

# FOREIGN DIRECT INVESTMENTS INTO EASTERN AFRICA REGION: THE GOVERNANCE PARADOX

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## Abstract

The role governance structures play in economic growth and development cannot be over emphasised. According to the world bank, indicators that define governance include; Government effectiveness, control of corruption, political stability and absence of violence/terrorism, regulatory quality, rule of law, and voice and accountability. Regrettably, there has been limited attention to how governance indicators influence the flow of foreign direct investments. Therefore, this paper presents results from an extensive study on governance and foreign direct investments into 12 eastern Africa countries for the periods 2002 through 2016. By the use of generalized least squares on panel data, the study established that governance indicators do not have any significant relationship with the flow of foreign direct investments into the eastern Africa region, but when this relationship is controlled by availability of natural resources, exports, imports and labour force, the relationship turn significant. It is therefore, obligatory for countries to ensure a stable political environment which promotes security for both life and property. Additionally, institutions that promote public service delivery should be free from political patronage, align policy making and implementation to the development of the private sector and preventing corruption of all forms.

**Key Words:** Foreign direct investments, Government effectiveness, Control of Corruption, Political stability and absence of violence/terrorism, Regulatory quality, Rule of law, Voice and accountability, Availability of natural resources, Exports, Imports, Labour force.

**JEL Classification:** E22, F21, G34, C55

## 1. INTRODUCTION

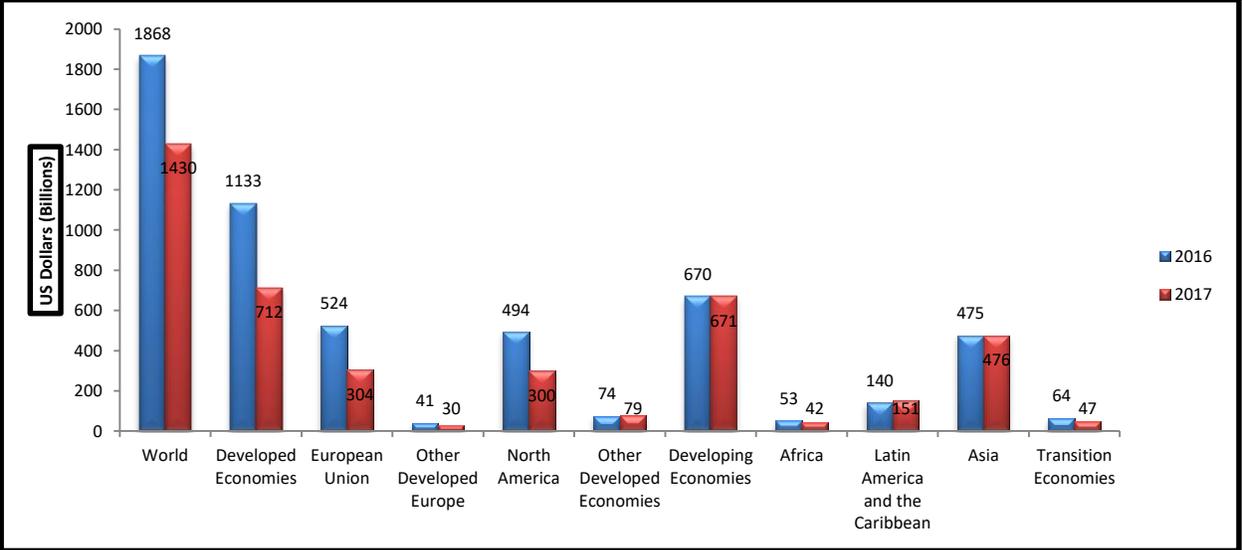
In the modern world that is characterized by globalization and digitization, the role of foreign direct investments in economic growth and development cannot be over emphasized (Adeleke, 2014). Foreign direct investments have the potential of generating employment in host countries, transferring knowledge and technology, enhancing efficiency and promoting competitiveness (KNBS, 2015). They come in to fill the investment gap and inadequacies left by domestic savings (Epaphra and Massawe, 2017). However, it is noted that choosing an appropriate location for investment needs a careful consideration of a few indicators such as political governance, availability of natural resources and availability of affordable labour (Alquist et al, 2014).

This paper appreciates that to achieve sustainable development goals such as goal number 1 (eradication of extreme poverty), goal number 8 (sustained inclusive economic growth and decent jobs for all) and goal number 9 (building of resilient infrastructure and sustained industrialization) by the year 2030, (United Nations, 2015) investments in various sectors of the economy is paramount. Further, goal 16 advocates for a peaceful and inclusive societies which promote timely and affordable access to justice and promotes building of inclusive institutions at all levels of governance. In the same breath, Africa agenda 2063, promises a thriving Africa which is anchored on inclusive growth and sustainable development (aspiration 1), and an Africa that can be envied on governance, democracy, respect for human rights, justice and the rule of law (aspiration 3). Therefore, resources are necessary to deliver both the world and Africa to their envisaged positions by the year 2030 and 2063 respectively.

This then calls for investments from domestic savings which unfortunately is too low for African countries. According to BCG (2017), sub-Saharan Africa suffers from an infrastructure deficit of about US dollars 100 billion as at 2017. Hence, foreign direct investments are necessary to supplement the deficit. Again, in the recent past, sub-Saharan Africa has seen a sluggish growth in investments from about 8 per cent recorded in 2014 to about 0.6 per cent recorded in 2015 (World Bank, 2017). This is indeed an indictment to African countries and it spells doom to the attainment of both SDGs and agenda 2063 (Bosire, 2018).

From the FDI perspective, global FDI inflows in 2017 went down by 23 per cent, affected by developed countries which saw a 37 per cent decline from 2016 figures, European Union decreased by 42 per cent and Africa went down by 21 per cent to stand at US dollars 42 billion (Figure 1). The performance for Africa is too low, taking into consideration that Africa holds more than 30 per cent of the world’s mineral reserves, more than 8 per cent of the world’s proven oil reserves, and about 7 per cent of natural gas (AFDB, 2016). This then begs for a critical look at the role of political governance in the attraction and retention of foreign direct investments.

