other tests. As said above multicollinearity is the tendency of independent variables in the regression analysis to have close relationship or interrelated as such make the coefficients estmates indeterminate. It should be clearly understood that in testing for multicollinearity the test is dealing with the extent of interrelation among independent variables and not absence or presence of multicollinearity, since multicollinearity is there in every regression analysis. What appears to be critical in this testing is to determine the lowest level, of interrelationship among the independent variables, since every technique employed in determining multicollinearity provides or gives a certain level of interrelationship among independent variables.

The frequently employed techniques include Variance Inflation Factor (VIF), Pairwise correlation and Tolerance (Gujarat, 2009). The consequences of estimating the equation while there are high multicollinearity among independent variables include: Even when the ordinary square (OLS) are best linear unbiased estimator (BLUE) but its estimates are not precise since the estimates are not precise then the confidence intervals become more wider as such very often may lead to acceptance of null hypothesis. Apart from widening the confidence interval but also r ratio statistics becomes statistically insignificant and R^2 becomes extremely high (Gujarat, 2009).

Usually multicollinearity is detected by simply looking at the high R^2 but few significant t ratios. For instance when R^2 or adjusted R^2 is high, exceeding 0.8 while F statistic after rejecting H_0 and at the same time t ratios showing very few or no significant coefficients then the study suspects the presence of high interrelationship

among the independent variables. However, Gujarat (2009) points out that, multicollinearity test is exceptionally strong but is only regarded bad, when any two explanatory variables are changing in nearly the same way, such that, it becomes extremely difficulty to establish the influence of each one regressor on Y separately. Hence apart from using coefficients of determination also the study dealt with multicollinearity using both pair-wise correlation test and tolerance and Variance Inflation Factors (VIF).

3.13.1. Pair wise Correlation Test

Usually this test is employed to determine the correlation of independent variables if it is too high or too low. This test suggests that the pair-wise or zero-order correlation coefficient between two independent variables is high, if it exceeds 0.8, thus multicollinearity becomes a problem and if it is less there is no problem of multicollinearity among independent variables. Gujarat (2009) points out that high zero order correlations are a sufficient but not a necessary condition for the existence of multicollinearity because it can exist even when the zero order or simple correlations are comparatively low, (less than 0.5). Hence it important to remember that the effect of multicollinearity should not be judged only by looking at the high zero order correlation but also at its ability to explain the dependent variable. Therefore this study neglects or disregards this test and opts for variance inflation factor (VIF).

3.13.2. Variance Inflation Factor

Variance Inflation Factor (VIF) and Tolerance (Tol) are the widely employed techniques in detecting multicollinearity due to their simplicity to use and provide

the degree of correlation among independent variables as such it becomes easy to identify which variables are more collinear. The closer tolerance to 0 (zero) implies that there are problems of co linearity among independent variables; whereas closer tolerance to 1(one) implies that independent variables are not collinear to each other. Again VIF detects multicollinearity, VIF values exceeding 10 signifies that variables are collinear but if or when less than 10 then there is no problem of multicollinearity among the independent variables (Gujarat, 2009).

In addition, proper solution for multicollinearity is still questionable or disputable. So far there are two possible answers or options. 1st do nothing and 2nd do something school of thought. Generally speaking 'do nothing school of thought' under Blanchard argues that: when students run their first ordinary least squares (OLS) regression, the first problem they usually confront is that of multicollinearity. Consistent with Blanchard school of thought multicollinearity is in essentially a data deficiency problem (micronumerousity) and sometimes we have no alternative over the availability of data for empirical analysis. As stated by Gujarat (2009) it is not that all the coefficients in regression model are statistically insignificant.

Furthermore, even if we cannot estimate one or more regression coefficients with greater accuracy or precision a linear combination of them can be relatively estimated efficiently. On the other hand, other schools of thoughts propose to do something regarding multicollinearity problems such as combining cross sectional and time series data to form pooled data or dropping some variables. However dropping some variables causes problems of specification bias or specification error. Moreover, they propose transforming variables through taking first difference or

dividing the variables with common root. Besides the study may add new data (new sample).

Alternatively checking for co linearity can be done using the Durbin-Watson statistics. Normally Durbin-Watson statistic value lies between 0 and 4. A Value close to 2 suggests no problem of correlation whereas value close to 0 implies ‘negative correlations. Values close to 4 implies positive correlations (Ayer, 2008). Notwithstanding all these techniques for answers are not devoid of weaknesses. This study relied much on Tolerance and Variance Inflation Factor (VIF) in determining multicollinearity due its reliability and its simple decision criteria.

3.14 Model Specification

This is a stage in which a model which is expected to provide a convenient, useful and reasonably accurate description of the system that is to be studied is specified. While specifying the model, issues that need to be considered include: What type of variables were to be included in the model, How many explanatory variables are necessary, What type of data are needed, Is it possible to get the desired data, What type of functional relationship is desired, What type of results are expected, What is the use of the model which is estimated.

In this study, model specification attempts to investigate the relationship between FDI and institutional factors in Tanzania using multiple regression model on each institutional factor from 1996 to 2015. The regression equation is in natural logarithm in order to reduce the problem of outlier effect and the problem of heteroscedasticity. The regressions are in first difference in order to reduce the

problem of multicollinearity which is likely to affect the precision of estimation by overstating its estimates.Variables and data included in the model have been adopted from the World Governance indicators, World Bank (Kaufmann, 1996), and Kurul and Yalta (2017). Bank of Tanzania (BOT). The model used for this study is well shown in the equation below:

According to Dunning's theory (2006) of institutional factors, FDI is a function of institutional factors:

$$FDI = F(CC, RL, RQ, GE, PSV, VA, AL) \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Model in equation one cannot be measured since it is a mere mathematical function; therefore, equation one transformed into econometric model so as to facilitate the measurement of the variables. Based on the nature of the data, the study employed semi-log modeling. The study instituted the natural logarithm in FDI in order to minimize the problem of outliers. The present study did not institute natural logarithm in independent variables since all the variables are in ratios; as such there is no problem of outliers.

$$\ln FDI = \alpha + \beta_1 CC_t + \beta_2 RL_t + \beta_3 RQ_t + \beta_4 GE_t + \beta_5 PSV_t + \beta_6 VA_t + \beta_7 AL_t + \varepsilon_t \quad \ldots (2)$$

where FDI is the dependent variable and the independent variables are the institutional factors namely, Rule of law (*RL*), Government effectiveness (*GE*), Regulatory Quality (*RQ*), Control of Corruption (*CC*), Political stability and non-violence (PS), Voice and accountability (VA), and Accessibility to land (AL) and t is time series, α is the constant, β_1 to β_7 are coefficients of *CC, RL, RQ,GE,* PV, VA, AL, where the sign of coefficient of any independent variable is negative it means the relationship between independent variables and dependent variable is negative,

and where the sign of coefficient of any independent variable is positive it implies that the relationship between independent variable and dependent variable is positive.

The constant α and the coefficient β are regression parameters to be estimated. FDI is the variable for which we want to explain its behavior while α is a constant term or vertical intercept which represents the value of FDI when none of the independent variables exists. B_1 to β_7 are known as the estimated partial regression coefficients or simply slope coefficients. They measure by how much FDI change when each of them changes by one unit, given that all others have been held constant. This implies that each of the β_1 to β_7 is a measure of the partial effect of the unit change of each *CC, RL, RQ,GE,* PV, VA, and AL on the mean value of FDI when the rest of the factors have been held constant. Ln is natural log (used to minimize outlier problems) and ε is an error term, *t* is time.

3.15 Econometric Tests used in Analysis

Apart from the problems of multicollinearity, heteroskedasticity, autocorrelation and misspecification of the regression model, there are other problems that face regression analysis which include non-stationary, especially in time series data. In order to avoid such serious problems, various tests have been performed to correct such undesirable situations in the study. Problems of non-stationary at levels as such in many cases causes spurious regression output in many studies. In order to minimize problems of spurious regression the time series data were tested by a specified number of tests.

As it has been explained in the above paragraph, data particularly time series data in most cases are likely to be affected by non-stationarity problems as such economic regression on such modeling can provide spurious regression. The implication here is that mean and variance are time variant and thus basic assumptions of the ordinary least squares (OLS) are contravened or disobeyed. In this respect it is obligatory to test for non-stationarity using Dickey Fuller (DF) or Augmented Dickey Fuller (ADF) test. Additionally after testing for non-stationarity and stationarity and find variables are integrated in the same order then co integration and error correction model are employed so as to see if variables have long run relationship.

Non stationary variables imply that the mean and variances are time invariant (Gujarat, 2009). Ordinary least square (OLS) regression under stationary variables usually its regression outputs are not spurious. It is crucial to note that if 'residuals of the regression' at level are 'stationary' then outputs at level are also not spurious rather they are representing the long run relationship output (Granger and Engle, 1987; Gujarat 2009).The study tested for stationarity and non-stationarity using unit root test.

3.15.1 Unit Root Test

The Dickey Fuller Test based on linear regression in which case the Augmented Dickey Fuller test (ADF) was used.

$$\Delta Y_t = \alpha Y_{t-1} + \sum_{j=4}^{p} P_j (\Delta Y_{t-j+1}) + \varepsilon_t$$

The Philllips-Perron (PP) Test which is a modification of the Dickey Fuller test was applied to check and correct for autocorrelation and heteroscedasticity in the error.

There are various ways of carrying out unit root test, however the common ones include; carrying out unit root test through informal approach and carrying out unit root test through formal unit root testing.

There are two types of unit root tests under informal approach namely; unit root test under time plot which may suggest the presence of unit root (non stationary) that the mean is not constant over time, and another type is the unit root test which can be inspected through the empirical correlograms for indicating the decaying time of time series. Under non stationarity time series empirical correlograms reveals or exposes the quick decay than in stationary time series. Notwithstanding these techniques are said to be very weak test for unit root testing, hence this study will mainly focus in the formal test for unit root testing.

Under formal ways there are several unit root tests which can be employed in investigating unit root, preferably the study may choose 'Dickey- Fuller (DF) test, Augmented Dickey- Fuller (ADF) test and Phillip Perron (PP) test (Watson and Teelucksingh, 2002; Greene, 2003; Gujarat, 2009). However in the contemporary econometrics the frequently employed techniques for testing unit root include DF, ADF test and PP test. According to Gujarat (2009), ADF test for unit root is the most powerful test, based on this fact this study prefers the ADF test.

Very often the economic series data are non-stationary which suggest that its mean does not fluctuate around its fixed mean. Whenever stationary time series mean fluctuates around its fixed mean, this means that whenever the mean moves away

from its fixed mean it returns quickly to the fixed mean. Moreover non stationary time series usually become a stationary series after a first difference. Formally written as I (1) means that time series are non-stationary becomes stationary after differentiating once. Thus, stationary time series is integrated of order zero and written as I (0). However, other time series sometimes require two differencing before becoming stationary, as such those series are integrated of order two and written as I (2) (Watson and Teelucksingh, 2002; Gujarat, 2009).

It is suggested to test unit root in order avoid 'spurious regressions,' because it is obvious that regression of non-stationary time series on another non- stationary time series gives spurious regression implying meaningless results, for this reason unit root test is absolutely important. In order to obtain realistic and meaningful results employing unit root test in time series data is inescapable or a grave mistake to ignore it. Moreover the test for unit root is essential in order to know if variables in the study are integrated in the same order or not. When variables are integrated in the same order, I(0) means stationary time series and its regression output will not be spurious. Any regression of time series of non-stationary on the stationary time series will produce spurious regression or meaningless results.

According to Watson and Teelucksingh, 2002; Gujarat, 2009; and Greene, 2003) spurious results cannot be used in predictions because variables are not integrated in the same order. Hence, unit root testing under formal approach particularly Dickey-Fuller (DF) test is conducted using the random walk model.

Under random walk model, tests are undertaken in three ways:

i. Random walk without deterministic and stochastic trends (constant and trend)

$X_t=\sigma X_{t-1}+e_t$

ii. Random walk with deterministic (constant)

iii. $X_t=\alpha_1+\sigma X_{t-1}+e_t$

iv. Random walk with both deterministic and stochastic trends (constant and trends)

v. $X_t=\alpha_1+\alpha_2 T+\sigma X_{t-1}+e_t$

Where T is trend from time series data under this tests the H_0 is $\sigma = 0$; which means the unit root implies non stationary. H_1 ($\sigma<0$) meaning that time series is stationary. Notwithstanding, Dickey –Fuller test in testing unit root assumes error term (e_t) is uncorrelated, in case if 'error term is correlated' DF test cannot be applied. Thus for correlated error term DF develop the powerful which is ADF.

ADF is done by summing equations above by adding the lagged values of the dependent variables. Hence ADF test is estimated with the following equation:

$\Delta X_t=\alpha_1+\alpha_2+\delta X_{t-1}+\Sigma\downarrow(t-1)\uparrow n \beta i\, \Delta Xt-i((t$

Where ε_t is pure white noise error term. ADF test include more terms in order to make error term in equation (3) above be 'serially uncorrelated.' Similarly Augmented Dickey Fuller (ADF) test whether Ô=0 as such Augmented Dickey Fuller is not different from DF hence follows the same asymptotic distribution, thus the same critical values are utilized (Gujarat, 2009, Greene, 2003).

Decision criteria: According to Zivot (2012), rho-1 =ô, where ô is regression coefficient and γ is rho. Therefore rho=1+ô. Thus if rho>1, the variable is non

stationary and if rhois<1then the variable is stationary. Gujarat points out that' if the computed absolute value of the tau statistic exceeds the DF critical values reject the null hypothesis (non stationary) then variables are stationary. If the computed absolute value does not exceed the critical tau values do not reject the null hypothesis as such variables are non-stationary (Gujarat, 2009p 816).

After establishing that variables are stationary, the study examines if the variables are co integrated or not. This is a very important stage in regression analysis as mentioned or explained earlier as it prevents the study from doing meaningless regression or spurious regression. This study adheres to the rule that co integration analysis is inevitable for this study. Gujarat (2009) and Greene (2003) insist the importance of testing for co integration by stating that 'regression of time series variable on one or more time series variables often can give no sense or spurious results. This kind of phenomenon is popularly referred to as spurious regression. One of the means to guard against it is to find out if the time series variables are co integrated (Greene, 2003; Gujarat, 2009). Therefore after unit root test the study tested for co integration on time series variables.

3.15.2 Cointegration Test

Variables are said to be co integrated if they have a long-term or equilibrium relationship between them. A test for co integration is a pre-test to avoid spurious regression situation.

The test for co integration was carried out by employing the Johansen test of co integration.

$$J_{trace} = -T \sum_{i=r+1}^{n} \ln\left(1 - \hat{\lambda}_i\right)$$

$$J_{\max} = -\mathrm{T} \ln(1 - \hat{\lambda}_{r+1})$$

Co integration analysis is important in any time series economic regression. A linear 'combination of one dependent variable and one or more independent variables can be either integrated of order I (1) or integrated of zero I (0)'.

When the mean of error term vary around a fixed mean (zero mean) these variables are co integrated. If the linear combination is integrated of order one then variables are said to be non-stationary as such variables are not co integrated. Co integration variables tend to move together in the long run (long run equilibrium) Gujarat 2009; Greene, 2003; Watson and Teelucksingh, 2002). As a matter of fact, model estimation and hypothesis testing employing the Ordinary Least Square (OLS) become viable only when variables involved in regression are 'integrated of order zero'. In most cases macroeconomic time series data are non-stationary meaning that they are 'integrated of order one' as such that linear combination 'violates the basic assumptions for OLS estimation.'

Using or applying estimation in such situation is more likely to produce meaningless regression or spurious regression. This implies that correlation or linear combination cannot establish any causal relationship among the variables. It has been pointed that in order to resolve the problem regression analysis should be run in the first difference both in dependent and independent variables; this is according to Granger and New bold (1974) as cited by Watson and Teelucksingh 2002. Davidson as cited

by Watson and Teelucksingh (2002) claims that differencing the variables ignores the important information about long- run. It suggests that differencing equation should take into account short-run dynamics i.e. static or long-run relationship among un-differencing values. Usually static values enter in differencing equation as 'Error Term Mechanism (ECM).

Consistently Engle and Granger (1978) suggest that Davidson et al propositions are possible if and only if the variables associated in the relationship are integrated**.** Thus 'if two or more variables are integrated are so integrated' then OLS regression used on the variables which 'is not integrated of order zero' is still possible or valid. Where the study have seen or recognized that dependent variables and one or more independent variables are integrated or combined of order one I (1) but its residuals (ε_t) are integrated of order zero I (0), then the variables are said to be co-integrated (Engle and Granger, 1978)' therefore OLS application is possible. According to Engle and Granger (1978) if dependent and independent variables are co integrated, then there exists an error connection, and if it is found, then the dependent and independent variables are co integrated. This is 'Granger representation theorem' it makes the use of error correction mechanism or model (ECM) imperative in most studies of this nature.

A number of approaches are used in testing for co integration, which include Dickey Fuller or Augmented Dickey Fuller unit root test on the residuals regression (estimation) from co integration regression commonly referred to as Engle Granger (EG) or Augmented Engle-Granger (AEG) test. Other approaches include Co-integrating Regression Durbin- Watson (CRDW) and Johansen (1988) co integration

test. The first two techniques have some weaknesses in testing for co integration in every variable under study. Since the first two techniques have some weaknesses or deficiencies as such it has become necessary to reinforce those weak techniques with the powerful technique or approach such as Johansen (1988) co integration test.