Figure 1: FDI Inflows by Region, 2016 - 2017

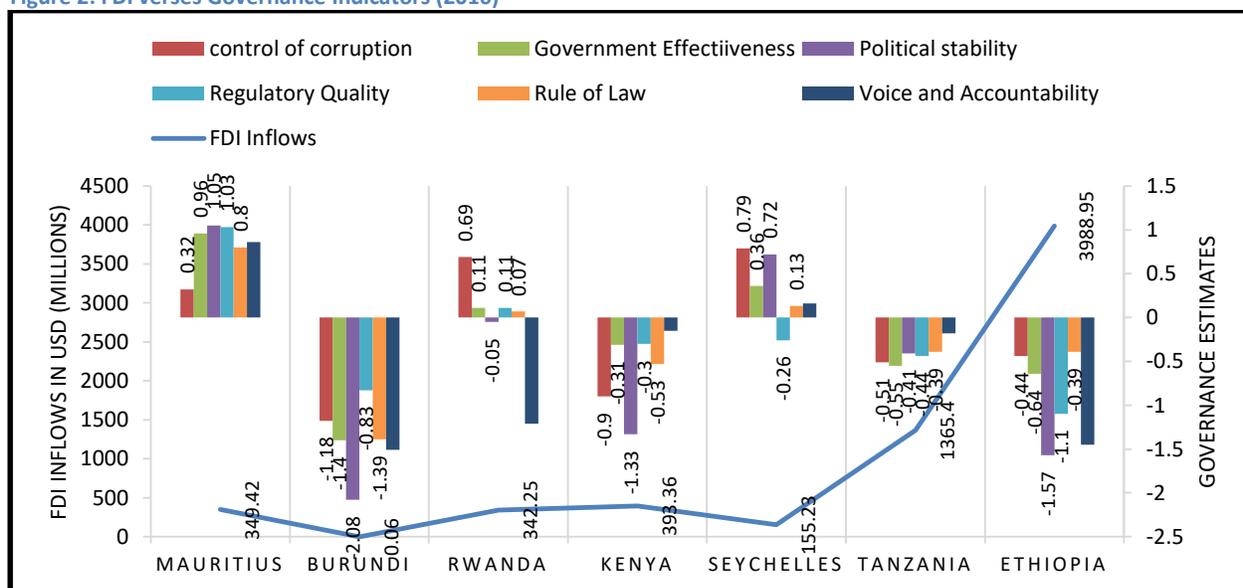


Source: UNCTAD, 2018

Notably; Africa's governance challenge which has bred high levels of corruption, weak institutional frameworks, inadequate security for both life and property and inadequate resources management has been highlighted over time and pressure to address them mounted (AFDB, 2016). This governance challenge has been accused of the continent's low economic growth and infrastructure inadequacies (Fosu, 2017), and a rethink of the governance process in Africa is inexorable.

However, raw data indicates that governance indicators have no relationship with foreign direct investment inflows (Figure 2). For example, Mauritius that prides of better governance in Africa, only managed to receive about US dollars 349.42 million of FDIs in 2016, and Seychelles that has relatively good governance received about US dollars 155.23 million of FDIs. Whereas, Ethiopia that has recorded instances of bad governance received about US dollars 3,988.95 million and Tanzania received US dollars 1,365.4 million. Nevertheless, Burundi that has had a long struggle with political strife indeed received the lowest FDIs in 2016 indicating some correlation. This therefore is a reflection that governance has to be tampered with other factors such as availability of raw materials, availability of affordable labour, ease of importation and exportation for it to affect the flow of foreign direct investments. The aim of this paper was to establish that.

Figure 2: FDI verses Governance Indicators (2016)



Source: UNCTAD, 2017 and World Bank, 2017

## 2. LITERATURE REVIEW

In the section, both theoretical literature and past empirical literature around governance and foreign direct investments is discussed.

### 2.1 Theoretical Literature

A theory is basically a concept that has been reasoned out over time and is evidentially backed up so that it can be used to explain why a selected phenomenon behave in a certain

way (Kombo and Tromp, 2009). This sub section therefore, discusses two theories, Eclectic paradigm of FDI and subsidiarity theory in governance.

### ***2.1.1 Eclectic (OLI) Paradigm***

Postulated by Dunning (1977), this theory is built on proposals by Hymer (1976) and Kindleberger (1969) but incorporates advantages from the host nation. It is anchored on market imperfections and it embraces three specific advantages; owner specific pluses such as patents, trademarks, technology, access to finance and economies of scale (Shin, 1998), which may be transmitted within trans-national corporations; locations specific pluses from host countries such as favourable government incentives, business focused regulations, natural resources and advantages that help reduce costs (Mtigwe, 2006); and internalization pluses which make the company more profitable through international production than engaging in exports and selling or leasing of its ownership advantages (Dunning, 1973; Shin 1998) hence the term OLI. In search for resources, markets and production efficiency, firms seeking international investments have to meet all the three advantages for them to remain profitable (Dunning, 1980).

### ***2.1.2 Theory of Subsidiarity in Governance***

Also referred to as multi-level governance, this theory advocates for devolution or reallocation of some authority, social and economic functions from a higher level of governance to a lower level or to non-governmental organizations for the common good (Breger, 1996). From the international arena, it is assumed that host countries will allow international companies a chance to participate in local policy formulation especially policies that affect them. This in turn helps cement bilateral relationships between these countries (Carrington et al, 2008). Multinational enterprises possess some powers traditionally arising out of their sovereign states and host countries have come to appreciate this fact.

## **2.2 Empirical Literature Review**

A study conducted on the impact of governance on foreign direct investments in sub-Saharan Africa by Adeleke (2014) established a positive and significant relationship between governance nexus and the flow of foreign direct investments in sub-Saharan Africa. Other factors that positively affect the flow of FDI into SSA include; exchange rates, money supply, human capital development and geographical location. This study used panel data for 31 sub-Saharan Africa countries for the period 1996 through 2010.

According to Goswami & Haider (2014), who looked at the possibility of political risk deterring foreign direct investments inflows, good governance encourages foreign investments. The variables under study were; market size, labor productivity, economic growth, trade openness, factor endowments, infrastructural facilities and political risk. The study concluded that, for countries to lure foreign direct investments, they need to reduce cultural conflicts and enhance good relations with their neighbors. In other words, governance failures have a way they discourage foreign investments. The study found market size; trade openness and infrastructural facilities have a positive and significant effect on the flow of FDI. On the other hand, governance failure posted controversial

results as it was found to attract FDI instead of discouraging it. This study used panel data for the periods 1984 through 2009 from 146 countries and factor analysis in arriving at the results.

Siddica & Angkur, (2017) carried out a study on how institutions affect the flow of foreign direct investments into developing nations using panel data for the periods 1990 through 2010 and a panel data regression model. GDP, Trade to GDP ratio, inflation, gross fixed capital formation, infrastructure, law and order, investment profile and bureaucratic quality were their independent variables. The study found out that GDP, gross fixed capital, trade to GDP ratio, investment profile, law and order and infrastructure to be positive and significant in explaining the flow of FDI into the developing nations. On the other hand, inflation and bureaucratic quality were negative but significant.

Hossain and Rahman (2017), carried out a research on governance and foreign direct investments in developing countries and established that improvements in voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption have abilities of positively influencing the flow of foreign direct investments into developing nations. The study sampled 80 developing nations and used data from 1998 through 2014. It used OLS method to arrive at the results.

Epaphra and Massawe, (2017) conducted a study on the effects of corruption on foreign direct investments and found out that enhancing the quality of institutions and controlling corruption, ensuring a stable political environment without violence, enhancing the quality of regulatory process, enhancing the effectiveness of the government and ensuring the rule of law is adhered to by all is a sure strategy of significantly influencing the flow of foreign direct investments. The study used panel data from the 5 east African countries from 1996 to 2015. Other variables included in the model include GDP per capita, market size, inflation, population and degree of openness. The study used fixed effects regression analysis to arrive at the results.

Bayar and Alakbarov, (2016) carried out a research on corruption and foreign direct investment inflows in emerging economies and concluded that rule of law and control of corruption indicators had no statistically significant relationship on the influence of foreign direct investment into the emerging economies. The study employed data from 2002 to 2014 and used Westerlund-Durbin-Hausman (2008) cointegration test to generate the results.

Wernick et al, (2014) did a study on the impact of governing institutions on foreign direct investment flows in African countries and established that positive changes in the quality of political institutions in Africa influenced an increase in FDI flows into nations without Oil or natural gas. On the other hand, they established a negative relationship between institutional quality and FDI flows into countries that possess oil and gas. The study employed panel data from 53 African countries from 1996 to 2006 and used an OLS with panel corrected standard errors method to generate the results.

Sobasat and Bellos (2013), studied governance and foreign direct investment in Latin America using a panel gravity model approach and found negative and significant coefficients for regulatory quality and control of corruption. Law and order had a negative but insignificant relationship. Therefore, this means that poor governance is one of the

factors associated with the attraction of high levels of foreign direct investments into Latin America. The study made use of panel data from 18 countries from 1985 to 2008. These results were consistent with the works of Bellos and Subasat 2012a and Bellos and Subasat 2012b).

### **2.3 Conceptual Framework**

This paper adopted the World Bank's definition of governance as the process through which both government and other non-governmental agencies come together to formulate and implement sound policies that are influenced and influence power within a formal and informal procedure (World Bank, 2017). Good governance entails stable and functional public institutions, credible and transparent process of making government policies that favor the development of the private sector, an effective and impartial justice system that shields both individual and property rights, and a stable political environment without violence (Hossain and Rahman, 2017). Unfortunately, Governance mechanisms in sub-Saharan Africa are weak and fragile hence the reason why the region is receiving minimal foreign direct investments than other developing countries with good governance structures.

Therefore, to effectively deal with challenges that are facing sub-Saharan Africa, such as; high rates of corruption, political instability and violence, and slowing economic growth and low development, the process of governance needs to be redefined. It is in this context that this study wished to establish the influence of governance on the flow of foreign direct investments. Governance was measured through the use of estimates generated by the World Bank through their world-wide governance indicators (WGI), which has identified six aggregate indicators on the quality of governance. They include;

**Government Effectiveness:** Include perceptions on the quality of public service in general and the extent of its autonomy from political manipulation, the value of policy making process and execution, and the integrity of the government's obligation to such policies (Kaufmann et al, 2010).

**Regulatory Quality:** Entails perceptions on the willingness of the government to make and execute sound policies and regulations that foster the development of the private sector (Kaufmann et al, 2010).

**Political Stability and Absence of Violence/Terrorism:** Includes perceptions on the likelihood of political instability and/or politically-motivated violence, including ethnic tension and terrorism and the possibility that the government may be overthrown (Kaufmann et al, 2010).

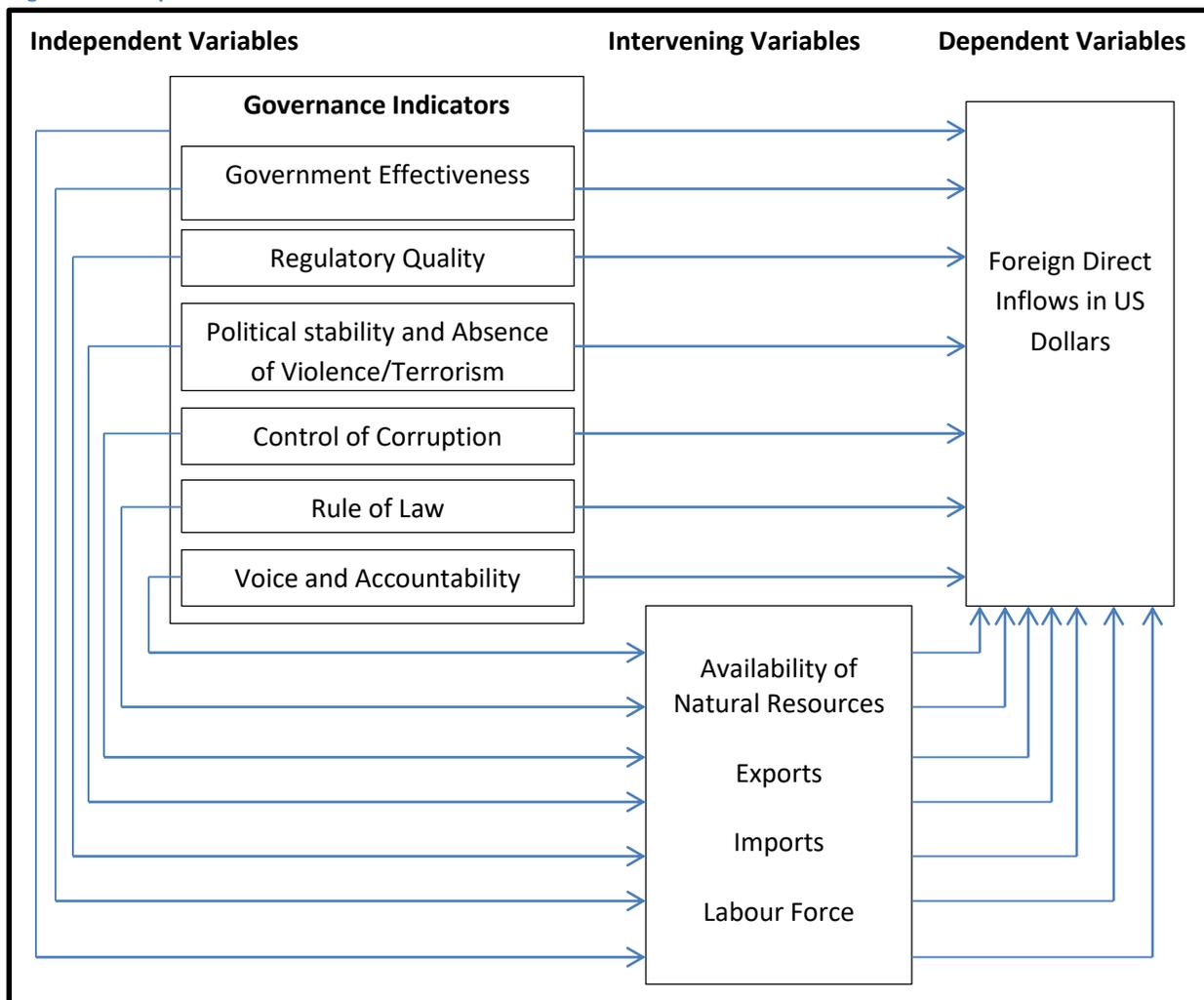
**Control of Corruption:** Includes perceptions on the extent to which individuals use public power for private gain. This comprises both petty and mega forms of corruption, as well as "capture" of the state by elites and private interests (Kaufmann et al, 2010).