3.15.3 Augmented Engle- Granger (AEG) Test

Dickey Fuller (DF) and Augmented Dickey Fuller (ADF) tests are known as Engle-Granger (EG) and Augmented Engle- Granger (AEG) tests in the present context (Gujarat, 2009).The Engle- Granger for integration (EG) was proposed by Engle-Granger in 1978 and enjoyed wide spread acceptance in 1990. Its wide popularity by economists is due to the fact that it is simple to understand, to use and interpret than its competitors namely Johansen (1988). One of its weaknesses is that it is not capable to determine more than one co integration equation, thus it is best to employ in bivariate regression analysis rather than in multivariate regression analysis. Despite this shortcoming however, it is still capable in multiple regression analysis, since it has the power to determine the co integration amongst the variables. Engle-Granger (EG) test follows two procedures in its operations.

The Engle- Granger (EG) first step requires to run co integration regression using ordinary least squares where variables are at level and are integrated of order one(1) which means they are non stationary. The second step requires to test the residuals obtained from step one (co integrating regression) using the unit root technique being Dickey- Fuller or Augmented Dickey Fuller (ADF). Once residuals of regression are stationary then null hypothesis is rejected of no co integration On the

other hand if they are non stationary the study do not reject null hypothesis then variables are not co integrated (Granger, 1986; Granger and Engle, 1987).

(i) Co integrating regression equation

$$\ln FDI = \alpha + \beta_1 CC_t + \beta_2 RL_t + \beta_3 RQ_t + \beta_4 GE_t + \beta_5 PSV_t + \beta_6 VA_t + \beta_7 AL_t + \varepsilon_t \quad \ldots (3)$$

(ii) Residual estimation equation

$$\Delta U_t = \alpha_t U_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

H_0: $\alpha_1 = 0$; no co integration (unit root), Variables are not co integrated

H_1:$\alpha_1 \neq 0$; Co integrated (no unit root, variables are co integrated.

Decision Criteria:

Rejecting H_0implies residuals are stationary. If the regression residuals are stationary then included variable must be co integrated (Zivot, 2012; Gujarat, 2009). Therefore where residuals of the equation (4) are stationary then co integrating regression in step one is not meaningless (spurious) even if variables individually are non stationary (Granger and Engle, 1987, Gujarat, 2009). Moreover, given that this study has cross-checked or gone through the residuals from co integration regression 'integrated of order zero' meaning 'stationary' thus the normal regression technique which includes the t statistic and F statistic test which are valid in data which are also non stationary.

Engle and Granger (1987) held or alleged that the valuable contribution of the concept of unit and co integration is to force us to find out if the regression residuals are stationary. According to Gujarat (2009) a test for co integration can be thought of as a pre- test to avoid spurious or meaningless regression situations and equation (4) in step one is referred to as co integrating regression whereas α's are referred to as

integrating parameters. Engle-Granger procedures are powerful, simple and effective; this makes Engle- Granger procedures the most desirable test frequently employed by economists as said earlier.

In addition the approach separates the estimations of the long run and short run parameters. It employs the ordinary least squares (OLS) methods which is preferred by a good number of researchers. Furthermore estimators from OLS are consistent, constant, stable and effective asymptotically thus the standard t and F statistic can be used to make inferences about the parameters that are being estimated. Co integrating Test; Using Co integrating Regression Durbin-Watson (CRDW) Test: Co integrating Regression Durbin- Watson (CRDW) test is an alternative testing for co integration. It assumes that variables are co integrated and run regression of the co integration regression. Therefore this test investigates what is called "Durbin-Watson statistic" if regression residuals are stationary.

3.15.4 The Johansen Co Integration Test

As pointed out earlier the Engle and Granger and Co integrating Regression Durbin-Watson (CRDW) test are not able to accommodate or show more than one integrating equations in multiple regression. This is a limitation in the two techniques for co integration testing. The Johansen Method (1988) is the proper and reliable method/technique to handle and provide solution to such a limitation visible in the two tests. Two main reasons are obvious why Johansen method/technique (1988) is popular and frequently used by researchers. The 1st reason is that it is used to evaluate the maximum number of co integration vectors, 2nd it is used to obtain the maximum likelihood estimators of the co integrating matrix. In addition

Johansen method (1988) has the ability to evaluate 'long run and short run' parameters using Ordinary Least Square (OLS) estimators.

3.15.5 Testing for co Integrating Rank r

Usually Johansen (1988) estimates the co integration among the variables using rank. Assume the β is of rank rclearly;

$\lambda_r+1=\lambda_{1+2}=\ldots\lambda p=0$,

Where λ is the population parameter associated with λ_i. If $\lambda_1=0$ then r=0.

Therefore there are no integrating vectors. If $\lambda_2=0$ and $\lambda_1\neq0$, then r=1. Therefore 'one co integrating vector' is obtained. Hence the process of testing goes on and on.

If the test,

H_0: $\lambda_1=0\lambda$

$H_{1:}$ $\lambda_1\neq0$

For i=r+1, r+2…p

Johansen proposes a test based on the trace statistics; the computation applies the following formula:

$$\text{Trace} = -T\sum_{i=r+1}^{P} \ln\left(1-\widehat{\lambda i}\right)$$

Moreover, Johansen proposes another test referred to as 'Maximum eigen value' statistic to determine the co integrating vectors among variables. The computation is based on the following formula:

$LR_{MAX}= -t \ln (1-\widehat{\lambda}_1)$

Where $\widehat{\lambda}$ is the largest eien value under Johansen method (1988)

Johansen (1988) developed the distribution of the two statistics under the null hypothesis that r is the co-integrating rank. Moreover, Osterwald-Lenum (1992) as cited in Watson and Teelucksingh (2002) computes the critical values at various levels of significance by simulation methods. Osrewald- Lenum (1992) however gives only two critical values which are one percent (1%) and five percent (5%) respectively, and are available in EViews 10 (Watson and Teelucksingh, 2002, pg 270-271). This is an advantage to this study since it is using the EViews 10 in computing the co integration using Johansen method (1988). Thus Johansen (1988) co integration test usually gives two sets of results, one on the basis of trace statistics and the other on the basis of the maximum eignvalue statistic and is one of the most powerful tests for co integration in comparison to other competitors. Tests have proved and established that the variables are co integrated.

The present study estimates short run coefficients in equation being in stationary form. However, it is important to understand that the study may estimate long run coefficients before computing short run coefficients (Granger and Engle, 1987). In order to estimate long run coefficients using variables at level, it is necessary that regression residuals should be co integrated as a necessary condition otherwise regression may lead to spurious results (Granger and Engle, 1987; Gujarat, 2009; and Utkulu, 2012).

3.15.6 Error Correction Model

After establishing and confirming through a number of tests that variables are co integrated, it is certain that error correction model (ECM) can be formulated in order to be incorporated in the re regression equation in which variables are integrated of

order I(0). The error correction term should be incorporated in the short run coefficient because the short run will certainly be in disequilibrium. Thus the error term is used to tie the short run behavior to its long run value in order to make regression meaningful (information of the long run) (Granger and Engle, 1987; Watson and Teelucksingh, 2002; Gujarat, 2009).

Historically Error Correction Model (ECM) was first employed by Sargan and later it became common in 1987 by Engle-Granger through their seminar paper on correction for disequilibrium. They developed a theorem called 'Granger representation theorem' which states that: 'If two variables Y and X are co integrated, then the relationship between them can be expressed as error correction mechanism (ECM) (Gujarat, 2009). Therefore to form the short run equation (equation 5) the study transforms equation (3) into first difference except dummy variables.

The short run equation is expressed as follows:

$$\Delta \mathbf{lnFDI}_t=\alpha_0+\alpha_1\Delta CC_t+\alpha_2\Delta RL_t+\alpha_3\Delta RQ_t+\alpha_4\Delta GE_t+\alpha_5\Delta PSV_t+\alpha_6\Delta VA_t+\alpha_7\Delta AL_t+\varepsilon_t \ldots\ldots \textbf{(5)}$$

The equation above (equation 5) contains only the short run information as such it is necessary to incorporate $EC_t\text{-}_1$ so as to fix the short run characteristics into long run value. So the error term model is expressed as follows:

$$\Delta lnFDI_t=\alpha_0+\alpha_1\Delta CC_t+\alpha_2\Delta RL_t+\alpha_3\Delta RQ_t+\alpha_4\Delta GE_t+\alpha_5\Delta PSV_t+\alpha_6\Delta VA_t+\alpha_7\Delta AL_t+EC_{t-1}+\varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots (6)$$

The equation is (6) was called error correction model (ECM) by Engle and Granger (1987) since it has incorporated the error term ($EC_t\text{-}_1$) in the short run model. Error Correction Model (ECM) states that dependent variable (in this case FDI) depends on the independent variables and also on $EC_t\text{-}_1$. If the error term is non zero, it means

that the model is out of equilibrium and vice versa. Therefore, if the dependent variable (FDI values) exceeds equilibrium values, it should decline to ―correct the equilibrium error‖. Thus, from there they derived the name ―error correction mechanism‖ (ECM).

Similarly if the error term (EC_{t-1}) is negative, it implies that dependent variable (FDI values) is below its equilibrium value. Indeed, the absolute value of EC_{t-1} reflects how faster equilibrium is adjusting (restoring). If the error term is statistically equals to zero (insignificant values), it suggests that dependent variable (FDI values) adjusts in independent variables in the same time period (Gujarati, 2004). Furthermore, if regression residuals of co integrating equation are stationary then the research report those results as ―long run coefficients‖ and coefficients obtained from -error correction model (ECM)‖ are reported as short run coefficients (Gujarati, 2004). Therefore the short run equation does not have any inference making decision in the long run due to the fact that the differenced equation in ECM model has lost the vital information (Maddala, 1992 in Ahmed, 2000). Thus dealing with the loss of valuable information, the theory of co integration came into place so as to mitigate the problem. Co integration theory solved the problem by instituting ECt in model. Error term (ECt) lagged once (ECt-1) so as to ―integrates short run dynamics in the long run‖.

3.15.7 Granger Causality Test

The existence of a relationship between variables does not prove causality or the direction of influence. This study employed the Direct Granger Method to test causality between a dependent variable and the independent variables;

$$y_t = \alpha_0 + \alpha_1 y_{t-1} + \ldots + \alpha_l y_{t-l} + \beta_1 x_{t-1} + \ldots + \beta_l x_{-l} + \epsilon_t$$

$$x_t = \alpha_0 + \alpha_1 x_{t-1} + \ldots + \alpha_l x_{t-l} + \beta_1 y_{t-1} + \ldots + \beta_l y_{-l} + u_t$$

Source: Granger (1969).

According to Granger (1969), Granger Causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another which was first proposed in 1969. Leamer (1985) attests that Granger Causality is a way to investigate causality between two variables in a time series. Moreover, causality is closely related to the idea of cause-and-effect, although it is not exactly the same. A variable X is causal to variable Y if X is the cause of Y or Y is the cause of X. However with Granger Causality we are not testing a true cause- and-effect relationship; what the study wants to know is if a particular variable comes before another in the time series (Leamer, 1985).

According to Leamer (1985), the Granger- causality test is part of many popular economics software packages, including E-Views and PC-Give. Before running the test, time series must be stationary before proceeding. Data should be transformed to eliminate the possibility of autocorrelation. It should also be made sure that the model does not have any unit roots, as well as these will skew the test results. A time series X is said to Granger cause Y if it can be shown usually through a series of t-test and F- tests on lagged values of X (and with lagged values of Y included), that those X values provide statistically significant information about future values of Y. Is a popular method for causality analysis in time series due to its computational simplicity.

The direct Granger Causality test is one of the three granger causality tests which not only tell us if x granger cause Y but also indicate the direction of causation between the two variables (Lion, 2005). Granger (1969) proposed the idea of Granger-Causality in his 1969 paper to describe the "causal relationships" between variables in econometric models. Before this econometricians and economists understood the idea of "causal relationships" as asymmetrical relationship. Causal relations are studied because policy makers need to know the consequences of various actions which they consider to take. The idea of Granger-Causality is that a variable X Granger-causes variable Y if variable Y can be better predicted using the histories of both X and Y than it can be predicted using the history of Y alone. This is shown if the expectation Y given the history of X is different from the unconditional expectation of Y. $E(Y/Y_{t-k}, X_{t-k}) \neq E(Y/Y_{t-k})$.

A second definition for causality has been offered by Granger (1969) which states that if $\sigma 2(X/U) < \sigma^2(/U-Y)$ which means that if the variance of X predicted using the universe of information, U, is less than the variance of X predicted using all information except variable Y) then we can say that Y is causing X, denoted $Y \rightarrow X$. However, he then clarified that using the whole universe of information, U, is unrealistic so it is replaced with all relevant information. However, this change now makes testing more than a statistical procedure as there is a subjective element regarding what information is relevant. Another element to define is that of Feedback. A feedback system occurs if variable X Granger –causes variable Y, and Y Granger-causes X,denoted $X \leftrightarrow Y$. However, all these definitions assume that only stationary series are involved, as non-stationary series stop these definitions

being testable.

Granger- Causality has several components including: The first one is based on the principle that only past values of X can Granger- cause Y, because the future cannot cause the past or the present. If X occurs after Y then we know that X cannot cause Y. Similarly, though, If X occurred before Y then that does not necessarily imply that X caused Y. The second component is based on the component of Granger-causality is exogeneity; Sims (1972) stated that for variable X to be exogeneous of variable Y, X must fail to Granger- cause Y; this component was confirmed by Engle, Hendry, and Richard (1983). The third component of Granger- causality is Independence, because the variables X and Y are only independent of each other if both fail to Granger cause the other. The final component of Granger causality is that of asymmetry; if X Granger –cause Y, then changes in Y have no effect on the future values of X.

Granger – Causality tests observe two time series to identify whether series X precedes series Y, Y precedes X, or if the movements are contemporaneous. The notion of Granger-causality does therefore not simply "true causality" but instead identifies whether one variable precedes another. For example: do changes in output occur before changes in money or does the opposite occur, or do these changes occur at the same time. In his 1972 paper, Sims showed that money Granger causes output, but output does not Granger- cause money. This result supported existing business cycle models which hypothesize that money plays an important role in output. We can therefore use Granger- Causality tests to test for things we might have assumed to occur from elsewhere or which we have taken for granted.

The Granger- Causality tests employed in this paper are bivariate, however multivariate tests can be carried out similarly using a Vector Autoregressive (VAR) and in fact the Direct Granger causality test is a bivariate case of VAR. It is important to remember that when testing for Granger –causality the models should be fully specified. If the model is not well specified, then spurious relationships may be found despite the fact that there actually are no relationships between the variables. Another situation to be mindful of is that all variables in the model could be reacting to some unmodelled factor, a war for example, and if the reactions of both X and Y are staggered in time then it will display Granger-causality even though the real causality is obvious different. There are three main tests for Granger-causality within the context of the bivariate analysis of stationary time series which include: The Direct Granger test, Sims test, and Modified Sims test.

3.15.8 The Direct Granger-Causality Test

The direct Granger –causality test is a very useful tool as it allows econometricians to test for the direction of Granger- causality as well as for its presence. Following the definition for Granger- causality, the direct Granger test regress each variable on lagged values of itself and the other explanatory variables. Empirically, the direct Granger test has been found to be more powerful than both the Sims and Modified Sims test outperforming both of these by rejecting a false null 3.26% and 2.64% more respectively. If in a regression of F_t on lagged values of Y_t and Y_t and X_t, the coefficients of the X_t values are zero then the series X_t fails to Granger- cause Y_t. The Direct Granger –causality test is expressed or summarized under the following regression model:

$$Y_t = \sum_{j=1}^{m} \alpha_j Y_{t-j} + \sum_{i=1}^{n} \beta_i X_{t-i} + D_t + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Where D_t are the determinants, εt is the random error term, αj is the coefficient on the lagged Y values, and $\beta_i$is the coefficient on the lagged X values. We start with one period lag instead of setting j=i=0 because we are not including instantaneous causality in the model (instantaneous causality is when the changes in Y and X occur at the same time and are correlated). If β_i=0 (for i=1, 2…n) then X fails to Granger-cause Y. To decide this, an F-test must be carried out to examine the null hypothesis of non –causality.

H0: $\beta_1=\beta_2=\ldots\beta_n=0$. For F-test, the unrestricted model will include lagged values of the other variables, whereas the restricted model will only include lags of the dependent variable.

The direct Granger test's effectiveness is measured by minimizing the mean square error (MSE) of the forecast: $\min \; E\left(\left[Y_{t+k} - \hat{Y}_{t+k}\right]^2\right)$The test is carried out using E views econometrics software.

3.15.9 The Sims Test

Sims proposed a new direct test for the existence of unidirectional Granger-Causality which had not been used before in his 1972 paper. At the same time, Sims realized that the "direction of causation" between two variables is normally identified and so he created his test to be able to identify the directions of causation. The Sims test starts by assuming that both time series being tested are jointly covariance-stationary. The time series will becovariance-stationary if neither its mean nor its auto covariance (the variance of the variable against a lagged version of itself)

depends on time. He achieves this by using only linear predictors and by using the mean squared error of the forecast as his gauge for predictive accuracy.

Sims starts by considering two Stochastic series X and Y which are both linearly regular so we can write them in the form : $X_t=\alpha u_t+bv_t$

$Y_t=Cu_t+dv_t$

Where U_t and $V_t$are uncorrelated white nose error terms with unit variance, and a, b, c and d will all vanish for $t< 0$. Expression (1) represents the moving average of the vector $\binom{X}{Y}$. His test is to regress Y on past and future values of X whilst accounting for generalized least squares and prefiltering of the serial correlation.

Granger –Causality can then be detected because if testing for $X \rightarrow Y$ only; then all future values of X should have coefficients in the regression that are not significantly different from zero. Because this test requires accurate F- tests, the assumptions of no serial correlation in the residuals must be upheld. As such all variables used in the regression will be measured in natural logarithmic form and pre-filtered using the filter.$1-1.5L+0.5625L^2$, such that each variable X_t will be transformed into $X_t - 1.5X_t-1+0.5625X_t-2^{3.}$

It was suggested to use filtering in order to change the residuals from the regression into white nose. Although pre-filtering was used but there was but it failed to identify two problems which arose due to their use. The first problem is that if the filter fails to produce white nose residuals, then it is quite unlikely to fail by leaving substantial positive first order serial correlation. The second problem he identified

was that the pre-filtering can produce a perverse effect on approximation error when lag distributions are subject to prior smoothness restrictions (Sims, 1972, p. 545).