**Rule of Law:** Includes perceptions on the extent to which people have confidence in and live by common instructions of society, particularly the quality of commercial contract enforcement, respect for property rights, the work and commitment of the police service, and the courts, as well as the possibility of crime and violence (Kaufmann et al, 2010).

**Voice and Accountability:** Includes perceptions on the degree to which a country protects fundamental rights and freedoms for its citizens. This includes freedom of expression, association and a free media. Additionally, the ability to participate in selecting a government democratically (Kaufmann et al, 2010).

Therefore, the study assumed a direct relationship between governance indicators and foreign direct investments as represented in figure 3 and a controlled relationship in which factors such as; availability of natural resources, exports, imports and labour force which are critical in spurring industrial development were adopted as control variables.

Figure 3: Conceptual Framework



### 3. RESEARCH METHODOLOGY

This section brings out the methodology employed so as to determine the relationship between governance indicators and foreign direct investments into the eastern Africa region.

#### 3.1 Data Sources

This study richly benefitted from secondary data generated by the World Bank and UNCTAD. Data for foreign direct investment inflows was generated from the UNCTAD database 2017, measured in US dollars at current prices in millions. Consequently, data for governance factors was generated from the world governance indicators database 2017, maintained by the World Bank measured as estimates and data for availability of natural resources, exports, imports and labour force was obtained from the world development indicators 2017, also maintained by the World Bank.

The panel contained 12 eastern Africa countries (Kenya, Tanzania, Uganda, Rwanda, Burundi, Comoros, Djibouti, Eritrea, Madagascar, Mauritius, Seychelles and Ethiopia) for the period 2002 to 2016. This period was selected due to the availability and currency of data.

#### 3.2 Data Diagnostic Tests

Before the analysis some data diagnostic tests were run to ensure the sample data was in good form for regression analysis. They include; Shapiro-Wilk test to check if the sample was drawn from a normally distributed population, Levin-Lin-Chu test to check for stationarity of data. Others include; variance inflation factors (VIF) to check for multi collinearity, Woodridge test to check for auto correlation, white's general test to check for heteroscedasticity, correlation analysis to check the degree and direction of variable association and Dumitrescu & Hurlin (2012) test to check to granger causality.

#### 3.3 Model Specification

The model was testing how governance factors influence the flow of foreign direct investments into the eastern Africa region after controlling it for availability of natural resources, exports, imports and labour force. After establishing that the data contained some traces of heteroscedasticity and random effects, the study then embraced a GLS panel data estimation technique of the following arrangements;

$$FDI = \alpha + \beta_1 GE_{it} + \beta_2 RQ_{it} + \beta_3 PSAVT_{it} + \beta_4 COC_{it} + \beta_5 VAA_{it} + \beta_6 ROL_{it} + \beta_7 ANR_{it} + \beta_8 EXP_{it} + \beta_9 IMP_{it} + \beta_{10} LABF_{it} + \varepsilon_0 \quad (1)$$

Where;

*FDI* = Foreign Direct Investment Inflows

*GE* = Government Effectiveness

*RQ = Regulatory Quality*  
*PSAVT = Political Stability and Absence of Violence/Terrorism*  
*COC = Control of Corruption*  
*VAA = Voice and Accountability*  
*ANR = Availability of Natural Resources*  
*EXP = Exports*  
*IMP = Imports*  
*LABF = Labour Force*  
 $\alpha$  = Constant associated with regression models  
 $\beta_1 - \beta_{10}$  = Coefficient estimates of independent variables  
 $\varepsilon_0$  = Error term associated with regression models  
*i* = Stands for various countries in the panel  
*t* = Stands for different time periods in the panel.

#### 4. EMPIRICAL FINDINGS

This section presents results and interpretations of data diagnostic tests and regression analysis and a discussion of the said results.

##### 4.1 Summary Statistics

To understand the features of the data set, summary statistics were computed as presented in table 1. The mean shows arithmetic averages and the standard deviation indicates the variation of the data from the mean. Minimum shows the lowest value whereas maximum show the highest value. Skewness brings out data asymmetry and kurtosis shows the distribution of the data around the mean.

Table 1: Summary Statistics Results

| Variable | Obs | Mean     | Std. Dev. | Min       | Max      | skewness   | kurtosis |
|----------|-----|----------|-----------|-----------|----------|------------|----------|
| FDI      | 178 | 392.8262 | 558.5393  | 0.0315939 | 3988.953 | 2.666185   | 13.3132  |
| COC      | 180 | -0.46871 | 0.5406319 | -1.452943 | 0.883601 | 0.7081881  | 2.474205 |
| GE       | 180 | -0.5996  | 0.6588768 | -1.775537 | 1.049441 | 0.4848051  | 2.937866 |
| PSAVT    | 180 | -0.53819 | 0.8353228 | -2.523785 | 1.118453 | 0.2502796  | 2.318398 |
| RQ       | 180 | -0.61163 | 0.6949891 | -2.24367  | 1.12727  | -0.1081974 | 3.515416 |
| ROL      | 180 | -0.54282 | 0.5992985 | -1.53741  | 1.07713  | 1.057922   | 3.841729 |
| VAA      | 180 | -0.64671 | 0.759045  | -2.226054 | 0.940896 | 0.0078683  | 2.746488 |
| ANR      | 165 | 14.71874 | 21.09525  | 0.0658137 | 81.73077 | 2.210575   | 6.795942 |
| EXP      | 163 | 2504.172 | 3165.874  | 38.527    | 11108.97 | 1.40861    | 3.844833 |
| IMP      | 163 | 4013.724 | 5084.899  | 67.29858  | 20543    | 1.541619   | 4.433521 |
| LABF     | 165 | 10192.73 | 11775.61  | 61.46341  | 49342.62 | 1.520299   | 4.797526 |

##### 4.2 Shapiro Wilk Test for Normal Data

*H<sub>0</sub>: Sample was not drawn from a normally distributed data*  
*H<sub>a</sub>: Sample was drawn from normally distributed data*

With the aid of Shapiro Wilk Test, the data set was subjected to normality checks as revealed in table 2. The study rejected the alternative hypothesis at 0.01 level and failed to reject the null hypothesis for FDI ( $W = 0.7013$ ,  $p = < 0.01$ ), COC ( $W = 0.9212$ ,  $p = < 0.01$ ), GE ( $W = 0.9650$ ,  $p = < 0.01$ ), PSAVT ( $W = 0.9692$ ,  $p = < 0.01$ ), RQ ( $W = 0.9651$ ,  $p = < 0.01$ ), ROL ( $W = 0.9069$ ,  $p = < 0.01$ ) VAA ( $W = 0.9677$ ,  $p = < 0.01$ ), ANR ( $W = 0.6404$ ,  $p = < 0.01$ ) EXP ( $W = 0.7655$ ,  $p = < 0.05$ ) IMP ( $W = 0.7615$ ,  $p = < 0.01$ ) and LABF ( $W = 0.8064$ ,  $p = < 0.01$ ). We therefore, conclude that the sample was not drawn from a normally distributed data. That notwithstanding, the study was anchored on the findings of Mugenda and Mugenda (2003), who concluded that the normality condition may be desecrated without grave ramifications on the precision of the results.

**Table 2: Shapiro Wilk Test Results**

| Variable | Obs | W       | V      | z     | Prob>z  |
|----------|-----|---------|--------|-------|---------|
| FDI      | 178 | 0.70128 | 40.277 | 8.453 | 0.00000 |
| COC      | 180 | 0.92122 | 10.725 | 5.43  | 0.00000 |
| GE       | 180 | 0.96502 | 4.763  | 3.572 | 0.00018 |
| PSAVT    | 180 | 0.96921 | 4.192  | 3.28  | 0.00052 |
| RQ       | 180 | 0.96506 | 4.757  | 3.569 | 0.00018 |
| ROL      | 180 | 0.90687 | 12.68  | 5.813 | 0.00000 |
| VAA      | 180 | 0.96765 | 4.404  | 3.393 | 0.00035 |
| ANR      | 165 | 0.64044 | 45.408 | 8.693 | 0.00000 |
| EXP      | 163 | 0.76546 | 29.309 | 7.691 | 0.00000 |
| IMP      | 163 | 0.76146 | 29.809 | 7.73  | 0.00000 |
| LABF     | 165 | 0.80636 | 24.455 | 7.283 | 0.00000 |

### 4.3 Unit Root Test for Non-Stationarity

*H<sub>0</sub>: Sample data contains a unit root (non-stationery)*

*H<sub>a</sub>: Sample data does not contain any unit root (stationery)*

Panel data contain properties for both time series and cross section. Conventionally, time series data is either stationery (mean and variance lacks seasonality, i.e. remain constant over time) or non-stationery. Non stationarity of data causes unpredictability and may produce spurious results (Bosire, 2018).

This study employed Levin-Lin-Chu test as set out in table 3, and five variables were stationery at level i.e. GE (adjusted  $t = -1.7278$ ,  $p = 0.042$ ) significant at 5% level, PSVAT (adjusted  $t = -2.8395$ ,  $p = 0.0023$ ) significant at 1% level, ROL (adjusted  $t = -3.6815$ ,  $p = 0.0001$ ) significant at 1% level, VAA (adjusted  $t = -3.1592$ ,  $p = 0.0008$ ) significant at 1% level, IMP (adjusted  $t = -2.2941$ ,  $p = 0.0109$ ) significant at 5% level. This therefore led to the study rejecting the null hypothesis and concluding that the sample data for the five variables was stationery.

However, the study failed to reject the null hypothesis for six variables (FDI, COC, RQ, ANR, EXP, and LABF) and concluded that they were non-stationary. This was remedied by first differencing which turned them stationary i.e. FDI (adjusted  $t = -3.4612$ ,  $p = 0.0003$ ) significant at 1% level, COC (adjusted  $t = -4.8224$ ,  $p = < 0.01$ ) significant at 1% level, RQ (adjusted  $t = -4.1823$ ,  $p = < 0.01$ ) significant at 1% level, ANR (adjusted  $t = -3.1362$ ,  $p = 0.0009$ ) significant at 1% level, EXP (adjusted  $t = -1.8308$ ,  $p = 0.0336$ ) significant at 5% level, and LABF (adjusted  $t = -16.9085$ ,  $p = < 0.01$ ) significant at 1% level.

**Table 3: Levin-Lin-Chu Unit root Test Results**

| variable | Differencing | adjusted t* | p-value |
|----------|--------------|-------------|---------|
| FDI      | level        | -0.8227     | 0.2052  |
|          | d_1          | -3.4612     | 0.0003  |
| COC      | level        | 0.6293      | 0.7354  |
|          | d_1          | -4.8224     | 0.0000  |
| GE       | level        | -1.7278     | 0.042   |
| PSAVT    | level        | -2.8395     | 0.0023  |
| RQ       | level        | -0.8555     | 0.1961  |
|          | d_1          | -4.1823     | 0.0000  |
| ROL      | level        | -3.6815     | 0.0001  |
| VAA      | level        | -3.1592     | 0.0008  |
| ANR      | level        | 4.2513      | 1.0000  |
|          | d_1          | -3.1363     | 0.0009  |
| EXP      | level        | -0.901      | 0.1838  |
|          | d_1          | -1.8308     | 0.0336  |
| IMP      | level        | -2.2941     | 0.0109  |
| LABF     | level        | 3.5673      | 0.9998  |
|          | d_1          | -16.9085    | 0.000   |

#### 4.4 Test for Multi-Collinearity

The study made use of Variance inflation factors (VIF) to test for multi collinearity. It has been accepted that if VIFs lie between 1 and 10, then they can be acceptable as lacking multi collinearity. However, VIFs less than 1 and above 10 present a multi- collinearity challenge, (Myers, 1990). Test result from table 5; indicate two predictors (ROL and GE) were collinear with VIFs above 10, (17.91 and 10.24 respectively).

**Table 4: VIF Test for Multi collinearity Results**

| Variable | VIF   | 1/VIF    |
|----------|-------|----------|
| ROL      | 17.91 | 0.05584  |
| GE       | 10.24 | 0.09769  |
| IMP      | 8.17  | 0.122385 |
| COC      | 5.69  | 0.175602 |
| PSAVT    | 5.51  | 0.18136  |
| EXP      | 5.48  | 0.182442 |
| RQ       | 5.26  | 0.189971 |
| VAA      | 3.97  | 0.251584 |
| LABF     | 3.73  | 0.268104 |
| ANR      | 2.6   | 0.384016 |
| Mean VIF | 6.86  |          |

This then, necessitated the study to drop of one of the predictors (ROL) to obtain the results as presented in table 6 with all VIFs below 10. With a mean VIF of 5.05, we therefore concluded that the sample data was free of multi collinearity.