After this transformation, they used the following regression:

$$\overline{Y} = \sum_{i=n}^{m} \beta_i \overline{X}_{t-1} + D_t + \varepsilon_t$$

$\bar{Y}$ and $\bar{X}$ are being used instead of the original variables because they have been transformed.

Null hypothesis were tested of no causality. H_0: β-1=β-2=0

Wald test used to compare the restricted and unrestricted models which in turn produce an F- statistic which can be compared to critical values in order to decide whether the null hypothesis is true or false.

The Sims test is the weakest of the three main Granger- Causality tests and coupled with the flaws regarding spurious regression and its higher costs than the Direct Granger test, it is used to least in empirical testing.

3.15.10 The Modified Sims Test

Geweke, Meese and Dent (1983) suggested a modified version of the Sims test which is based on the ordinary least squares estimation of;

$$Y_t = \sum_{j=m}^{m} \theta_j X_{t-j} + \sum_{i=1}^{n} \delta i Y_{t-1} + \mu + V_t$$

Where θ_j is the coefficient on the leads and lags of X_t , σ_t is the coefficient on lags of Y_t, μ is the stochastic error term. The test deals with serial correlation by including lagged values of Y_t in the regression.

To test whether Y_t causes X_t is the test that Θ_j=0 for j= -1, -2…-m. The equation above is then estimated in both unrestricted and restricted (Θ_j=0 for j= -1, -2… -m)

forms. The null hypothesis for this test is of no causality from Y→X, which is based on comparing the F-statistics to the critical values. The Modified Sims test is applied using E views econometrics software with both variables assumed to be stationary processes.

In terms of performance, Guilkey and Salemi (1982) found that when there is unidirectional causation, the Modified Sims test outperforms the Sims test in its ability to reject a false null. Sims test also has a much higher rate of type 1 errors than the Modified Sims test. The Modified version still outperformed the Sims test for frequency of correct decisions. When compared to Granger test, they found that the Direct Granger test rejected a false null 3.26% and 2.64% more than the Sims and Modified Sims tests respectively, confirming that the Modified version is more powerful even though both are weaker than the Direct Granger test. Therefore this study employed the powerful test.

3.15.11 Structural Break Test

In order to accomplish the study, the structural break test is imperative. This helps to examine the coefficients stability under period of study. Testing for stability is done to confirm whether the variables in the study have stable contributions to the FDI inflows in Tanzania. The study employs the ―cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) ‖ tests. Brown et.al (1975) proposed CUSUM and CUSUMSQ to test the coefficients stability if it is stable or not (Dufour, 1982). Decision criteria state that ―if the plots of the CUSUM and CUSUMSQ falls within 5% critical bound then H0 which states that all coefficients

are stable cannot be rejected. And if one of the bound lines is crossed then H0 is rejected‖ (Dufour, 1982; Hosein, 2007).

3.16 Hypothesis

This study employed F-Test (Joint test) to examine the study hypothesis as stipulated below. The decision criteria suggested that if the computed F-statistics is greater than the critical values at 5 percent level of significance then we reject H_0 and vice versa is true.

H_0: Institutional factors in Tanzania have no (zero) have no influence on` FDI inflows in Tanzania.

$\beta1=\beta2=\beta3=\beta4=\beta5=\beta6=0$

H_1: Institutional factors in Tanzania influence the FDI inflows in Tanzania.

$\beta1\neq \beta2\neq \beta3\neq \beta4\neq \beta5\neq\beta6\neq 0$

3.17 Ethical Considerations

Ethics refers to the appropriateness of your behavior in relation to the rights of those who become the subject of your work or are affected by it; while research ethics relates to questions about how we formulate and clarify our research topic, design our research and gain access, collect data, process and store our data, analyze data and write up our research findings in a moral and responsible way (Kumar, 2005, Cooper and Schindler, 2008; Creswell, 2009; Saunders et al, 2012).To ascertain ethical practice in this study the researcher adhered to the following ethical issues:

i. Before data collection exercise the researcher had to obtain permission letter from the Open University authority.

ii. Accurate account of information was given as obtained from the data analysis.

iii. The study acknowledged sources of information obtained from various sources and put the sources on reference.

iv. The researcher avoided fraudulent practices by not suppressing, falsifying findings to meet my own needs or requirements.

v. This study neither engaged in both plagiarism and duplicates nor hid what had been disclosed in the study or highlighted something disproportionately to its true existence in the country.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1. Introduction

This chapter includes analysis and discussion of descriptive statistics, econometric test results, research findings and diagnostic test results. Below is descriptive statistics (Table: 4.1) showing the maximum, minimum, mean, median and standard deviations values for the variables employed in this study.

4.2. Descriptive Statistics Results

Descriptive statistics examined the behavior of data in general, under the foreign direct investment (FDI) variable, the maximum inflow was 7.664 USD while the minimum FDI inflow was 5.001USD, while its mean inflow was 6.393 USD, median was 6.197 USD, and the standard deviation was 0.850 USD. Under government effectiveness (GE) variable, the maximum FDI inflow was - 0.340 USD, while the minimum FDI inflow was -0.730 USD. Mean FDI inflow was -0.5036 USD the median value was -0.450, standard deviation was 0.127. Under regulatory quality (RQ) variable, maximum FDI inflow was -0.250 USD while minimum FDI inflow was -0.560 USD, mean was -0.403 USD and median was -0.405 USD, Standard deviation was 0.070.

Under rule of law (RL) variable, the maximum FDI inflow was 0.390 USD, minimum FDI inflow was -0.550 USD, mean was -0.351 USD, median was -0.375 USD, standard deviation was 0.196. Under control of corruption (CC) variable, the maximum FDI inflow was -0.220 USD, minimum FDI inflow was -1.030 USD, mean was -0.725 USD, median was -0.785 USD, standard deviation was 0.241.

Under voice and accountability (VA) variable, the maximum FDI inflow was -0.130 USD, minimum FDI inflow was -0.740 USD, mean FDI inflow was -0.351 USD, median was -0.280. Under political stability and absence of violence (PS) variable, the maximum FDI inflow was -0.020 USD, minimum FDI inflow was -0.850 USD, mean FDI inflow was -0.415 USD, median was -0.445 USD, and standard deviation was 0.252USD.

For FDI the maximum and minimum values mark a small range where as mean and median are almost the same, its distribution is normally distributed. On the other hand in government effectiveness (GE) the maximum and minimum values mark a big difference where as mean and median values mark a small range, its distribution is normally distributed. In regulatory quality (RQ) maximum and minimum values mark a big difference where as mean and median values are the same and its distribution is normally distributed. In the rule of law (RL) maximum and minimum values mark a small range where as mean and median values mark a very small difference; however its distribution is not normally distributed.

In control of corruption (CC) the maximum and minimum values mark a big range where as mean and median values have a small range but its distribution is normally distributed. For voice and accountability (VA) maximum and minimum values mark a big range where as mean and median values mark a small difference, and its distribution is normally distributed. Moreover in political stability and absence of violence (PSV) maximum and minimum values mark a big range where as mean and median values mark a very small range, but its distribution is normally distributed.

Table 4.1: Descriptive Statistics

	LNFDI	GE	RQ	RL	CC	VA	PSV
Mean	6.393636	-0.503000	-0.403500	-0.351000	-0.725000	-0.351000	-0.415500
Median	6.197110	-0.450000	-0.405000	-0.375000	-0.785000	-0.280000	-0.445000
Maximum	7.664300	-0.340000	-0.250000	0.390000	-0.220000	-0.130000	-0.020000
Minimum	5.001258	-0.730000	-0.560000	-0.550000	-1.030000	-0.740000	-0.850000
Std. Dev.	0.850285	0.127696	0.070208	0.196627	0.241170	0.204139	0.252680
Skewness	-0.032217	-0.435545	-0.076888	2.732117	0.531923	-0.570080	0.002887
Kurtosis	1.880635	1.665310	3.343749	11.33487	2.166410	1.907949	1.944737
Jarque-Bera	1.047608	2.116828	0.118176	82.77332	1.522198	2.077118	0.928011
Probability	0.592263	0.347006	0.942624	0.000000	0.467153	0.353964	0.628760
Sum	127.8727	-10.06000	-8.070000	-7.020000	-14.50000	-7.020000	-8.310000
Sum Sq. Dev.	13.73670	0.309820	0.093655	0.734580	1.105100	0.791780	1.213095
Observations	20	20	20	20	20	20	20

Source: Researcher's, 2018

4.3. Econometric Tests Results

Time series data in most cases are likely to be affected by non stationary problems; as such economic regression on such modeling can provide spurious regression. The implication here is that, mean and variance are time variant and thus basic assumptions of the ordinary least square (OLS) are contravened or disobeyed. In this respect it is obligatory to perform the unit root test, through testing for non-stationary using Dickey Fuller (DF) or Augmented Dickey Fuller (ADF) test. Additionally after testing for non-stationary and find variables are integrated in the same order, then co integration and error correction models are employed so as to see if variables have long run relationship.

4.4. Unit Root Test Results

After specifying the model, then the study performed the unit root tests at level for all variables under study which are government effectiveness, regulatory quality,

rule of law, control of corruption, voice and accountability, and political stability and absence of violence, except these variables, FDI is in natural logarithms. After performing unit root test, the study estimated all these variables at level and in first difference to see if the variables are stationary at first difference as expected. The research performed by the Augmented Dickey-Fuller (ADF) test which is powerful than normal Dickey-Fuller (DF) testing. This study tested unit root at level and first difference both at without constant and linear trend, with constant and with constant and linear trend as shown in the Table 4.2.

Table 4.2: Unit Root Test Results at Level and at First Difference

AT LEVEL				
Coefficients				
Variables	Without constant and trend	With constant	With constant and trend	Order of integration
FDI	-0.095075	-1.248943	-2.874111	*I(1)*
GE	-0.829047	-1.230101	-1.757632	*I(1)*
RQ	-0.546389	-3.341347	-3.288502	*I(1)*
RL	-0.525860	-3.774881	-5.545396	*I(1)*
CC	-0.990298	-1.566254	-1.205750	*I(1)*
VA	-2.520006	-2.076496	-1.464094	*I(1)*
PV	-1.647288	-3.257592	-3.475757	*I(1)*
FIRST DIFFERENCE				
Coefficients				
Variables	Without constant and trend	With constant	With constant and trend	Order of integration
FDI	-5.555956	-5.735503	-5.554372	*I(0)*
GE	-4.731109	-4.606481	-3.736172	*I(0)*
RQ	-4.817341	-4.689134	-4.830897	*I(0)*
RL	-3.934138	-3.833169	-3.685318	*I(0)*
CC	-4.472285	-4.399707	-4.540220	*I(0)*
VA	-5.154702	-5.946990	-6.842073	*I(0)*
PV	-4.552371	-4.395425	-6.291721	*I(0)*

Source: Researcher's, 2018

Without constant and trend: Test critical values: 1%, 5% and 10%, with constant: Test critical values: 1%, 5% and 10%, with constant and trend: Test critical values:

1%, 5% and 10%. Notes: If variables are integrated of order one *I (1)* means variables are non stationary. If variables are integrated of order zero *I (0)* mean variables are stationary.

Unit root test at level reveals that all variables are non stationary and are integrated of order one I(1) since the computed absolute values of tau statistics does not exceed the critical tau values. On the other hand, at first difference all variables are stationary as such are integrated of order zero I (0) because the computed values of tau statistics exceeds the critical tau values. Therefore the specified model is properly formulated.

4.5. Co Integration Test Results

In this part study employed two main co integration tests which are Johansen co integration test and Engle–Granger Residuals (EG) or Augmented Engle–Granger residuals (AEG) co integration test.

4.5.1. Johansen co Integration Test Results

Having established that all variables are non stationary at level and stationary at first difference, and then the study estimated the Johansen co integration test. The empirical results reveal that variables are co integrated. The powerful test that is trace statistic confirms that there are five co integrating equations at the 0.05 critical levels whereas Max-Eigen statistic test indicates three co integrating equations at the 0.05 critical levels. See the Table 4.3.

Table 4.3: Johansen Co-Integration Test Results

Rank Test (Trace)				Rank Test (Maximum Eigenvalue)			
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	*P*-values	Hypothesized No. of CE(s)	Max-Eigen Statistic	0.05 Critical Value	*P*-values
None *	117.5269	69.81889	0.0000	None*	42.78395	33.87687	0.0034
At most 1*	74.74299	47.85613	0.0000	At most 1*	32.24674	27.58434	0.0117
At most 2*	42.49624	29.79707	0.0010	At most 2*	26.32897	21.13162	0.0085
At most 3 *	16.16727	15.49471	0.0396	At most 3	11.25328	14.26460	0.1420
At most 4*	4.913990	3.841466	0.0266	At most 4*	4.913990	3.841466	0.0266

Source: Researcher's, 2018

Notes: *Trace test indicates there are five co integrating equations at the 0.05 critical levels whereas Max-Eigen statistic test indicates three co integrating equations at the 0.05 critical levels.*
**denotes rejection of the hypothesis at the 0.05 critical level under MacKinnon-Haug-Michelis (1999) p-values.*

4.5.2. Engle–Granger Residuals (EG) or Augmented Engle–Granger residuals (AEG) co integration Results

Similarly the study estimates Engle-Granger residuals co integration test using the Augmented Dickey-Fuller tests. Findings reveal that computed value of the tau statistic (-4.251410) in absolute value exceeds the Engle – Granger critical tau values (-2.86154) at 5 percent level (MacKinnon, 2010) then the study rejected the null hypothesis means residuals are stationary and variables are co integrated. Since tau statistic obtained is (-4.251410) and it is significant at 5 percent level of significance. Thus, research concludes that, the regression outputs obtained in non stationary variables (at level) are no longer spurious as such the empirical results representing the long run relationships amongst the variables(See table: 4.4).

Table 4. 4: Engle–Granger Residuals (EG) or Augmented Engle–Granger residuals (AEG) co integration Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	61.08873	81.13557	0.752922	0.4618
RESID02	-0.820093	0.192899	-4.251410	0.0005

Source: Researcher's, 2018

4.6. Discussion of Findings in Long Run and Short Run Coefficients

Since this study employs time series data, it discusses both long run and short run coefficients results as shown in sections below.

4.6.1. Long Run Coefficients Results

In the long run, coefficients of some variables have the expected sign as such results are in line with the theoretical expectations. Some variables are significant determinants of FDI in Tanzania since they are statistically significant at 5 percent level of significance, and some are not. Government Effectiveness (GE), this variable as an indicator gauges or measures insights of the quality or attributes of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (Kurul and Yalta, 2017; and Wernick 2014; Erkekoglu and Kilicarslan, 2016), has negative sign and it is statistically insignificant at 5 percent level of significance.

The findings from the analysis indicate that the relationship between the two variables, FDI and government effectiveness (GE) is negative; implying that government effectiveness (GE) is not attractive to FDI inflows in Tanzania. Moreover this empirical observation contradicts the theory (Dunning's theory, 2006) and with findings of previous studies; such as Salem and Baum (2016) who found out that government effectiveness (GE) had positive but insignificant influence in attracting FDI, Yalta and Kurul (2017) findings in 113 developing countries (including Tanzania) showed that reducing excessive burden of bureaucracy and improving transparency and government effectiveness led to an

increase in FDI inflows and encouraged MNEs to bring capital into the country, implying that government effectiveness (GE) had and was expected to have significant positive impact on FDI inflows. Gani (2007) found out that improvement in government effectiveness had a positive effect on FDI inflows is some Latin American countries. Yimer (2017) and Phung (2017) noted that government effectiveness positively and significantly affected FDI inflows and tended to attract more FDI and was more appealing to investors. Rodriguez-Pose and Cols[2] noted that government effectiveness was not only important determinant for FDI inflows but had a significant influence in attracting FDI inflow.

Mengistu and Adhikary (2011) carried out a study and found out that six indicators of good governance had impact on FDI inflows in 15 Asian countries for the period between 1996-2007. Using panel data model with fixed effects, the findings revealed that government effectiveness (GE) indicator was found to be one of the main factors which determined FDI inflows in those countries. On the contrary Erkekoglu and Kilicarslan (2016) carried out a study in 91 countries between 2002 and 2012 and found out that an increase in government effectiveness reduced FDI inflows, while Kersan-Skabic (2013) study results showed that government effectiveness (GE) had no impact on FDI inflow contrary to the expectations. Daude and Stein (2004) found out and concluded that sometime unpredictable policies were a threat to FDI inflow.

On the other hand the study finding regarding government effectiveness (GE) variable appears to be consistent with the allegations presented by the Tanzania

[2] http://econ.geog.uu,nl/peeg/.html

Private Sector Foundation (2015) that, government effectiveness (GE) was not favorable to FDI inflow in Tanzania. The allegations categorically stated that, among the challenges facing foreign investors include bureaucracy, whereby investors spent a lot of time in processing licenses, property registration, in paying taxes, difficult in obtaining and registering land, enforcing contracts and starting business operations.

Foreign investors also alleged that policy instability is among of the challenges affecting their investment decisions. Frequently and unpredictable changes in policies in various sectors interfere and frustrate foreign investors' decisions. In this case government effectiveness (GE) appears to be deterrent and unfriendly to foreign direct investors and to some extent confirm the allegations presented by the Tanzania Private Sector Foundation (TPSF) (2015), Tanzania Investment Climate Statement (2015) who complained that government effectiveness (GE) was not favorable to FDI inflow in Tanzania.