**Table 5: VIF Test Results after Dropping ROL**

| Variable | VIF  | 1/VIF    |
|----------|------|----------|
| GE       | 8.27 | 0.120905 |
| IMP      | 8.17 | 0.122468 |
| EXP      | 5.46 | 0.183207 |
| COC      | 5.19 | 0.19286  |
| RQ       | 4.99 | 0.200476 |
| PSAVT    | 4.36 | 0.229506 |
| LABF     | 3.49 | 0.286507 |
| VAA      | 3.41 | 0.293226 |
| ANR      | 2.1  | 0.476416 |
| Mean VIF | 5.05 |          |

#### 4.5 Correlation Analysis

Correlation analysis is beneficial to ascertaining the level of association between various predictors under study. In this regard, the degree of association and the direction of association i.e. whether positive or negative can be obtained (Bosire, 2018). This study made use of Pearson product moment correlation at a 0.05 significance level and obtained results as presented in table 7.

Evidently, most variables under study are significantly and positively associated with each other, with a few exhibiting a significantly, negative association. For example, there is a positively significant relationship between FDI and RQ ( $p = 0.0111$ ) with a 19% correlation, FDI and EXP ( $p < 0.01$ ) with 65% correlation, FDI and LABF ( $P < 0.01$ ) with 64% correlation, GE and RQ ( $p < 0.01$ ) with 83% correlation, GE and PSAVT ( $p =$

< 0.01) with 60% correlation, GE and COC (p = < 0.01) with 74% correlation, GE and VAA (p = < 0.01) with 63% correlation, GE and ANR (p = < 0.01) with 55% correlation, RQ and PSAVT (p = < 0.01) with 48% correlation, RQ and COC (p = < 0.01) with 48% correlation, RQ and VAA (p = < 0.01) with 74% correlation, RQ and ANR (p = < 0.01) with 53% correlation, RQ and EXP (p = 0.0247) with 17% correlation. Others are, PSAVT and COC (p = < 0.01) with 76% correlation, PSAVT and VAA (p = < 0.01) with 58% correlation, PSAVT and ANR (p = 0.0002) with 27% correlation, COC and VAA (p = < 0.01) with 37% correlation, COC and ANR (p = < 0.01) with 32% correlation, VAA and ANR (p = < 0.01) with 50% correlation, VAA and EXP (p = 0.0385) with 15% correlation, EXP and IMP (p = < 0.01) with 87% correlation, EXP and LABF (p = < 0.01) with 61% correlation, and IMP and LABF (p = < 0.01) with 79% correlation.

On the other hand, the following variables show a significantly, negative relationship, PSAVT and EXP (p = 0.0011) with -24% correlation, PSAVT and IMP (p = <0.01) with -35% correlation, PSAVT and LABF (p = < 0.01) with 48% correlation, COC and EXP (p = <0.01) with -31% correlation, COC and IMP (p = 0.0001) with -28% correlation, COC and LABF (p = 0.0001) with -29% correlation, VAA and LABF (p = 0.0461) with -15% correlation, ANR and EXP (p = 0.0044) with -21% correlation, and ANR and IMP (p = 0.0155) with -18% correlation. Therefore, it can be concluded that PSAVT has the most correlation with other variables.

**Table 6: Correlation Test Results**

|              | FDI     | GE      | RQ      | PSAVT    | COC      | VAA      | ANR      | EXP     | IMP     | LABF   |
|--------------|---------|---------|---------|----------|----------|----------|----------|---------|---------|--------|
| <b>FDI</b>   | 1.0000  |         |         |          |          |          |          |         |         |        |
| <b>GE</b>    | 0.1150  | 1.0000  |         |          |          |          |          |         |         |        |
|              | 0.1244  |         |         |          |          |          |          |         |         |        |
| <b>RQ</b>    | 0.1889* | 0.8262* | 1.0000  |          |          |          |          |         |         |        |
|              | 0.0111  | 0.0000  |         |          |          |          |          |         |         |        |
| <b>PSAVT</b> | -0.1212 | 0.5979* | 0.4779* | 1.0000   |          |          |          |         |         |        |
|              | 0.1051  | 0.0000  | 0.0000  |          |          |          |          |         |         |        |
| <b>COC</b>   | -0.1001 | 0.7436* | 0.4832* | 0.7611*  | 1.0000   |          |          |         |         |        |
|              | 0.181   | 0.0000  | 0.0000  | 0.0000   |          |          |          |         |         |        |
| <b>VAA</b>   | 0.1073  | 0.6270* | 0.7367* | 0.5798*  | 0.3678*  | 1.0000   |          |         |         |        |
|              | 0.1517  | 0.0000  | 0.0000  | 0.0000   | 0.0000   |          |          |         |         |        |
| <b>ANR</b>   | -0.0595 | 0.5489* | 0.5314* | 0.2726*  | 0.3180*  | 0.5035*  | 1.0000   |         |         |        |
|              | 0.4277  | 0.0000  | 0.0000  | 0.0002   | 0.0000   | 0.0000   |          |         |         |        |
| <b>EXP</b>   | 0.6532* | 0.0151  | 0.1674* | -0.2407* | -0.3073* | 0.1544*  | -0.2114* | 1.0000  |         |        |
|              | 0.0000  | 0.8409  | 0.0247  | 0.0011   | 0.0000   | 0.0385   | 0.0044   |         |         |        |
| <b>IMP</b>   | 0.7515  | 0.0639  | 0.1191  | -0.3498* | -0.2831* | 0.0505   | -0.1802* | 0.8712* | 1.0000  |        |
|              | 0.0000  | 0.3939  | 0.1112  | 0.0000   | 0.0001   | 0.5009   | 0.0155   | 0.0000  |         |        |
| <b>LABF</b>  | 0.6378* | -0.0154 | -0.0398 | -0.4750* | -0.2850* | -0.1489* | -0.0846  | 0.6131* | 0.7880* | 1.0000 |
|              | 0.0000  | 0.8372  | 0.5957  | 0.0000   | 0.0001   | 0.0461   | 0.2588   | 0.0000  | 0.0000  |        |

#### 4.6 Test for Auto-Correlation

After establishing that variables in the sample data were correlated with each, the study sought to find out whether auto-correlation existed. Thus, using Wooldridge test for auto-correlation, table 8 was generated. The study implied a null hypothesis that the test data had no first order auto correlation. This was proved with the test results ( $p = 0.2256$ ) which is not significant at 0.05 level; hence conclude that the test data does not contain first order auto correlation.