According to the Tanzania Investment Climate Statement (2015) there were a lot of issues which they felt were not favorable to them as foreign investors, issues such as; incentives offered to foreign investors were unpredictable and were offered on discriminatory basis, performance requirements were not considered. Foreign investors complained that much as they were aware of their obligations and their rights, but their rights and obligations were not readily accessible. The Tanzania Investment Climate Statement (2015) further alleged that during the privatization program, there were frequent complaints by foreign investors that the bidding criteria were not transparent and clear to bidders. Information was not sufficient to enable bidders make decisions whether to participate or not. This implied that

foreign bidders were denied chances to participate in the exercise due to lack of enough information about the privatization exercise.

Very often there have been agreements between foreign investors and the government, but available evidence indicates that the government has been ignoring or does not respect or honor such agreements. For example, there are cases whereby government fails to pay on time for services or goods received from foreign investors, such delays affected investors' day to day business operations. According to the Tanzania Investment Climate Statement (2015) there were also hurdles which foreign investors faced, especially during the foreign exchange transfer, the current policy appears to have bureaucratic hurdles which delay and eventually affect transfers because it takes longer time. While proposed laws and regulations by the government have impact on foreign investors,' it is very rare to find government being responsive to comments raised by the private sector or foreign direct investors.

In other words foreign investors' concerns are not fully considered, this attitude by the government discourages foreign investors. There is sufficient evidence that even when foreign investors submit their views, their comments are not incorporated in the new regulations or legislations. In another study by Siddica and Angkur (2017) it was revealed that government effectiveness had negative effect on FDI flow but it was statistically significant. The findings further explained that existing policies were not attractive to foreign investors. Foreign investors complained that bureaucracy was one of the critical or core problems which raised investment costs to their businesses.

Government effectiveness as an institutional variable is responsible for investment policy formulation and implementation; it is a key determinant of FDI inflows since it sets direction of investment in the country. Being negative and insignificant, it implies that the government effectiveness is not in favor of FDI inflow in the country. However, Daude and Stein (2004) stressed that not all institutional factors have similar importance for the decision of where to invest. However due to its critical position or role in investment decisions, deliberate strategies should be adopted in order to reform the government effectiveness (GE), so that it becomes attractive to FDI inflow in Tanzania. The government's credibility to FDI comes from its commitment to her investment policies.

Regulatory Quality (RQ), gauges or captures insight of the ability of the government to initiate or formulate, generate and implement sound policies and regulations that permit and promote private sector development in the country. It has positive sign and has a significant impact on FDI inflows, it is statistically significant at 5 percent level of significance, stressing that regulatory quality (RQ) matters in attracting FDI and has a strong cause and effect on FDI inflows in Tanzania. Statistically it implies that one unit increase in RQ increases FDI inflows in Tanzania by 3.746330 percent. This finding indicates that regulatory quality (RQ) matters substantially in attracting FDI inflows in the country and it is also consistent with Dunning's theory (2006).

Therefore improving regulatory quality (RQ) in Tanzania is crucial in order to attract more FDI inflows in the country. As a policy implication the government should keep on improving and maintaining regulatory quality (RQ) in order to create conducive business environment for FDI inflows and for the development of the

private sector in the country. The finding appear to be consistent with the findings and conclusions of the following studies; Gani (2007) who found out that regulatory quality had positive effects on FDI inflows in some Latin American countries.

Mottaleb and Kalirajan (2010), found out that good regulations, motivated FDI inflows, Daude and Stein (2004) concluded that excessive regulations were a burden to FDI as result they deterred foreign direct investment inflow. In another study, Buse, and Goizard (2006), concluded that in the most regulated economies, excessive regulations very often restrict foreign direct investment inflow. Both Daude and Stein (2004), Buse and Goizard (2006) agree with the finding that multiplications of regulations very often may happen to be barriers to foreign investors and it is difficult to comply with. On the other hand, Sedik and Seoudy (2012) conducted a study in 20 MENA countries in the period between 1999 and 2010; and revealed that regulatory quality seemed to have positive and significant effects on FDI inflows in MENA countries.

Saidi et al (2013) investigated the relationship between institutional variables and FDI inflows in 20 developed and developing countries in the period between 1998 and 2011, the result was that the regulatory quality had positive impact on FDI inflows. Yonis, Ochi and Ghadri (2013) noted and concluded that regulatory quality (RQ) had positive and statistically significant impact on FDI inflows. Erkekoglu and Kilicarslan (2016) in his study which covered 91 countries in the period between 2002 and2012 he found and concluded that regulatory quality increased FDI inflow in a host country. Lucke and Eichler (2016) carried out a study on institutional determinants of FDI in 94 countries between 1995 and 2009 the result indicated that

regulatory quality had positive impact on FDI inflow. Nunes and Castro (2013) found out that low burden of regulations was identified as an important factor in attracting FDI inflows.

On the other hand the finding on this variable is contradicting with a good number of research findings including those of Bellos and Subasat (2013) who revealed that under certain circumstances regulatory quality (RQ) deters FDI inflows. Mramba; (2015) noted and concluded that regulatory quality (RQ) had no significant relationship with FDI inflows in Tanzania. These findings also contradict with Hailu's (2016) findings which noted that institutional factors including regulatory quality (RQ) had no statistical significant relationship with FDI inflows in Sub-Saharan African countries. This research finding is also contradicting with allegations and complaints presented by the Confederation of Tanzania Industries (CTI), (2013) which alleged that regulatory quality (RQ) in Tanzania had negative impact on foreign direct investment (FDI) inflow Tanzania.

The complaints further alleged that much as the enterprises in the food processing sector in Tanzania understood the importance of regulations and laws, however the complaints presented by the Confederation of Tanzania Industries (2013), that there were multiple laws and regulations governing food processing sector in the country and were overlapping, as result increased regulatory costs payable by business ventures in the sector. They asserted that instead of facilitating compliance with regulations, regulators focused on maximizing revenue collections from business operators in the sector.

Moreover they further alleged that the sector was the most regulated with 22 laws and regulations, governing business registration, licensing, permits and inspections. These laws and regulations were enforced by various regulatory bodies which also were found to be overlapping in various areas of their activities. For example; the responsibility of inspecting premises was assigned to six (6) regulatory authorities namely; Tanzania Bureau of Standards (TBS), National Environmental Management Council (NEMC), Tanzania Dairies Board (TDB), Tanzania Food and Drugs Agency (TDFA), Fire and Rescue Force (FRF), and Local Government Authority (LGA); TDB, TFDA, TBS and Weights and Measures Agency (WMA) were responsible to inspect production.

TDB, TFDA, Vertinary Department were charged with the duty to inspect product transportation while TDFA, TBS, LGA, NEMC, Occupational Safety and Health Agency (OSHA) were assigned to inspect premises and equipment. The labeling function was undertaken by TDFA, TDB, and WMA. The registration was carried out by TDB and Business Registration and Licensing Agency (BRELA), licensing was undertaken by TFDA, TBS, LGA and the related government ministry. It must be noted that these regulatory bodies are located in different locations and the duties are done separately.

Regardless of the good intention behind formulation of these laws, regulations and regulatory bodies, their impact on the sector is huge and ultimately affects the performance and development of the sector in the country. Moreover it discourages foreign direct investors (FDI) and development of the private sector. It is also killing private initiative and spirit towards industrialization which is currently the

government campaign. What does it mean where you find TBS, TFDA, and Government and Chemist Laboratory Agency (GCLA) performing the same function? This tendency of having unnecessary, redundant and proliferation of institutions, regulations and laws in the country is detrimental towards the whole exercise of attracting FDI in the country. Complaints by the TPSF (2015) conclude that regulatory quality in Tanzania is restrictive to foreign direct investment inflow.

This conclusion reinforces the findings of the CTI (2013), that business regulations namely tax regulations, labor regulations in the country are barriers, restrictive and not favorable to attract foreign investors, in this circumstances both TPSF (2015) and CTI (2013) conclusions contradict the finding of this study regarding the regulatory quality variable. While result of this study found positive and significant impact of regulatory quality (RQ) on FDI inflow, Tanzania Investment Climate Statement also (2015) complained that regulatory quality in Tanzania was an obstacle to FDI inflow in the country.

Availed evidence tells that fees and charges for registering foreign companies are extremely high when compared with the local companies, also terms and conditions for competing in the market happen to affect foreign companies more that they affect local companies, for example Tanzania Broadcasting Corporation (TBC) enjoys favorable business conditions and terms if it is compared with other private media companies, may be because it gets subsidies from the government. Sometimes foreign investors complain about availability of skilled labor in the country, but the current immigration and labor laws and regulations restrict employment of foreigners in foreign companies up to five people in senior posts only, the remaining

positions should be filled or sourced from within the country.

Consistently, OECD (2013) concluded that regulatory quality in Tanzania is still restrictive to foreign direct investors. This conclusion underscores and reinforces the complaints by Tanzania Investment Climate Statement (2015) with the following allegations; that it should be made clear that in Tanzania agricultural sector is the biggest employer, it employs over 90 percent of Tanzanians, it is the source of raw materials to some manufacturing firms, but it is also a source of food and income to majority of the country's population. It is a backbone of the country's economy.

The complaints allege that since agriculture is a source of income restricting or banning agricultural outputs like rice, maize and other agricultural related outputs undermines FDI investment in the agricultural sector which is the biggest employer and backbone of the country's economy. Investors aim at accessing larger markets which are potentially profitable for their crops. Restricting exports on crops might affect investors' incentives to expand production. Moreover, a restriction on agricultural exports does not only undermine investment in the sector but also affects growth and development of the sector in the country. This finding is also contradicting with the findings of Wangwe and Rweyemamu (2004), Bellos and Subasat (2013), and the allegations presented by TPSF (2015), Tanzania Investment Climate (2014, 2015), CTI (2013), and OECD (2013), which complained that, despite having rules and regulations, enforcement was poor, because poor quality imported products could be sold in the local market along with locally higher quality products without legal measures by the government.

Foreign investors were actually against unfair market competition which they are facing from poor quality and low priced goods or products. Clients also complained that tax administration officials used abusive language against them during tax collection exercise. They also complained about multiplicity of regulations the compliance of which is not only difficult but costly and expensive foreign investors. Foreign investors suggested synchronization and consolidation for coherence and simplicity.

Regulatory Quality has a high significant impact on FDI inflows in Tanzania, nevertheless there are still complaints by foreign investors which are typically related to RQ variable. Sometime this may suggest that investors in their home countries with high, or medium, or low regulatory quality indices may consider their regulatory quality indices level to be the threshold for what they seek in institutional factors conditions in host countries. Here investors look at the importance of regulatory quality in the host country, but they link it back to institutional factors in their home countries. This observation is also supported by Kunsch, Schnarr, and Rowe (2014).

Rule of Law (RL), according to Saleh and Baum,(2016); Bimal, (2017) catches the insights regarding the effectiveness and predictability of the judiciary, as well as the quality of contract enforcement, the extent to which agents have confidence in and abide by the rule of society, property rights, the police, and the courts as well as the likelihood of crime and violence. The results for this variable have positive sign but statistically insignificant associated with FDI inflows at 5 percent level of significance. This implies that rule of law (RL) has small impact on FDI inflows in

Tanzania. This finding contradicts Dunning's theory (2006) which expected that in order for the FDI to flow in a certain foreign market; rule of law should be positive and should have a certain degree of significant impact to FDI inflow. This finding also contradicts with a number of various studies including the following; the study by Grosse and Trevino (1996), Tallman (1998), found and concluded that a better rule of law attracted more FDI, implying that there was a positive relationship between rule of law and FDI inflow. Jensen, (2003) concluded that rule of law had a positive effect on FDI.

Daude and Stein (2004) also concluded that deficiency of enforcement of property rights and lack of commitment on the part of the government seems to play major role in deterring FDI flow. Asiedu (2005) found out that reliable legal system has a positive impact on FDI inflow. Busse and Hefeker (2007) concluded that rule of law was a determinant of FDI inflow. Mishra and Daly (2007) observed that, the legal system in host countries have a direct impact on FDI inflows in those countries. Mottaleb and Kalirajan (2010) argued that good rules motivated FDI flows. In another study by Alam et al., (2005) it was revealed that strengthening the rule of law had positive influence on FDI inflows in Bangladesh.

Samini and Ariani (2010) studied the impact of political stability, control of corruption and rule of law; they found out that improvement of rule of law had a positive and significant impact on FDI inflows in MENA countries. Mengistu and Adhikary (2011) concluded that rule of law was one of the main determinants of FDI inflow in the host country. Siddica and Angkur (2017) also revealed that rule of had statistically significant positive effect on FDI inflow. Dehshiri and Sameti (2012)

studied the impact of human development index and rule of law to attract FDI in selected developing countries in the period between 2001 and 2010, the results showed that rule of law had positive and significant impact on attracting FDI in developing countries. Saidi, Ochi and Ghadri (2013) found out that a reliable legal system had a positive and a significant impact on FDI inflow in developing countries. Kunsch, et al., (2014), Tanzania Investment Climate Statement (2014, 2015), and Gangi, Y. (2017), had similar conclusion, that rule of law was one of the main institutional factors which attract FDI inflow in the host country.

Kapuria- Foreman, (2007) found out that greater assurances to conform or comply with contracts agreements honor or respect for property rights were among the important determinants for attracting more FDI. Ali et al., (2010) concluded that property rights were more critical determinants of FDI inflows. On the other hand Staats and Biglaiser (2012) asserted that panel data analysis showed that rule of law and judicial strength were important determinants of FDI inflows in 17 Latin American countries. Moreover, Henisz (2000), Henisz and Williamson (1999) argued that in countries where property rights are poorly protected Multi-National Companies' (MNC) investments faced expropriation risks. Henisz (1998), Wei (2000), Jensen (2003), Richard and Nwankwo (2005) argued that institutional factors particularly protection of property rights are among the important determinants of multinational investment and FDI inflows.

However on the other hand the findings of this study are consistent with the study findings conducted by Bayar and Alakbarov (2016) who concluded that rule of law had statistical insignificant impact on attracting FDI in overall panel of emerging

market economies. Another study by Basemera and Mutenyo (2012) concluded that rule of law had no significant impact on FDI inflow in East African countries. Peres at al., (2018), findings indicate that rule of law had statistically significant impact on FDI inflow in developing economies. The Legal and Human Rights Centre (LHRC, 2013, 2015) alleged that investors were using political and financial influences to displace traditional land owners from their lands in Tanzania, and in some areas foreign investors acquired land through various displacement tricks or justifications.

On the other hand in Mtwara region residents were removed from their lands to give room for a foreign company to build a factory, it took very long time to get their compensation payments after they were removed from their lands. In Ruvuma region, some residents were compensated after twenty years later, some are still struggling to get their compensation, the villagers were ordered to vacate their lands so that part of the land could be used as industrial area. Some places with similar disputes include Mwanza, Babati (Manyara), Geita conflict, Kahama, Loliondo saga, North Mara dispute, Bulyankhulu conflict,in Nzega.

More studies including a study by Kunsch et al., (2017) and Dehshir et al., (2017) on the relationship between rule of law (RL) and FDI inflows in various economies, argue that rule of law is an important indicator which must be given due consideration by an investor for FDI decisions, simply because investors should want to know whether there will be protection for their investments in the foreign location or in the host country. Investors believe that is only through the presence of reliable rule of law protection of their investment is guaranteed. Therefore, it logical to accept that one among of the risks to be assessed before investing in a foreign

market should be the country's rule of law. In the absence of rule of law investors would have no confidence in security of various issues related with their business operations.

Investors need to be certain of protection of their property rights, they need fair competition in the market, they need fair exchange in the market, and they need appropriate conformation and loyalty to contracts and contract supervision. They are interested to see a reliable legal system, in which there is sufficient independence of the judicial system and there is trust in the judicial system for resolving legal disputes. These observations and views are also supported by recent and previous studies by; Dehshiri and Sameti, (2017), Kunsch, et al.,(2014), Wang, Xu and Zhu (2012), Wenick et al., (2014), LHRC (2013, 2015), Biglaiser and Staats (2010), Haggard, Maclntyre and Tiede, (2008), Globerman and Shapiro (2003), La Porta et al., (2000).

Another controversial issue whether rule of law (RL) appears to be less critical or insignificant for FDI decisions, as it is the case with this study; it might depend on country source of an investor. Kunsch et al., (2014), argue that foreign investors from countries with high-level rule of law indices will not prefer to invest in countries with low-level or mid-level rule of law indices, and foreign investors from countries with mid-level or low-level indices might not find it difficult to invest in countries with corresponding or similar circumstances.

The reason behind is, they consider their rule of law indices level in their home countries/ markets to be the threshold for what they seek in institutional factors

conditions in the foreign market or in the host country. This is why FDI still flow in the country despite the fact that rule of law variable has insignificant or trivial impact on FDI inflow in Tanzania. In other studies Anyanwu (2012), Fiodendji (2013) and, Wenick et al., (2014), argue that countries with abundance natural resources (minerals oil and gas) might enjoy a huge flow of FDI regardless of the quality of their rule of law.

Moreover, it is argued that countries without abundance of natural resources need to develop and ensure that their institutions and institutional indicators are not only strong but also competitive. Some additional findings and conclusions which corroborate with the finding of this variable include a study by Yalta and Kurul (2016) who revealed that not all institutional factors have a significant effect on FDI inflows in developing countries. This result also underscores the results by Saidi, Ochi and Ghadri (2013) who noted that sometime foreign investors are interested just in few institutional factors in their choice in investment abroad, Babayan (2015) underscored that some institutional factors are most critical for attracting FDI and some are not. This implies that some institutional factors matter more than others in attracting FDI inflows, but it all depends on the foreign investors' assessment. May be one of the circumstances described above could be one or among the reasons for the finding of this variable.