**Table 7: Wooldridge Test for Autocorrelation Results**

| <b>Wooldridge test for autocorrelation in panel data</b> |               |
|--|---------------|
| <b>H0: no first order autocorrelation</b>                |               |
| <b>F( 1, 11) =</b>                                       | <b>1.648</b>  |
| <b>Prob &gt; F =</b>                                     | <b>0.2256</b> |

#### **4.7 Test for Heteroscedasticity**

Using Whites general test for heteroscedasticity, table 9 was generated. The study made an assumption that the data was homoscedastic which was confirmed by the test results in table 9, [ $\chi^2 (54) = 159.01, p = < 0.01$ ] which is significant at 1% level hence reject the null hypothesis and conclude that the test data has unrestricted heteroscedasticity.

Heteroscedasticity is a serious problem in statistical analysis of panel data because it can invalidate tests of significance that assume that modelling errors are uncorrelated and uniform thus their variances do not vary with the effects being modeled (Goldberger, 1964). This means that in as much as OLS estimators may be unbiased in the presence of heteroscedasticity, they may not be efficient since variance and covariance are underestimated. Therefore, to remedy this problem, the study adopted a Generalized Least Squares (GLS) regression model which has the benefit of fixing heteroscedasticity problems (Athanasoglou et al, 2006).

**Table 8: Whites General Test Results**

| <b>Cameron &amp; Trivedi’s decomposition of IM-test</b> |             |           |          |
|---|-------------|-----------|----------|
| <b>Ho: homoscedasticity</b>                             |             |           |          |
| <b>Ha: unrestricted heteroscedasticity</b>              |             |           |          |
| <b>Source</b>   | <b>chi2</b> | <b>df</b> | <b>p</b> |
| <b>Heteroscedasticity</b>                               | 159.01      | 54        | 0.0000   |
| <b>Skewness</b>   | 18.59       | 9         | 0.0289   |
| <b>Kurtosis</b>   | 1.34        | 1         | 0.2469   |
| <b>Total</b>  | 178.95      | 64        | 0.0000   |

#### **4.8 Granger Non-Causality Tests**

With panel data, some time series classical issues such as non-causality may arise hence the procedure advanced by Dumitrescu and Hurlin, (2012) to check for granger causality in panel data. Test results from table 10, rejects the null hypothesis for COC – FDI (p-value = 0.004), FDI – GE (p-value = 0.0019), PSAVT – FDI (p-value = 0.0132),

RQ – FDI (p-value = 0.0262), VAA – FDI (p-value = < 0.01), FDI – EXP (p-value = 0.0065) and FDI – IMP (p-value = < 0.01) and concludes that causality from FDI to COC, GE to FDI, FDI to PSAVT, FDI to RQ, FDI to VAA, EXP to FDI, and IMP to FDI exists.

Table 9: Dumitrescu & Hurlin (2012) Test Results

| Dumitrescu & Hurlin (2012) Granger non-causality tests          |        |        |         |             |         |
|---|--------|--------|---------|-------------|---------|
| Ho: Y does not Granger-cause X                                  |        |        |         |             |         |
| Ha: Y does Granger-cause X for at least one panel var (country) |        |        |         |             |         |
|   | W-bar  | Z-bar  | p-value | Z-bar tilde | p-value |
| COC - FDI   | 2.1758 | 2.88   | 0.004   | 1.5989      | 0.1099  |
| FDI - GE  | 2.2649 | 3.0983 | 0.0019  | 1.7483      | 0.0804  |
| PSAVT - FDI   | 2.0117 | 2.4781 | 0.0132  | 1.3238      | 0.1856  |
| RQ - FDI  | 1.9074 | 2.2227 | 0.0262  | 1.1489      | 0.2506  |
| VAA - FDI   | 3.8568 | 6.9977 | 0.0000  | 4.4176      | 0.0000  |
| FDI - EXP   | 2.112  | 2.7238 | 0.0065  | 1.4919      | 0.1357  |
| FDI - IMP   | 2.768  | 4.3307 | 0.0000  | 2.5919      | 0.0095  |

## 4.9 Regression Analysis

In order to establish the relationship between governance and foreign direct investment flows into the eastern Africa region, and also fix heteroscedasticity problems the study employed a GLS model as presented below.

### 4.9.1 Relationship between FDI and Government Effectiveness

As shown by model 1 in table 11, GLS regression between foreign direct investment inflows and Government effectiveness was run and the results indicate [Wald  $\chi^2(2) = 0.03$ ,  $p = 0.9837$ ] which is not significant at 0.05 level. The coefficient of determination ( $R^2 = 0.0132$ ) shows that Government effectiveness was able to explain just about 1 per cent of FDI variations, which is an extremely weak relationship. The coefficients of Government effectiveness indicate a positive and non-significant relationship (23.0778,  $p = 0.856$ ). Therefore, the study concludes that Government effectiveness on its own does not significantly influence the flow of foreign direct investments into the eastern Africa region. Equation 2, was thus fitted.

$$FDI = 396.4979 + 23.0778GE \quad (2)$$

Sig = (0.856)  
 $R^2 = 0.0132$   
Wald  $\chi^2(2) = 0.03$ ,  $p = 0.9837$

Where;

*FDI* = Foreign Direct Investment Inflows

*GE* = Government Effectiveness

Model 2 in table 11, is a controlled version of the interaction between foreign direct investments and government effectiveness. It indicates [Wald  $\chi^2(6) = 105.54, p < 0.01$ ] which is significant at 0.01 level. The coefficient of determination ( $R^2 = 0.5667$ ) indicates a 56 per cent possibility of government effectiveness explaining the variations in FDI inflows. The coefficients for Government effectiveness, availability of natural resources and labour force (46.1511,  $p = 0.560$ ; 0.1113,  $p = 0.965$  and 0.0136,  $p = 0.535$  respectively) were positive and non-significant but those of Imports (0.0671,  $p < 0.01$ ) were positive and significant. Exports produced (-0.0067,  $p = 0.772$ ) negative and non-significant coefficients. Therefore, we conclude that government effectiveness in the presence of natural resources, adequate labour force, exports and imports has the ability of influencing the flow of foreign direct investments positively and significantly. Equation 3 was consequently fitted.

$$FDI = 59.4383 + 46.1511GE + 0.1113ANR - 0.0067EXP + 0.0671IMP + 0.0136LABF \quad (3)$$

Sig = (0.560) (0.965) (0.772) (< 0.01) (0.535)

$R^2 = 0.5667$

Wald  $\chi^2(6) = 105.54, p < 0.01$

Where;