Control of Corruption (CC) which according to Baum and Salem, (2016) captures the span or space to which public power is exercised for individual benefits, including both petty and grand forms of corruption, as well as capture of the state by elites and private interest. This variable has a negative sign and statistically

significant at 5 percent level of significance. The finding illustrates that corruption has a negative impact on FDI inflows; and therefore deters or reduces FDI inflows in Tanzania. The finding is consistent with the expectations of Dunning's institutional theory (2006), which argues that high corruption index scores in the host country have cause and effect on FDI inflows in the host country.

The finding is consistent with the conclusions of the previous studies including those of Wang and Swain (1997) who concluded that corruption harms the business climate and deters foreign direct investment inflow, Morisset (2000) who concluded that corruption increases administrative costs and therefore reduce FDI inflow, Wei, (2000) who found out that corruption reduced FDI; and had a negative impact on capital structure and capital volume. Gani (2007) who found out that improvement in control of corruption had positive effects in some Latin American countries. Alam et al., (2005) revealed that ineffectiveness in controlling corruption in Bangladesh deterred FDI inflows to Bangladesh.

Jensen (2003) concluded that corruption had negative effect on FDI, Asiedu (2005) using panel data for 22 countries during the period 1984-2000 concluded that corruption had negative impact on FDI flow in Africa, and less corruption had positive impact on FDI inflows. Smith-Hilman and Omar (2005) accomplished a study employing survey to investigate the effects o regulations and political stability on 121 English firms between 1994 and1996. The findings indicated that countries with weak governments and corruption received less FDI. Another study by Busse and Hefeker (2007) examined the relationship between political risk, corporations and FDI in 83 developing countries between 1984-2003, showed that corruption was

detrimental to FDI inflow.

Nilsson-Hakkala, et al., (2008) carried out a study on effects of corruption on FDI; using panel regression and found out that corruption had negative effects on FDI inflows. Al-Sadig (2009), conducted a study on the impact of corruption on FDI inflows in 117 countries between 1984-2004 using regressions and found out that corruption had negative impact on FDI inflows. Woo (2010) conducted study on the impact of corruption on FDI inflows in 90 countries during 1984-2004 period employing panel regression model and found out that corruption had negative impact on FDI inflows. Samini and Monfared (2011) examined the impact of corruption on FDI inflows in 16 organizations of Islamic cooperation countries between 2002-2008 periods and concluded that there was negative correlation between corruption and FDI inflows.

Mengistu and Adhikary (2011) concluded that corruption was one of the factors determining FDI location. Brada et al., (2012) conducted a study on the relationship between corruption and FDI in 84 countries during 2000-2003 period. They concluded that corruption had negative impact on FDI inflows. On the other hand Pupovic (2012) investigated the impact of corruption in FDI inflows in Montenegro using questionnaire method and concluded that corruption had negative impact on FDI inflows. Another study was conducted by Alemu (2012) to investigate the impact of corruption on FDI inflows in 16 Asian countries in the period between 1996-2009 using panel regression found out that corruption had negative impact on FDI inflows. Another study by Kersan-Skabic (2013) on institutional determinants of FDI inflows in 8 South Eastern European countries between 2001-2010 periods

found out that corruption had significant impact on FDI inflows. Castro and Nunes (2013) did a study on the relationship between corruption and FDI inflows in 73 countries during 1998-2008 periods and concluded that countries with lower corruption level attracted more FDI inflows.

On the other hand Quazi (2014) carried out a study on the impact of corruption on FDI in 14 South and Eastern Asian countries in the period between 1995 and 2011 and found out that corruption had negative impact on FDI inflows. The finding is consistent with the allegations presented by the Tanzania Investment Climate Statement (2014, 2015), and TPSF (2015) that corruption had negative impact on FDI inflow. Ofori, Ato-Mensah and Jinsheng (2015) also revealed that corruption was a social menace because it created social disorder and instability in the form of social unrest, poor provision of social services; it posed threat due to the high costs of business operations to both private and public sectors and business investment in the long run.

Peres, Ameer and Xu (2018), who noted that one of the most important institutional factors that deterred FDI inflows was corruption while, Yalta and Kurul (2018) noted that reducing corruption increases FDI. Wei (2000), Gastanaga, Nugent and Pashamova (1998), Compos, Asiedu and Villamil, (2000) Lien and Pradhan (1999), confirmed that majority of investor surveys suggested that one of the most critical institutional factor that deters FDI inflows was corruption. Consistently, Cuerzo-Cazura, (2006, 2008) Wei, (2000) further argued that generally countries which are more corrupt received fewer FDI inflows, and those with lower corruption index scores had positive relationship with investment inflows, as corruption levels would

be lower. Henisz (1998), Wei (2000), Jensen (2003), Richard and Nwankwo (2005) who argued that institutional factors particularly corruption, was among the important determinants of multinational investment and FDI inflows.

The finding of this study contradicts other previous findings including a study by Bradhan (1997) who noted that corruption had a significant positive impact on FDI inflows, Bellos and Subasat (2011) was conducted to find out the relationship between FDI inflows and corruption in 15 transition economies during 1990-2005 employing panel gravity model, found out that corruption had no statistical significant impact on FDI inflows. Bellos and Subasat (2012), Basemera and Mutenyo (2012), Gutierrez (2015), who noted that corruption did not significantly deter or influence FDI inflow negatively.

Mudambi, *et al.* (2013) carried out a study on the relationship among corruption, government regulations in 55 countries in the period between 1985-2000 employing panel regression models, they and concluded that corruption had no independent impact on FDI inflows. Helmy (2013)accomplished a study on the impact of corruption on FDI in 21 countries of Middle East and North Africa (MENA countries) over the period between 2003 -2009 and concluded that corruption had no significant impact on FDI inflows. Bayar and Alakbarov (2016) concluded that control of corruption had no statistical significant impact on attraction of FDI in 23 emerging market economies. However, the findings of this study are inconsistent with the findings and conclusions of most of the studies in the reviewed literature.

The findings suggest that corruption reduces FDI inflow in Tanzania by 1.567183 percent and it is statistically significant at 5 percent level of significance. It

transpires from the findings that, despite the efforts by the government to control corruption, there are some elements of corruption still existing in the country, which deter FDI inflows. However since corruption is still a threat to FDI inflow, the government should keep on fighting it until it is reduced to the level where it can no longer be an impediment to FDI inflows in the country. Voice and accountability (VA) which according to Kurul and Yalta (2017) captures insights or perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.

The result for this variable had a positive sign and is statistically significant at 5 percent level of significance. This implies that other factors remaining constant; one unit increase in voice and accountability (VA) increases the FDI inflow in Tanzania significantly and statistically at 5 percent level of significance. Voice and accountability therefore has significant and positive impacts on FDI flows, it has a positive relationship with FDI inflow in Tanzania, and it is also consistent with Dunning's (2006) theory of institutional factors. Other studies which are consistent with this finding include: a study by Yalta and Kurul (2017)who performed a study which revealed and concluded that voice and accountability (VA) had significant and positive impacts on FDI inflows, consistent with the institutional theory by Dunning's (2006).

Other studies with significant results on FDI for voice and accountability (VA) variable include; a study by Gangi (2017) who investigated the impact of governance or institutional factors on FDI inflow in 50 African countries in the period between

1996-2010,and found out that voice and accountability (VA) was statistically significant in attracting FDI in African countries. Chaib and Siham (2014) found that voice and accountability (VA) had the expected positive impact on FDI inflows in Algeria, the result which was consistent with Dunning's (2006) theory. Another study by Bannaga et al., (2013) was carried out in 18 Arab countries in the period between 2000-2009, the conclusion was that voice and accountability(VA) negatively and significantly affected FDI inflow in 18 Arab countries, this finding contradicted Dunning's (2006) theory.

Berden, *et al* (2012) analyzed the impact of institutional factors in attracting FDI in Algeria between 1995 and 2011. The findings and conclusion was that high level of voice and accountability reduced inward FDI in Algeria. This conclusion contradicted Dunning's (2006), theory of institutional factors. However, there are extremes whereby instead of democracy being or becoming constructive becomes destructive to the extent of causing chaos in the country, an undesirable situation which most likely deters foreign investors. These findings lead to the conclusion that under certain circumstances some institutional factors appear to be much more important than others to foreign direct investors in their investment decisions. Governments of different countries wishing to attract foreign investors, particularly those in Africa should be aware of these situations and should consider improving their institutional factors in order to suit the tastes of foreign investors.

Political Stability and Absence of Violence (PS), which gauges/ measures insight or perception of the possibility of political instability and/or politically inspired violence Wernick et al., (2014) and Kurul and Yalta (2017). This variable had a

positive sign and was statistically insignificant at 5 percent level of significance. It had a positive impact on FDI inflow in Tanzania, and this finding is consistent with Dunning's theory (2006) expectations that political stability and absence of violence has influence on FDI inflows. This implies that maintaining political stability and absence of violence (PS) by one unit, increases FDI inflow by 0.364062 percent.

Political stability and absence of violence has influence on FDI inflows in Tanzania, though the influence appears to be insignificant. These findings lend support to a number of several studies including studies by Gani (2007) who found out that improvement in political stability had positive effects on FDI inflows for some Latin American countries. Tanzania Investment Climate Statement (2014, 2015) confirmed that political stability and absence of violence had positive and significant impact on inward FDI flows in Tanzania. Nunes and Castro (2012) found that stable political environment was an important factor for attracting FDI, while Kurecic and Kokotovic (2017) concluded that political stability was quite relevant to FDI inflows in developing countries.

Historically Tanzania has been politically stable and free of political violence since independence in 1961, and it is a multiparty democratic state. It might be possible that foreign investors feel that the issue of political stability and absence of violence was not of critical concern to them. Also another reason might be that foreign direct investors are already satisfied with the prevailing political stability and absence of violence situation record in the country, and they are also aware that Tanzanian government is always on alert to maintain political stability and absence of violence in the country. Therefore much of their attention is directed to other institutional

factors which are of critical importance to their FDI inflows decisions. If political stability and absence of violence had harmful effects to foreign investors it would have carried a negative sign implying that it is a threat to FDI inflows. However, we are also cautioned by other scholars that some institutional factors matter more than others in attracting more FDI (Kurul and Yalta, 2017). Daude and Stein (2004), in a related study, they concluded that, not all institutional factors have the same importance for the decision of where to invest.

Salem and Baum (2016) who revealed that political stability and absence of violence (PS) has a positive impact on FDI and is significant at 5% level. Political stability and absence of violence was found to be a significant determinant in attracting FDI in real estate. Yalta and Kurul (2017) revealed that improvements in political system, exercising policies that enhance participation of citizens in selecting their government, as well as protecting civil rights tends to increase FDI inflows in the country, Basu and Srinivasan (2002) concluded that political stability and absence of violence is a key determinant of FDI inflow, this indicates consistency with empirical findings of this study. Henisz (1998), Wei (2000), Jensen (2003), Richard and Nwankwo (2005) argued that institutional factors particularly political restrictions are among the important determinants of multinational investments and FDI inflows.

The studies by Erramilli and Rao (1993), Gastanaga et al (1998), Wei (2000), Grosse and Trevino (2005), Demirhan and Masca (2008), found out and concluded that lack of political stability and prevalence of violence deters FDI inflow. Moreover, Grosse and Trevino (1996), Tallman (1998), concluded that absence of

political stability in the home country reduces foreign investment inflow in the host country. Reinforcing the above previous studies; Wang and Swain (1997)Stevens (2000)Stein and Daude (2001) Asiedu (2005), Vadlamannati (2012), Lee and Rajan (2009), Krifa- Schneider and Matei (2010) Mishra and Daly (2007), Samini and Ariani (2010), Saidi, *et al.* (2013), Al-khour and Khalik (2013)), Pan (2003), Baek and Qian (2011), Smith-Hilmaon and Omar (2005) concluded that political stability had a positive and significant impact on FDI inflow, they support positive relationship between institutional factors, and hence they are also consistent with Dunning's (2006) theory.

However the finding Contradicts other studies, including the study finding and conclusion by Erkekoglu and Kilicarslan (2016) who argued that increase in political stability and absence of violence reduced FDI inflow. Erkekoglu and Kilicarslan (2016) performed a study on whether political stability had effect on FDI inflow in 91 countries in the period between 2002-2013, the findings were that an increase in political stability and absence of violence reduced FDI, this finding contradicts the theory.

However under certain circumstances this could be true, particularly in natural resource–intensive countries like Democratic Republic of Congo (DRC), and Libya, in these countries, political stability does not exist, and political conflicts create rooms for weak governments and weak institutions to enter investment contracts which to a large extent benefit the foreign investor rather than the host government. But once stable governments come into existence such investment contracts will be reviewed as a result some of the foreign investors will disappear. Alam et al., (2005)

carried out a study on FDI inflows in Bangladesh and found out that improving political stability had a positive influential in determining FDI inflows in Bangladesh.

On the other hand Wheeler and Moody (1992), Noorbaksh et al., (2001), Sedik and Seoudy (2012)found out and concluded that political stability had no effect on FDI flows. Another study by Haksoon and Kim (2010) concluded that countries with low level of democracy have high FDI inflows, and political rights have negative relationship with FDI inflows. In addition they concluded that politically unstable countries attracted FDI from developed countries with high political stability. Based on the findings and conclusions of majority of studies, political stability and absence of violence (PS) appears to be among the key determinants of FDI inflows in many countries all over the world. Countries wishing to attract FDI consistently should ensure that they maintain political stability and absence of violence in their countries. All data analysis and discussion of findings described above are well shown in the Table number 4.5.

Table 4.5: Long Run Coefficients Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.339260	0.821610	10.14990	0.0000
GE	-0.345463	0.887772	-0.389135	0.7035
RQ	3.746330	1.266878	2.957135	0.0111
RL	0.111570	0.554516	0.201202	0.8437
CC	-1.567183	0.601616	-2.604956	0.0218
VA	4.426003	0.702916	6.296633	0.0000
PS	0.364062	0.411848	0.883970	0.3928

Source: Researcher's, 2018: Adjusted R-squared: 0.560861

The long run equation;

LnFDI=8.33-0.345463GE+3.746330RQ+0.111570RL-I.567183CC+4.4260 03VA+0.364062PS+ε_t

Access to land (AL**),** though access to land (AL) variable is highly collinear with voice and accountability (VA) variable, however the regression results with all variables AL had a positive sign (0.135993) indicating that access to land variable is statistically insignificant on FDI inflows in Tanzania (**see** table 4.9**).** This implies that land accessibility in Tanzania is not favorable to FDI inflows. This finding is quite similar to the allegations raised by OECD (2013); and Investment Climate Statement (2015).

Moreover, these findings are also underscored by Tagini (2009) in his study revealed that a lack of attention to land tenure and security of land discourages foreign direct investment (FDI) inflows in Solomon Islands. In addition the United States of America Agency for International Development (2010) in its study of land tenure issues in Southern Sudan disclosed that a higher rate of FDIinflows occurs where land policy is transparent and security of tenure is guaranteed. Where policy is unclear and there is uncertainty about the security of tenure, there is a lower rate of FDI inflows. The access to land (AL) variable is important variable in this study, though it is highly collinear with voice and accountability variable (VA). Co linearity is undesirable since it affects the level of significance of other institutional variables in the study.

4.6.2. Short Run Coefficients Results

In the short run coefficients, government effectiveness (GE) has a negative sign (-0.5563873) but statistically insignificant at 5 percent level of significance. This

suggests that by not improving government effectiveness (GE) reduces the FDI inflows in Tanzania by 0.345463 percent. This implies that government effectiveness (GE) in short run has no significant impact in attracting foreign investors in Tanzania. It is of interest to note that both in long run and short run government effectiveness (GE) has negative influence on FDI inflows in Tanzania. Thus, government effectiveness (GE) in Tanzania is still a challenge in attracting FDI; deliberate reforms are required to address this challenge in order to make government (GE) attractive to FDI.

Contrary to government effectiveness (GE), regulatory quality (RQ) has a positive sign (4.501375) and statistically significant at 5percent level of significance. This connotes that when regulatory quality (RQ) is improved by one unit, it increases the FDI by 4.5014 percent. In fact, this empirical result in short run is similar with the one obtained in long run, regulatory quality (RQ) is attracting FDI significantly in Tanzania. On the other hand, rule of law (RL) has a positive sign (0.135295) but statistically insignificant at 5 percent level of significance. This implies that improving rule of law (RL) by one unit increases the FDI inflow in Tanzania by 0.135295 percent. The study has revealed that though rule of law (RL) has positive influence on FDI but its impact is insignificant both in long run and in short run, however rule of law (RL) is still attracting FDI inflow at insignificant level as such it requires improvement in future.

Furthermore, Control of Corruption (CC) has a negative sign and is statistically significant at 5 percent level of significant. This suggests that control of corruption has negative contribution in FDI inflow in Tanzania by 1.683905 percent and it is

statistically significant at 5 percent level of significance. The analysis further suggests that the country (Tanzania) is still facing some challenges of corruption. Control of corruption (CC) has similar impact in long run and in short run. It is affecting the FDI inflows in Tanzania negatively and its impact is significant. Therefore, from these results it is important to adopt severe measures in order to reduce the level of corruption from the current level in the country which appears to be deterrent to FDI inflows.

Voice and Accountability (VA) has positive influence in FDI inflow both in long run and short run. In short run voice and accountability (VA) has a coefficient of 3.743725 and it is statistically significant at 5 percent level of significance. This implies that improving voice and accountability (VA) by one unit increases the FDI inflows in Tanzania by 3.7437 percent if at all other factors remain constant. From the empirical analysis there it is evident that voice and accountability (VA) has immense contribution in attracting FDI inflows in Tanzania. Therefore it should be given more attention so as to maintain FDI inflows in our economy. Voice and accountability (VA) refers to the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free press. It is a situation in which democracy prevails and in most cases citizens are involved in decision making.

Political Stability and absence of Violence (PS) has a positive sign and is statistically insignificant at 5 percent level of significance. This implies that, other factors remaining constant increasing political stability and absence of violence (PS) by one unit increases the FDI inflows by 0.5469 percent as shown in Table 4.6 below.

However, its influence in attracting FDI inflow in Tanzania is statistically insignificant. Actually, in long run and short run political stability and absence of violence (PS) gives similar results that are positive but statistically insignificant. In order to increase the FDI inflow positively and significantly, then political stability and absence of violence (PS) should be upheld and enhanced tremendously in the country.

Moreover, error term (EC_t-1) found with expected negative sign (-0.911184) and statistically significant at 5 percent level of significance. This result suggests that variables, Government Effectiveness, (GE), Regulatory Quality (RQ), Rule of Law (RL), Control of Corruption (CC), Voice and Accountability (VA) and Political Stability and absence of Violence (PS) have long run relationship and are adjusting to restore the equilibrium at the speed of 91 percent per annum. Thus, error term obtained in short run confirmed the co integration among the variables. Furthermore, this error term gives similar findings as the one obtained in Engle-Granger residuals and Johansen co integration tests as such are correct. Therefore, variables are adjusting in short run in order to capture the long run relationships (long run equilibrium) when these variables are shocked with any factor (s).The implication of the findings is that the speed of adjustment is quite sufficient as such requires minimal government intervention to restore to its equilibrium.

These empirical results lead the researcher to conclude that weakness in control of corruption, government effectiveness have negative effect on FDI inflows in Tanzania. Improving institutional factors for favorable investment environment to

attract FDI should be an important agenda in Tanzania. Table 4.6 show short run results.

Table 4.6: Short Run Coefficients Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DGE	-0.556387	1.303899	-0.426711	0.6771
DRQ	4.501375	1.346486	3.343054	0.0059
DRL	0.135295	0.344103	0.393183	0.7011
DCC	-1.683905	0.761992	-2.209873	0.0473
DVA	3.743725	1.441352	2.597370	0.0233
DPS	0.546887	0.335215	1.631450	0.1287
ECt-1	-0.911184	0.348217	-2.616713	0.0225

Source: Researcher's, 2018

4.7. Granger Causality Tests Results

The present study conducted the pair wise granger causality test at level at different lag order that is lag 2 and lag 4. Findings below showing the outcomes of the granger causality at lag 2 and lag 4 respectively.

4.7.1. Granger Causality Tests Results at Level -Lag 2

In these results the empirical findings reveal that control of corruption (CC) and political stability and absence of violence (PV) they granger-cause the FDI since their p-values (0.0007 and 0.0141) are statistically significant at 5 percent level of significance. But FDI does not granger-cause the control of corruption (CC) and political stability and non violence (PV), since their p-values (0.3805 and 0.9100) are statistically not significant at 5 percent level of significance. Thus, from these findings it is one way direction (unidirectional) of granger causality relationship among the variables (See Table 4.7 and Table 4.11 below). Other variables like rule of law (RL), regulatory quality (RQ), government effectiveness (GE), and voice

and accountability(VA) are not granger causing FDI and FDI as well does not granger cause those variables as shown in Table 4.8, 4.9, 4.10 and 4.12.

Table 4.7: Pair wise Granger- Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
CC does Granger Cause FDI	18	13.2076	0.0007
FDI does not Granger Cause CC	18	1.04165	0.3805

Source: Researcher's, 2018

Table 4. 8: Granger Causality Test Pair wise Results at Level

Null Hypothesis	F-Statistic	Probability
RL does not Granger Cause FDI	0.94400	0.4142
FDI does not Granger Cause RL	0.83242	0.4569

Source: Researcher's, 2018

Table 4.9: Pair wise Granger Causality Test Result at Level

Null Hypothesis	Observations	F-Statistic	Probability
RQ does not Granger Cause FDI	18	1.73546	0.2148
FDI does not Granger Cause RQ	18	0.79040	0.4743

Source: Researcher's, 2018

Table 4. 10: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	Statistic	Probability
GE does not Granger cause FDI	18	0.41243	0.6704
FDI does not Granger Cause GE	18	0.46806	0.6364

Source: Researcher's, 2018

Table 4. 11: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
PS does Granger cause FDI	18	6.02654	0.0141
FDI does not Granger cause PS	18	0.09497	0.9100

Source: Researcher's, 2018

Table 4.12: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
VA does not Granger cause FDI	18	1.69311	0.2221
FDI does not Granger cause VA	18	0.26384	0.7721

Source: Researcher's, 2018

4.7.2. Pair wise Granger Causality test results at Level -Lag 4

In these results the empirical findings reveal that control of corruption(CC) and political stability and non violence (PS) granger-cause the FDI but FDI does not granger cause control of corruption, political stability and non violence (PS) since their p-values (0.0334, and 0.00017) are statistically not significant at 5 percent level of significance. Thus, from these findings it is one way direction (unidirectional) of granger causality relationship among the variables. (See Table 4.13 and Table 4.17). Other variables like rule of law (RL),regulatory quality (RQ), government effectiveness (GE) and voice and accountability (VA) do not granger cause FDI and FDI as well does not granger cause those variables as shown in the Table 4.14, 4.15, 4.16, and 4.8.

Table 4. 13: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
CC does Granger Cause FDI	16	4.90649	0.0334
FDI does not Granger cause CC	16	0.80267	0.5604

Source: Researcher's, 2018

Table 4. 14: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
RL does not Granger cause FDI	16	0.40389	0.8007
FDI does not Granger cause RL	16	2.16968	0.1747

Source: Researcher's, 2018

Table 4. 15: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
RQ does not Granger Cause FDI	16	1.74114	0.2448
FDI does not Granger Cause RQ	16	0.64373	0.6486

Source: Researcher's, 2018

Table 4.16: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
GE does not Granger Cause FDI	16	1.67682	0.2582
FDI does not Granger Cause GE	16	1.41211	0.3232

Source: Researcher's, 2018

Table 4. 17: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	F-Statistic	Probability
PV does Granger Cause FDI	16	14.4614	0.0017
FDI does not Granger Cause PV	16	0.30060	0.8688

Source: Researcher's, 2018

Table 4. 18: Pair wise Granger Causality Test Results at Level

Null Hypothesis	Observations	Statistic	Probability
VA does not Granger Cause FDI	16	1.49093	0.3020
FDI does not Granger Cause VA	16	0.33225	0.8481

Source: Researcher's, 2018

4.7.3. Pair wise Granger Causality Test Results at Short Run-Lag 2

In these results the empirical findings reveal that control of corruption (CC) granger-cause the FDI but FDI does not granger because the control of corruption since its p-value (0.0189) is statistically not significant at 5 percent level of significance. Thus,

from these findings it is one way direction (unidirectional) of granger causality relationship among the variables. See the Table 4.19 below. Other variables namely rule of law (RL), regulatory quality (RQ), government effectiveness (GE), Control of Corruption (CC), political stability and non violence (PV) and voice and accountability (VA) do not granger-cause FDI and FDI as well does not granger cause those variables as shown in Tables 4.20, 4.21, 4.22, 4.23, 4.24, and 4.25.

Table 4.19: Pair wise Granger Causality Test Results at Short Run

Null Hypothesis	Observations	F-Statistic	Probability
CC does Granger Cause FDI	17	5.62918	0.0189
FDI does not Granger Cause CC	17	0.92333	0.4237

Source: Researcher's, 2018

Table 4. 20: Pair wise Granger Causality Test results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
RL does not Granger Cause FDI	17	0.75048	0.4931
FDI does not Granger Cause RL	17	1.18443	0.3393

Source: Researcher's, 2018

Table 4. 21: Pair wise Granger Causality Test results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
RQ does not Granger Cause FDI	17	0.08826	0.916I
FDI does not Granger Cause RQ	17	1.23994	0.3240

Source: Researcher's, 2018

Table 4. 22: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
GE does not Granger- Cause FDI	17	1.16878	0.3437
FDI does not Granger- Cause GE	17	0.21512	0.8095

Source: Researcher's, 2018

Table 4. 23: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
PSV does not Granger- Cause FDI	17	1.97683	0.1811
FDI does not Granger- Cause PV	17	0.97831	0.4040

Source: Researcher's, 2018

Table 4. 24: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
VA does not Granger- Cause FDI	17	0.35044	0.7113
FDI does not Granger –Cause VA	17	0.19402	0.8262

Source: Researcher's, 2018

4.7.4. Pair wise Granger Causality Test Results at Short Run-Lag 4

In this analysis the empirical findings reveal that political stability and absence of violence (PS) granger-cause foreign direct investment (FDI) since its p-value (0.0208) is statistically significant at 5 percent level of significance. But FDI does not granger cause the political stability and absence of violence (PS) Thus, from these findings it is one way direction (unidirectional) of granger-causality relationship among the variables running from PV to FDI. See Table 4.29 below. Other variables namely, control of corruption (CC), rule of law (RL), regulatory quality (RQ), government effectiveness (GE) and voice and accountability (VA) do not granger-causing FDI and FDI as well does not granger-cause those variables as shown in Tables, 4.25 4.26, 4.27, 4.28, 4.30.

Table 4. 25: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
CC does not Granger- Cause FDI	15	3.59797	0.0794
FDI does not Granger- Cause CC	15	0.36343	0.8268

Source: Researcher's, 2018

Table 4. 26: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probility
RL does not Granger- Cause FDI	15	0.17355	0.9441
FDI does not Granger-Cause RL	15	1.21562	0.3948

Source: Researcher's, 2018

Table 4. 27: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
RQ does not Granger-Cause FDI	15	1.18894	0.4039
FDI does not Granger –Cause RQ	15	0.50221	0.7369

Source: Researcher's, 2018

Table 4. 28: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
GE does not Granger Cause FDI	15	0.53895	0.7139
FDI does not Granger Cause GE	15	0.58018	0.6887

Source: Researcher's, 2018

Table 4.29: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
PS does Granger Cause FDI	15	6.74754	0.0208
FDI does not Granger Cause PS		0.85886	0.5380

Source: Researcher's, 2018

Table 4. 30: Pair wise Granger Causality Test Results at Short run

Null Hypothesis	Observations	F-Statistic	Probability
VA does not granger cause FDI	15	0.93636	0.5024
FDI does not granger cause VA		0.07546	0.9871

Source: Researcher's, 2018

4.8. Diagnostic Test Results

Diagnostic test is one of the set of procedures available for regression analysis which seek to assess the validity of a model in a number of different ways. The assessment might be carried out through, exploration of the model's underlying assumptions, examination of the structure of the model by taking into account formulations that have fewer, more or different explanatory variables, and also by examining a study of sub groups of observations, looking for those which are either poorly represented by the model (outliers) or which have a relatively large effect on the regression model's predictions.

Diagnostic testing is a necessary process in economic analysis, since many time series data are faced by or confronted by multicollinearity, heteroscedasticity, and serial correlation just to name few. This test is therefore crucial since it handles problems associated with time series data regression analysis. In this study the areas addressed by this test include: normality test, serial correlation test, heteroscedasticity test, and multicollinearity test.

4.8.1. Normality Test Results

The study employed the Jarque-Bera test to detect normality errors, Jarque –Bera statistic1.066673 and its p value 0.586644 is higher than 5% significant level, so the null hypothesis is not rejected, which implies that there is no normality problem, so the error terms are normally distributed (Figure: 4.1).The empirical findings are showing that there is no problem of normality since the computed probability values are statistically insignificant as such we cannot rejected the null hypothesis of no problem of normality.

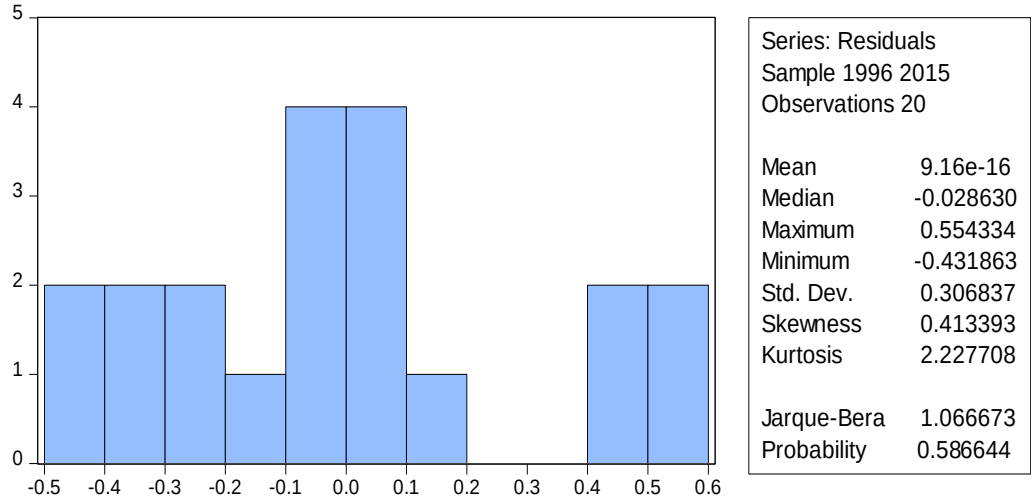

Figure 4.1: Normality Test Results
Source: Researcher's, 2018

4.8.2. Serial Correlation Results

The study employed the Breusch-Godfrey Serial Correlation LM (Lagrange Multiplier) Test to identify the issue of serial correlation and the empirical findings showing that there is no problem of serial correlation since the computed probability chi-square values (0.3795) is higher than 5% (0.05) significant level. Thus, 0.3795 is statistically insignificant as such we cannot reject the null hypothesis of no problem of serial correlation. Thus, the empirical results have no problem of serial correlation (See the Table 4.31).

Table 4. 31: Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.590092	Prob. F(2,11)	0.5709
Obs*R-squared	1.937875	Prob. Chi-Square(2)	0.3795

Source: Researcher's, 2018

The result from this study which is 0.3795 is statistically insignificant (since it is higher than 0.05) significant level as such we cannot reject null hypothesis of no problem of serial correlation.

4.8.3. Heteroscedasticity Test Results Heteroscedasticity Test Results

Normally a good regression model is free from heteroscedasticity. The test is therefore used to examine whether there is a difference in the residual variance of observation to another period of observation. The study used the Breusch-Pagan-Godfrey test to detect heteroscedasticity error, the Observed R-squared is 4.239918 and the p value 0.6442 is higher than 5% significant level, so the null hypothesis cannot be rejected proving that there is no heteroscedasticity problem. Empirical findings are showing that there is no problem of heteroscedasticity since the computed probability chi-square values are statistically insignificant as such we cannot rejected the null hypothesis of no problem of serial correlation. Therefore, the empirical results are correctly inferred (Table 4.32).

Table 4.32: Heteroskedasticity Test: Breusch-Pagan-Godfrey Results

F-statistic	0.582896	Prob. F (6,13)	0.7382
Obs*R-squared	4.239918	Prob. Chi-Square(6)	0.6442
Scaled explained ss	1.099637	Prob. Chi-Square(6)	0.9816

Source: Researcher's, 2018

4.8.4. Multicolinearity Test Results

After meeting the conditions of normality and linearity assumptions it was required to determine whether there was a similarity between the independent variables in a model. This condition as a principle it requires that, the independent variables in the model should not be a linear function of one another. The Pair Wise Correlation and Variance Inflation Factor (VIF) tests were employed to detect the existence of multicollinearity in the data. In order to detect the issue of multicollinearity we run the regression at level in all seven independent variables against FDI as dependent variable and found that six variables were statistically insignificant and that signifies

the presence of multicollinearity and only one variable was significant as shown on Table 4.33.

Table 4. 33: Regression Results With all Variables Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.672464	5.329642	0.501434	0.6251
GE	0.592964	1.240716	0.477921	0.6413
RQ	3.023853	1.427099	2.118881	0.0556
RL	0.151679	0.552442	0.274562	0.7883
CC	-1.305376	0.645608	-2.021934	0.0661
VA	3.116065	1.403694	2.219902	0.0464
PS	0.211763	0.433153	0.488887	0.6337
AL	0.135993	0.126392	1.075967	0.3031

Source: Researcher's, 2018Adjusted R-Square: 0.811955

Pair Wise Correlation Test Results: After suspecting the presence of multicollinearity then the study conducted tests using two main tests namely Pair Wise Correlation and Variance Inflation Factors (VIF). Computation findings under pair wise correlation revealed the presence of multicollinearity between VA and AL as shown in the table below. The rule of thumb states that if the coefficient is more than 0.8 then there is a problem of multicollinearity. VA has 0.805712 similar to AL which has 0.805712 as such they are above 0.8 as suggested, **(**See Table 4.34).

Table 4. 34: Pair- wise Correlation Results

Variable	GE	RQ	RL	CC	**VA**	PSV	**AL**
GE	1.000000	-0.251319	0.397098	0.151589	-0.240588	-0.342594	-0.665099
RQ	-0.251319	1.000000	-0.132562	-0.130396	-0.027064	0.017252	0.249395
RL	0.397098	-0.132562	1.000000	-0.350836	-0.451875	-0.490376	-0.536582
CC	0.151589	-0.130396	-0.350836	1.000000	0.718827	0.326513	0.357122
VA	-0.240588	-0.027064	-0.451875	0.718827	1.000000	0.438231	**0.805712**
PS	-0.342594	0.017252	-0.490376	0.326513	0.438231	1.000000	0.539863
AL	-0.665099	0.249395	-0.536582	0.357122	**0.805712**	0.539863	1.000000

Source: Researcher's Computation; 2018

Variance Inflation Factor (VIF) Test Results: Having established that variables have multicollinearity problem under pair wise correlation test and then we conducted

again the VIF test to verify the above computation findings. In fact, the variables were found to be collinear even under VIF results as shown in Table 4.12 since the VA has (11.47520) and AL has (13.54687), all have more variance inflation factor that is above10 as required by rule of thumb (See Table 4.35).

Table 4.35: VIF Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
GE	1.539376	60.80363	3.508041
RQ	2.036612	50.18231	1.402974
RL	0.305192	7.180314	1.649007
CC	0.416809	35.61758	3.388048
VA	1.970358	47.18602	**11.47520**
PS	0.187621	6.439145	1.674124
AL	0.015975	3896.823	**13.54687**

Source: Researcher's, 2018

Therefore the study concluded that VA and AL have problems of multicollinearity. And there after we estimated again and found that the problem was resolved as shown by findings under Pair Wise Correlation and Variance Inflation Factor.

Pair- Wise Correlation Test Results: Computation findings revealed that there was no problem of multicollinearity as shown in Table 4.35 since no any variable has coefficients above 0.8 as a rule of thumb suggested.

Table 4.36: Pair- wise Correlation Test Results

	GE	RQ	RL	CC	VA	PV
GE	1.000000	-0.251319	0.397098	0.151589	-0.240588	-0.342594
RQ	0.251319	1.000000	-0.132562	-0.130396	-0.027064	0.017252
RL	0.397098	-0.132562	1.000000	-0.350836	-0.451875	-0.490376
CC	0.151589	-0.130396	-0.350836	1.000000	0.718827	0.326513
VA	-0.240588	-0.027064	-0.451875	0.718827	1.000000	0.438231
PS	0.342594	0.017252	-0.490376	0.326513	0.438231	1.000000

Source: Researcher's, 2018

Variance Inflation Factor (VIF) Test Results: Similarly under VIF there is no problem of multicollinearity as shown in the table below since no any variables have VIF above 10 as rule of thumb suggested. See Table 4.37.

Table 4.37: VIF Test Results

	Coefficient	Uncentered	Centred
Variable	Variance	VIF	VIF
C	0.675043	98.11497	NA
GE	0.788140	30.75751	1.774542
RQ	1.604980	39.07286	1.092381
RL	0.307488	7.147619	1.641499
CC	0.361942	30.55827	2.906792
VA	0.494091	11.69063	2.843052
PS	0.169619	5.751535	1.495351

Source: Researcher's, 2018

NOTE: 'C' stands to signify the presence of multicollinearity.

Decision Criteria:

Under pair-wise correlation test: To determine the correlation of independent variables if it is too high or too low, this test suggests that the pair-wise or zero-order correlation coefficient between two independent variables is high if it exceeds 0.8, thus multicollinearity becomes a problem and if it is less there is no problem of multicollinearity among independent variables.

Under Variance Inflation Factor (VIF) test: The closer tolerance to 0 (zero) implies that there are problems of co linearity among independent variables; whereas closer tolerance to 1 (one) implies that independent variables are not collinear to each other. VIF values exceeding 10 signifies that variables are collinear, but if or when less than 10 then there is no problem of multicollinearity among the

independent variables (Gujarat, 2009). When the variables are highly correlated with each other their inclusion in the regression equation causes a high degree of multicollinearity. Under these circumstances, Wooldridge (2009) suggests either dropping one variable or combining them. Hailu et al., (2016) in their study they combined the two variables, however Kiangi et al., (2017) in their study they decided to retain the variable since it was a key variable in their study. Since the two variables were key in this study, the study decided to retain them. The decision has been adopted from previous studies as explained above.

4.9. Structural Break-Stability Test Results

This study estimates the stability of the coefficients between FDI and control of corruption (CC), Regulatory quality (RQ), rule of law (RL), government effectiveness (GE), political stability and non violence (PV). The stability test results reveal that all the variables their plots are within 5 percent critical bounds, implies that there is stable relationship amongst variables (dependent variables and independent variables).

The straight lines in the figures below represent critical bounds at 5 percent significant level. Therefore, structural break test in this study is important for policy formulation and forecasting purposes in FDI inflows in Tanzania. The Figure 4.2 below show the CUSUM and CUSUMSQ plot for variable under study. If the relationship between institutional variables and FDI is stable. Then institutional factors must be given proper attention or improved due to their contribution towards FDI inflows in Tanzania. See the Figures 4.2 and 4.3.

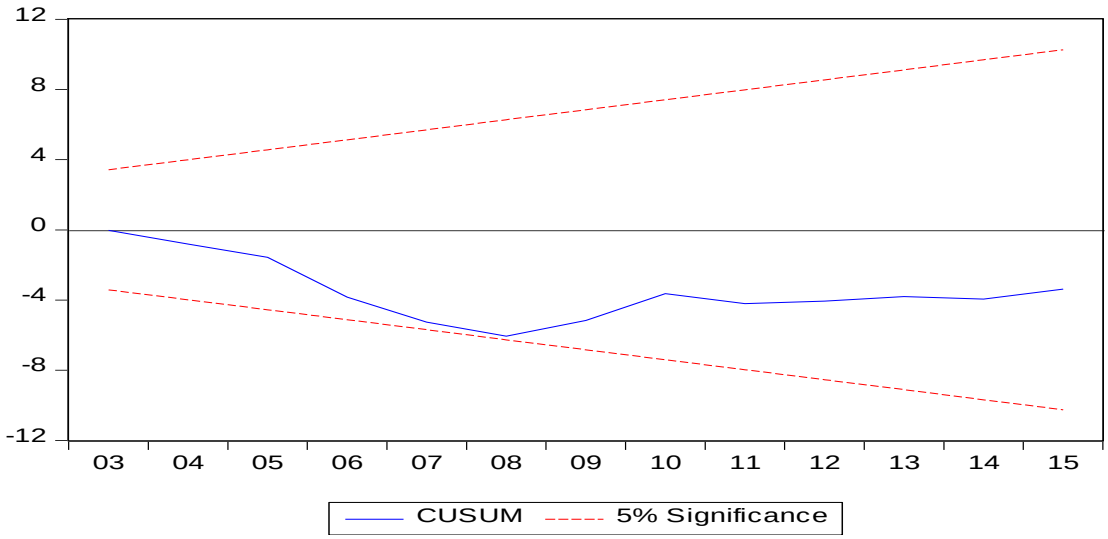

Figure 4.2: CUSUM of Squares Plot Results

Source: Researcher's, 2018

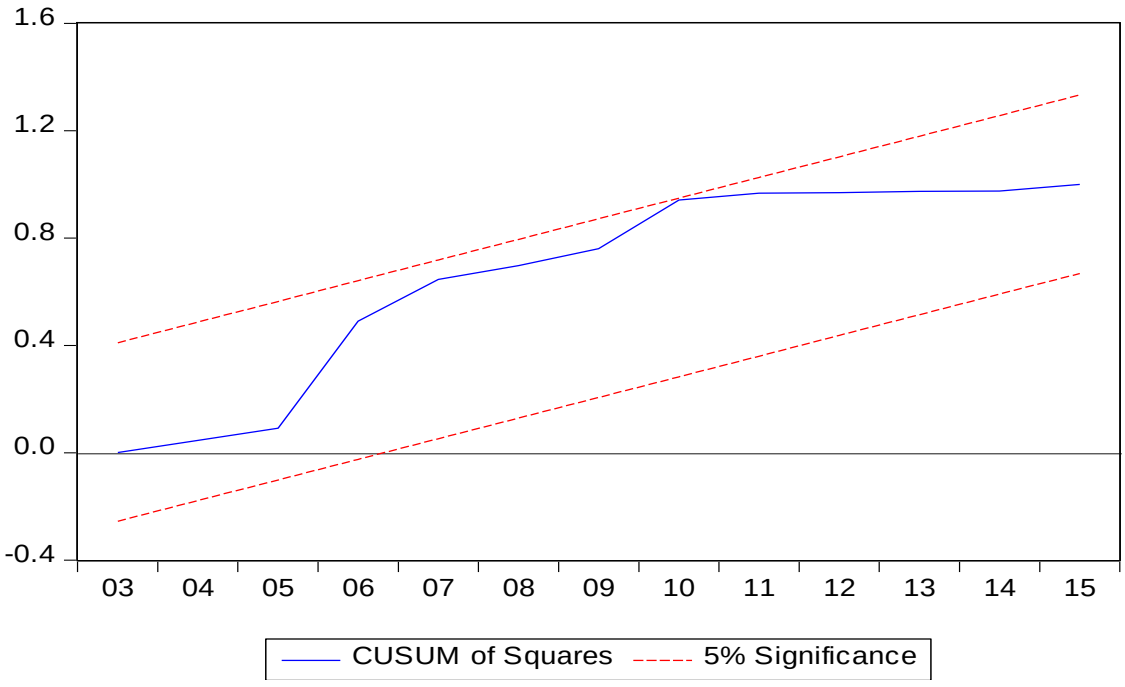

Figure 4.3: CUSUM of Squares Plot Results

Source: Researcher's, 2018

4.10. F-Test Research Hypothesis Results

The present study employed F-Test which is called joint test to test null hypothesis and the study found that the null hypothesis was rejected since computed values (14.47148) is greater than critical values (3.58) at 5 percent level of significance. Thus, all variables have contributions to the FDI inflow in Tanzania. The empirical results are well shown in Table 4.38.

Table 4.31: Hypothesis Test Results

Computed value	Values
F-statistic	14.47148

Source: researcher's computation: Compare against critical values 3.58 at 5%

Hence we reject null hypothesis and conclude that all variables (CC, RQ, RL, GE, and PSV & VA) have contributions to the dependent variable (FDI inflow in Tanzania).

4.11. Contribution of the Study

The ultimate objective of the study was to find out the relationship between institutional factors (GE, RQ, RL, CC, PS, and VA, including AL) and foreign direct investment (FDI) inflows in Tanzania. The contribution of this study includes:

4.11.1. Contribution to the Body of Knowledge and Literature

This study has been carried out amid the ongoing economic reforms in Tanzania which involved reforms and restructuring of institutions, policies, laws and regulations to pave the way which provided impetus for private sector development. However since the adoption of economic reforms almost twenty two (22) years ago,

no comprehensive study has been carried out to find out the impact of institutional factors (IF) on foreign direct investment (FDI) inflows in Tanzania.

This study is filling a gap in our understanding or knowledge by providing a more robust explanation of a phenomenon in more depth. Moreover the study has also disclosed the nature of causation (direction of relationship) between some variables by employing Granger-causality test which revealed that FDI inflows in Tanzania is granger-caused by political stability(PS) and control of corruption(CC) variables.

4.11.2. Theoretical contribution

Dunning (2006) theory of Institutional factors is a popular theory in the study of FDI inflows though it has often been criticized for being rigid. In order to cope with the phenomenon being studied this study suggests expanding the domain of a theory by adding '*access to land'* as a new construct to be included to the existing variables in the theory. The addition of the new variable affects the accepted relationship between the variables. AL variable indicates close relationship with VA variable; the two variables are co linear. Moreover, the finding for AL variable indicates statistically insignificant relationship with FDI inflows in Tanzania which implies that 'accessibility to land' in Tanzania discourages FDI inflows in the country. These observations justify the suggestion to expand the domain of a theory.

CHAPTER FIVE

CONCLUSION, RECOMMENDATION AND POLICY IMPLICATIONS

5.1. Chapter Overview

This chapter addresses three major areas, namely conclusion, recommendations, policy implications, and areas for further research.

5.2. Conclusion

The study examined "the relationship between institutional factors and foreign direct investment inflows in Tanzania". Not much was known to what extent institutional factors were related with FDI inflows in Tanzania since Tanzania adopted economic reforms in 1990s. In order to achieve the objective the study employed quantitative approach, time series data from 1996 to 2015 were used in this study and multiple linear regression analysis model was applied to analyze data. The computer software E-views version 10 software which is based on multiple linear regression estimators was employed for this task.

This conclusion is based on the findings from empirical analysis as follows: Government effectiveness variable (**GE**) has negative sign **(**-0.345463) and it is statistically insignificant at 5 percent level of significance. This implies that government effectiveness (GE) has negative relationship with FDI inflows and therefore not attractive to FDI. Regulatory quality variable **(RQ)** has positive sign (3.746330) and it is statistically significant at 5 percent level of significance, and it is attractive to FDI inflows in Tanzania. Rule of law variable **(RL)** has positive (0.111570) sign but it is statistically and insignificantly related at 5 percent level of significance. This implies that rule of law (RL) was not attractive to FDI inflows in

Tanzania. This result is also underscored by Saidi, Ochi and Ghadri (2013) who noted that sometime foreign investors are interested just in few institutional factors in their choice in investment abroad, Babayan (2015) underscored that some institutional factors are most critical for attracting FDI and some are not. This implies that some institutional factors matter more than others in attracting FDI inflows, but it all depends on the foreign investors' assessment and backgrounds (Kunsch et al., 2014).

Control of corruption variable **(CC)** has a negative sign (-1.567183) and it is statistically significant at 5percent level of significance. The result illustrates that corruption has a negative impact on FDI inflows; and therefore not attractive to FDI inflows in Tanzania. Voice and accountability (**VA**) has a positive sign (4.426003) and it is statistically significant at 5 percent level of significance. This implies that it is attractive to FDI inflow in Tanzania. Political Stability and absence of violence variable **(PS),** has a positive sign (0.364062) but it is statistically insignificant at 5 percent level of significance. This means that improving and maintaining Political Stability and absence of violence will attract more FDI inflow in the country by 0.364062 percent. However granger causality test shows that political stability and absence of violence (PS) granger-causes foreign direct investment (FDI) in Tanzania.

Access to land **(AL)** has positive sign (0.13593) but it is statistically insignificant at 5 percent level of significance. This implies that access to land is not attractive to FDI inflows in the country. In the short run coefficients, government effectiveness variable (GE) has a negative sign (-0.5563873) but statistically insignificant at 5

percent level of significance. This suggests that government effectiveness is not attractive to FDI inflow in Tanzania. It is of interest to note that both in long run and short run government effectiveness (GE) has negative influence on FDI inflows in Tanzania.

Regulatory quality (RQ) has a positive sign (4.501375) and is statistically significant at 5percent level of significance. This suggests that regulatory quality (RQ) is attractive to FDI inflows. This empirical result in short run is similar with the one obtained in long run, which showed that regulatory quality (RQ) is attracting FDI significantly in Tanzania. Rule of law (RL) has a positive sign (0.135295) but it is statistically insignificant at 5 percent level of significance. This implies that rule of law (RL) is not attractive to FDI inflow in Tanzania by 0.135295 percent.

Control of corruption (CC) has a negative sign (-1.683905) and is statistically significant at 5 percent level of significant. Control of corruption variable (CC) has similar impact both in long run and in short run, it deters FDI inflows in Tanzania. Voice and accountability (VA) has positive influence in FDI inflow both in long run and short run. In short run voice and accountability (VA) has a coefficient of 3.743725 and it is statistically significant at 5 percent level of significance. This implies that improving voice and accountability (VA) by one unit increases the FDI inflows in Tanzania by 3.7437 percent.

Political stability and absence of violence (PS) has a positive sign (0.546887) and is statistically insignificant at 5 percent level of significance. This implies that, increasing political stability and absence of violence (PS) by one unit increases the

FDI inflows by 0.5469 percent. Actually, in long run and short run political stability and absence of violence (PS) gives similar results that are positive but statistically insignificant. Moreover, error term ($EC_{t-}1$) found with expected negative sign (-0.911184) and statistically significant at 5 percent level of significance. This result suggests that variables (GE, RQ, RL, CC, VA and PS) have long run relationship and are adjusting to restore the equilibrium at the speed of 91 percent per annum. Thus, error term obtained in short run confirmed the co integration among the variables. Furthermore, this error term gives the similar findings as the one obtained in Engle-Granger residuals and Johansen co integration tests as such are correct. Therefore, variables are adjusting in short run in order to capture the long run relationships (long run equilibrium) when these variables are shocked by any factor (s).

Since the study used time series data it was imperative for the data to pass through various tests including unit root, co integration, Granger causality, serial correlation, heteroscedasticity, normality, and multicollinearity tests in the whole process of data analysis exercise. The Unit Root Test, this was carried out using Augmented Dickey Fuller test (ADF), the Phillips-Perron PP Test which is a modification of the Dickey Fuller test was applied to check and correct for autocorrelation and heteroscedasticity in the error. Unit root testing was done in order to avoid spurious regressions or meaningless results. Moreover the test for unit root was essential in order to know if variables in the study are integrated in the same order or not.

Co integration test; is another test employed by this study; the study employed two main co integration tests which are Johansen co integration test and Engle–Granger

Residuals (EG) or Augmented Engle–Granger residuals (AEG) co integration test. The empirical results revealed that variables are co integrated. The study rejected the null hypothesis which means that residuals are stationary and variables are co integrated and tau statistic is obtained and is significant. This leads to the conclusions that, the regression outputs obtained in non stationary variables are no longer spurious as such the empirical results represent the long run relationship amongst the variables. The Granger causality test results at Long- run and Short- run at Level-Lag2 and at Level-Lag 4 reveal that control of corruption (cc) and political stability and absence of violence (PS) granger- cause FDI but FDI does not granger – cause the control of corruption (cc) and political stability and non violence (PS).

Thus from these findings it is one way direction (unidirectional) of granger-causality relationship among the variables. Other variables, namely rule of law (RL), regulatory quality (RQ), government effectiveness (GE), and voice and accountability (VA) are not granger-causing FDI and FDI as well is not granger-causing those variables. Normality was tested using the Jarque- Bera test and the empirical results indicate that there is no problem of normality. Serial Correlation was tested using Breusch-Godfrey Serial Correlation LM Test; the empirical findings show that there is no problem of serial correlation. Heteroscedasticity, the study used Breusch-Pagan-Godfrey test to detect heteroscedasticity error and empirical findings indicate that there is no problem of heteroscedasticity.

Multicollinearity tests, pairwise correlation and variance inflation factor tests were used to detect multicollinearity in this analysis. A test under pair wise correlation

revealed the presence of multicollinearity problem between voice and accountability (VA) variable and accessibility to land (AL) variable. Despite the biasing effect over other variables, the study retained both variables because both were crucial to this study and in the regression of all variables (table, 4.9) AL variable had influence on FDI inflows in Tanzania. The structural break stability was tested by stability test the results of which revealed that all the variables their plots are within critical bounds implying that there is stable relationship among the variables (dependent variable and independent variables).

However these findings provide indication that in certain circumstances, some institutional factors are not as critical as others in determining investment decisions. Under similar circumstances, in the study of Yalta and Kurul (2016) concluded that not all institutional factors have significant effect on FDI inflows in developing countries. Moreover in a study of Daude and Stein (2004) they concluded that not all institutional factors have the same importance for the decision of where to invest.

5.3. Policy Implications

The government is currently struggling to attract FDI inflows in order to boost her economy the main emphasis being promoting the manufacturing sector which actually is an implementation of industrialization policy. Attractive institutional factors motivate FDI inflows in the country. These findings indicate that some institutional factors are not attractive to FDI inflows in Tanzania. The list includes government effectiveness (GE), rule of law (RL), control of corruption (CC), and access to land (AL).

In order for the government to meet its goals it must address the main issues/findings as revealed by this study as follows. Generally, measures should be adopted to regularly evaluate the performance or rather the attractiveness of the institutional factors. Moreover the government should periodically review institutional factors in order to improve their quality or attractiveness. The aim should be to create a much more competitive investment climate that will be able to attract FDI inflows in the country. In this study government effectiveness (GE), rule of law (RL), access to land (AL) and control of corruption (CC) have been revealed to be unfavorable to FDI inflows in Tanzania. Policy and Structural reforms which target improving these institutional factors for better business and investment environment in the country should be initiated and implemented. For example the current land policy and security of tenure should be reviewed to make it favorable to foreign direct investors. On the other hand appropriate strategies should be identified that will help to get rid of corruption (CC) in country.

In addition, measures should be taken to maintain the prevailing political stability and absence of violence, for attracting more FDI inflows in Tanzania. Regulatory quality **(RQ**) and Voice and accountability **(VA**), these institutional factors should be maintained in order to keep them more and more attracting to FDI inflows in Tanzania.

5.4. Recommendations to Policy Makers

The empirical findings of this study highlight the relationship between institutional factors and FDI inflows in Tanzania. These results have reflected the quality of institutional factors and their potential impact in attracting FDI inflows in Tanzania.

Evidence from findings indicates that government effectiveness (**GE**) has a negative sign which implies that government effectiveness has negative impact on FDI inflow in Tanzania.

Rule of law (**RL)** has a positive sign but it is statistically insignificant which implies that it is unfavorable to FDI inflows. Control of corruption (**CC)** has a negative sign, which is an indication that the current level of corruption deters FDI inflows. Voice and accountability (**VA**), and regulatory quality (**RQ)** have positive signs and are statistically significant which means they are attractive to FDI inflows in Tanzania. Political stability and absence of violence **(PS)** has a positive sign; and its influence on FDI inflows in Tanzania is significant as revealed by the Granger causality test. Access to land (**AC**) has a positive sign but statistically insignificant impact to FDI inflows. This means it is not attractive to FDI inflows in the country.

Regulatory quality **(RQ**) and Voice and accountability **(VA**) have positive and significant influence on FDI inflows in Tanzania. The two institutional factors should be maintained in order to keep them more and more attracting to FDI inflows in Tanzania. Control of corruption **(CC)** has significant negative influence on FDI inflows. This means the level of corruption in the country is still high. If the government does not wage sufficient effort to control, it will keep on making investment climate unattractive to FDI inflows in the country. The study suggests that the current campaign undertaken by our 5^{th} phase government under His Excellency President Dr. John P. Magufuli against corruption need to be intensified in order to stamp out the vice from our society.

Government effectiveness **(GE)** has negative influence on FDI; this implies that GE is not attractive to FDI investors. The study suggests that, GE should be improved by reducing excessive burden of bureaucracy, improving the quality of civil service, reforms in policy formulation and implementation and the government should ensure high commitment to her investment policies and there should be regular review and follow up of policies. Rule of law **(RL)** is positive but has insignificant relationship or influence on FDI inflows in Tanzania. This implies that it is not attractive to FDI inflows in the country. Improvement is required in aspects related to, among other things; property rights, quality of contracts and contract enforcement, and the courts in order to win more confidence from foreign investors.

Political stability and nonviolence (**PS**), politically Tanzania is stable and one of the factors making Tanzania attractive to FDI inflows is political stability. The causality test between political stability and FDI indicate that political stability causes FDI inflows in Tanzania. The study recommends that since political stability is a key to FDI inflow in Tanzania, the government should keep on taking measures to maintain the prevailing political stability and absence of violence, for attracting more FDI inflows in the country.

Access to land **(AL**), although land is a key factor to FDI investors', evidence from this study revealed that land policy and land tenure system were not favorable to FDI inflows in the country. However since access to land is among the key determinants of FDI inflows the process to acquire or access it by foreign investors should be improved by removing unnecessary bureaucracy. This study recommends that the current land policy and land tenure system should be reviewed to make them

attractive foreign investors.

5.5. Limitations of the Study

Some observations were missing particularly those of 1997, 1999 and 2001 years. Rolling mean or moving average technique was applied to obtain the missing observations in the time series. Rolling or Moving average (MA) is a statistical technique to get an overall idea of the trend in a data set. It is an average of any subset of numbers and it is extremely useful for forecasting long term trends. Rolling or Moving average (MA) as a statistical technique to get an overall idea of the trend in a data set was also employed in previous studies including those of; Kolkova (2018), Silva de Souza et al.,(2018), and Wang et al.,(2014).

5.6. Suggested Areas for Further Research

The scope for this study covers the period from 1996 to 2015; the study has considered two regimes. From November, 2015, Tanzania held general election which put the country under another regime or political administration with different personalities implementing the country's investment policy in the country. The change of regime might have some new shake up on the institutional factors leading to or causing different impacts on FDI inflows. Since this study used data from 1996 to 2015, another further study is recommended which will capture the data for 2016, 2017 and 2018 respectively which were not captured by this study as they were not within the scope of this study. Moreover another study is required which will consider inclusion of "access to land", and "cultural distance "as new variables to be included in the domain of Dunning's Institutional theory (2006).

This study used quantitative approach, it would be better to have another study which will employ mixed method. Based on these recommendations, further studies should be carried out to find out the contribution of institutional factors towards attracting FDI inflows in various sectors in Tanzania. Moreover, the study also suggests further studies on the relationship between "*cultural distance"* and FDI inflows. Cultural distance is defined as the study of principal differences in national cultures between the home country of MNEs and their countries of operations. It refers to the differences between national cultures. It is an important determinant of organizational actions, and performance.

Fitting to local cultural values (in the foreign market or location) which are transmitted through nations' political economy, education, religion, and language may create an additional challenges and burden for multinational corporations operating their businesses in different countries (Schwartz, 1999). It is assumed that foreign and home country cultures increase the cost of entry, decrease operational benefits, and hamper the firm's ability to transfer core competencies to foreign markets (Bartlett and Ghoshal, 1989; Palich and Gomez-Mejia, 1999). MNEs need to consider this variable before they make investment decisions or before they shift their operations to foreign market locations.

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APPENDICES

APPENDIX I: GRANGER CAUSALITY TEST RESULTS

Pairwise Granger Causality Tests

Date: 05/11/18 Time: 09:23
Sample: 1996 2015
Lags:2

Null Hypothesis:	Obs	ERV	Prob.
SER02 does not Granger Cause SER01	18	13.2076	0.0007
SER01 does not Granger Cause SER02		1.04165	0.3805

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:25
Sample: 1996 2015
Lags2

Null Hypothesis:	Obs	F-Statistic	Prob.
SER03 does not Granger Cause SER01	18	0.94400	0.4142
SER01 does not Granger Cause SER03		0.83242	0.4569

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:25
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
SER04 does not Granger Cause SER01	18	1.73546	0.2148
SER01 does not Granger Cause SER04		0.79040	0.4743

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:26
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
SER05 does not Granger Cause SER01	18	0.41243	0.6704
SER01 does not Granger Cause SER05		0.46806	0.6364

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:27
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
SER06 does not Granger Cause SER01	18	6.02654	0.0141
SER01 does not Granger Cause SER06		0.09497	0.9100

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:28
Sample: 1996 2015
Lags2

Null Hypothesis:	Obs	F-Statistic	Prob.
SER07 does not Granger Cause SER01	18	1.69311	0.2221
SER01 does not Granger Cause SER07		0.26384	0.7721

LAG: 4

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:38
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
SER02 does not Granger Cause SER01	16	4.90649	0.0334
SER01 does not Granger Cause SER02		0.80267	0.5604

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:41
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
SER03 does not Granger Cause SER01	16	0.40389	0.8007
SER01 does not Granger Cause SER03		2.16968	0.1747

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:42
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
SER04 does not Granger Cause SER01	16	1.74114	0.2448
SER01 does not Granger Cause SER04		0.64373	0.6486

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:47
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
SER05 does not Granger Cause SER01	16	1.67682	0.2582
SER01 does not Granger Cause SER05		1.41211	0.3232

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:48
Sample: 1996 2015
Lags 2

Null Hypothesis:	Obs	F-Statistic	Prob.
SER06 does not Granger Cause SER01	16	14.4614	0.0017
SER01 does not Granger Cause SER06		0.30060	0.8688

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:50
Sample: 1996 2015
Lags:2

Null Hypothesis:	Obs	F-Statistic	Prob.
SER07 does not Granger Cause SER01	16	1.49093	0.3020
SER01 does not Granger Cause SER07		0.33225	0.8481

GRANGER CAUSALITY TEST-AT SHORT RUN

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:34
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER02 does not Granger Cause DSER01	17	5.62918	0.0189
DSER01 does not Granger Cause DSER02		0.92333	0.4237

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:35
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER03 does not Granger Cause DSER01	17	0.75048	0.4931
DSER01 does not Granger Cause DSER03		1.18443	0.3393

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:35
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER04 does not Granger Cause DSER01	17	0.08826	0.9161
DSER01 does not Granger Cause DSER04		1.23994	0.3240

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:36
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER05 does not Granger Cause DSER01	17	1.16878	0.3437
DSER01 does not Granger Cause DSER05		0.21512	0.8095

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:37
Sample: 1996 2015

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER06 does not Granger Cause DSER01	17	1.97683	0.1811

DSER01 does not Granger Cause DSER06		0.97831	0.4040

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:38
Sample: 1996 2015
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER07 does not Granger Cause DSER01	17	0.35044	0.7113
DSER01 does not Granger Cause DSER07		0.19402	0.8262

LAG: 4
Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:51
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER02 does not Granger Cause DSER01	15	3.59797	0.0794
DSER01 does not Granger Cause DSER02		0.36343	0.8268

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:53
Sample: 1996 2015

Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER03 does not Granger Cause DSER01	15	0.17355	0.9441
DSER01 does not Granger Cause DSER03		1.21562	0.3948

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:54
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER04 does not Granger Cause DSER01	15	1.18894	0.4039
DSER01 does not Granger Cause DSER04		0.50221	0.7369

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:54
Sample: 1996 2015

Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER05 does not Granger Cause DSER01	15	0.53895	0.7139
DSER01 does not Granger Cause DSER05		0.58018	0.6887

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:55
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER06 does not Granger Cause DSER01	15	6.74754	0.0208
DSER01 does not Granger Cause DSER06		0.85886	0.5380

Pairwise Granger Causality Tests
Date: 05/11/18 Time: 09:56
Sample: 1996 2015
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
DSER07 does not Granger Cause DSER01	15	0.93636	0.5024
DSER01 does not Granger Cause DSER07		0.07546	0.9871

APPENDIX II: RESEARCH CLEARANCE

THE OPEN UNIVERSITY OF TANZANIA
DIRECTORATE OF RESEARCH, PUBLICATIONS, AND POSTGRADUATE STUDIES

Kawawa Road, Kinondoni Municipality,
P.O. Box 23409
Dar es Salaam, Tanzania
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Tel: 255-22-2666752/2668445
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12th April, 2018

Our Ref: PG2016

Bank of Tanzania,
P. o Box 2939,
Dar es salaam.

RE: RESEARCH CLEARANCE

The Open University of Tanzania was established by an act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No. 55 in the official Gazette. The act was however replaced by the Open University of Tanzania charter of 2005, which became operational on 1st January 2007. In line with the later, the Open University mission is to generate and apply knowledge through research.

litate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance,on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology,to both its staff and students who aring research in Tanzania. With this brief background, the purpose of this letter is to introduce to you Mr David Said M.Mfalamagoha Reg No:PG201609287 pursuing Doctor of Philosophy in Business(PhD Business).We here by grant this clearance to conduct a research titled"The *relationship between Institutional Factors and Foreign Direct Investment (FDI) inflows in Tanzania*. *"He* will collect his data in Dar es Salaam Region From 15th April 2018 to 15^^6 2018.

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O. Box 23409, Dar es Salaam. Tel:

022-2-2668820.We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

Prof. Hossea Rwegoshora
For Vice Chancellaor

APPENDIX III: INSTITUTIONAL INDICATORS DATA

WGI DATASET 2015

THE WORLDWIDE GOVERNANCE INDICATORS (WGI) DATASET

Aggregate Governance/Institutional Indicators 1996-2015

SOURCE: www.govindicators.org (World Bank)

The Worldwide Governance/Institutional Indicators constructs aggregate indicators of six broad dimensions of:

1. *Political Stability and Absence of Violence (PSV)2. Government Effectiveness (GE) 3. Regulatory Quality 4. Rule of Law (RL)5. Control of Corruption (CC)6. Voice and Accountability (VA) and 7.Access to land (AL)*

YEAR	PS index	GE index	RQ index	RL index	CC index	VA index	AL
1996	-0.71	-0.73	-0.42	-0.26	-1.03	-0.74	37.8
1997	-0.60	-0.58	-0.42	-0.28	1.00	-0.67	38.0
1998	-0.48	-0.42	-0.41	-0.29	-0.97	-0.60	38.2
1999	0.64	-0.42	-0.33	-0.34	-0.96	-0.56	38.3
2000	-0.80	-0.42	-0.25	-0.39	-0.95	-0.51	38.4
2001	-0.58	-0.41	-0.41	-0.39	-0.95	-0.46	38.5
2002	-0.35	-0.40	-0.56	-0.39	-0.94	-0.41	38.6
2003	-0.88	-0.37	-0.50	-0.29	-0.78	-0.37	38.7
2004	-0.65	-0.42	-0.44	-0.39	-0.58	-0.47	39.7
2005	-0.57	-0.39	-0.45	-0.26	-0.65	-0.29	39.9
2006	-0.33	-0.34	-0.37	-0.45	-0.22	-0.20	39.9
2007	-0.35	-0.38	-0.40	-0.36	-0.35	-0.14	40.2
2008	-0.21	-0.48	-0.50	-0.34	-0.42	-0.17	41.7
2009	0.07	-0.59	-0.42	-0.48	-0.44	-0.16	42.1
2010	0.02	-0.58	-0.41	-0.49	-0.54	-0.13	42.3
2011	-0.05	-0.63	-0.40	-0.54	-0.62	-0.14	43.2
2012	0.02	-0.68	-0.39	-0.55	-0.80	-0.18	44.8
2013	-0.17	-0.70	-0.32	-0.50	-0.81	-0.21	44.8
2014	-0.57	-0.65	-0.32	-0.41	-0.79	-0.19	44.3
2015	-0.45	-0.60	-0.36	-0.43	-0.72	-0.21	44.6

WORLD BANK DEVELOPMENT INDICATORS

Access to land indices data for Tanzania

YEAR	INDEX
1996	37.8
1997	38.0
1998	38.2
1999	38.3
2000	38.4
2001	38.5
2002	38.6
2003	38.7
2004	39.7
2005	39.9
2006	39.9
2007	40.2
2008	41.7
2009	42.1
2010	42.3
2011	43.2
2012	44.8
2013	44.8
2014	44.3
2015	44.6

SOURCE: World Bank Group (2017): IBDR, IDA, IFC, MIGA, ICSD

APPENDIX IV

FOREIGN DIRECT INVESTMENT INFLOW (DAT) DATA

REPORT ON FOREIGN INVESTMENT IN TANZANIA

FDI INFLOWS (IN MILLION USD) 1996-2015

YEAR	FDI inflows in million of USD; 1996-2015
1996	148.6
1997	157.8
1998	172.2
1999	516.7
2000	463.4
2001	467.2
2002	387.6
2003	308.2
2004	330.6
2005	935.52
2006	403.04
2007	581.55
2008	400.09
2009	953.1
2010	1813.3
2011	1229.4
2012	1799.6
2013	2130.9
2014	1673.0
2015	1605.0

SOURCE: Bank of Tanzania (BOT) 1996-2015

APPENDIX VII

DATA FOR TRADE OPENNESS AND INFRASTRUCTURE

YEAR	TRADEOPENNESS INDEX	INFRASTRUCTURE INDEX
1996		1.33
1997		2.05
1998	37.42	3.16
1999	35.38	4.65
2000	33.5	6.77
2001	38.29	8.10
2002	37.42	10.6
2003	41.37	12.28
2004	45.72	14.17
2005	39.08	15.79
2006	44.89	17.60
2007	50.70	20.53
2008	49.40	23.27
2009	43.70	25.76
2010	43.70	29.15
2011	56.8	31.73
2012	54.40	34.95
2013	48.7	37.42
2014	49.20	40.65
2015	48.00	44.00

SOURCE: World Bank :2017