*FDI = Foreign direct investment inflows*

*GE = Government Effectiveness*

*ANR = Availability of natural resources*

*EXP = Exports*

*IMP = Imports*

*LABF = Labour force*

#### 4.9.2 Relationship between FDI and Regulatory Quality

This relationship is explained by both model 3 and 4 as exhibited in table 11. According to the results from model 3, [Wald  $\chi^2(2) = 0.03, p = 0.9842$ ] which is not significant at 0.05 level. The coefficient of determination ( $R^2 = 0.0357$ ) leaves little to yearn for. The coefficients of regulatory quality (20.5584,  $p = 0.858$ ) shows a positive and non-significant relationship. Equation 4, was then fitted.

$$FDI = 394.9643 + 20.5584RQ \quad (4)$$

Sig = (0.858)

$R^2 = 0.0357$

Wald  $\chi^2(2) = 0.03, p = 0.9842$

Where;

*FDI = Foreign Direct Investment Inflows*

*RQ = Regulatory Quality*

Models 4 is a controlled version of the interaction between foreign direct investments and regulatory quality and the results indicate [Wald  $\chi^2(6) = 105.88, p < 0.01$ ] which is significant a 0.01 level. The coefficient of determination ( $R^2 = 0.5718$ ) indicates the possibility of regulatory quality explaining about 57 per cent of the variations in foreign direct investments into eastern Africa region. The coefficients of imports and labour force (0.0619,  $p = 0.001$  and 0.0160,  $p = 0.010$  respectively) were positive and significant

indicating they positively and significantly influence the flow of foreign direct investments into the eastern Africa region. Regulatory quality (84.0109,  $p = 0.264$ ) was positive but not significant. On the other hand, availability of natural resources and exports produced (-0.5792,  $p = 0.818$  and -0.0094,  $p = 0.687$  respectively) negative coefficients, an indication that they negatively influence the flow of foreign direct investments into the eastern Africa region. Equation 5, was hence fitted.

$$FDI = 94.7101 + 84.0109RQ - 0.5792ANR - 0.0094EXP + 0.0619IMP + 0.0160LABF \quad (5)$$

Sig = (0.264) (0.818) (0.687) (0.001) (0.010)

$R^2 = 0.5718$

Wald  $\chi^2(6) = 105.88$ ,  $p = < 0.01$

Where;

*FDI = Foreign Direct Investment Inflows*

*RQ = Regulatory Quality*

*ANR = Availability of Natural Resources*

*EXP = Exports*

*IMP = Imports*

*LABF = Labour Force*

#### **4.9.3 Relationship Between FDI and Political Stability and Absence of Violence/Terrorism**

This relationship is examined through model 5 and 6 in table 11. According to the test results in model 5 [Wald  $\chi^2(2) = 0.17$ ,  $p = 0.9188$ ] this relationship is not significant at 0.05 level. The coefficient of determination ( $R^2 = 0.0147$ ) is very low and the coefficients of the variable political stability and absence of violence/terrorism (-29.5161,  $p = 0.681$ ) is negative and non-significant an indication that it negatively influences the flow of foreign direct investments into the eastern Africa region. Equation 6, was therefore fitted.

$$FDI = 366.9482 - 29.5161PSAVT \quad (6)$$

Sig = (0.681)

$R^2 = 0.0147$

Wald  $\chi^2(2) = 0.17$ ,  $p = 0.9188$

Where;

*FDI = Foreign Direct Investment Inflows*

*PSAVT = Political Stability and Absence of Violence/Terrorism*

Model 6 is a controlled version of the interaction between political stability and absence of violence/terrorism with results indicating [Wald  $\chi^2(6) = 111.71$ ,  $p = < 0.01$ ] a significant relationship at 0.05 level. The coefficient of determination ( $R^2 = 0.5912$ ) indicates that political stability and absence of violence is able to explain about 59 per cent of the variation in FDI flows into the eastern Africa region. The coefficients of Political stability, Imports and labour force (112.664,  $p = 0.031$ ; 0.0649,  $p = < 0.01$ ; and 0.0185,  $p = 0.003$  respectively) show a positive and significant relationship an indication that they significantly influence the flow of foreign direct investments into the eastern Africa region positively. Other variables, availability of natural resources and exports (-0.1178,  $p = 0.956$ ; and -0.0094,  $p = 0.680$  respectively) indicate a negative and non-significant

relationship with foreign direct investments, a signal that they negatively influence the flow of foreign direct investments into the eastern Africa region. Thus, the following equation 7 was fitted.

$$FDI = 63.7949 + 112.664PSAVT - 0.1178ANR - 0.0094EXP + 0.0649IMP + 0.0185LABF \quad (7)$$

Sig = (0.031) (0.956) (0.680) (< 0.01) (0.003)

R<sup>2</sup> = 0.5912

Wald  $\chi^2(6) = 111.71, p = < 0.01$

Where;

*FDI* = Foreign Direct Investments

*PSAVT* = Political Stability and Absence of Violence/Terrorism

*ANR* = Availability of Natural Resources

*EXP* = Exports

*IMP* = Imports

*LABF* = Labour Force

#### 4.9.4 The Relationship Between Foreign Direct Investments and Control of Corruption

This relationship is exhibited by model 7 and model 8 in table 11. According to the test results for model 8, control of corruption [Wald  $\chi^2(2) = 0.18, p = 0.9152$ ] has a non-significant relation with FDI at 0.05 level. The coefficient of determination (R<sup>2</sup> = 0.0100) is very low an indication of control of corruption has no ability to explain the variations in FDI inflows into the eastern Africa region. The coefficients of control of corruption (-61.0984, p = 0.674) indicate a negative and non-significant relationship at 0.05 level, an indication that control of corruption influences the flow of foreign direct investment into the eastern Africa region negatively. Equation 8 was therefore fitted.

$$FDI = 354.1761 - 61.0984COC \quad (8)$$

Sig = (0.674)

R<sup>2</sup> = 0.0100

Wald  $\chi^2(2) = 0.18, p = 0.9152$

Where;

*FDI* = Foreign Direct Investments

*COC* = Control of Corruption

However, when this relationship is controlled as exhibited in model 8 [Wald  $\chi^2(6) = 107.37, p = < 0.01$ ] it becomes significant at 0.05 level. The coefficient of determination (R<sup>2</sup> = 0.5744) also improves to 57 per cent possibility of control of corruption explaining the variations in FDI inflows into the eastern Africa region. The coefficients of imports and labour force (0.0632, p = 0.001 and 0.0157, p = 0.009 respectively) show a positive and significant relationship with FDI and indication that they positively and significantly influence the flow of foreign direct investments into the eastern Africa region. Control of corruption and availability of natural resources (128.7487, p = 0.131 and 0.0573, p = 0.979 respectively) show a positive but non-significant relationship. Only the coefficients of exports (-0.0015, p = 0.979) show a negative and non-significant relationship with FDI, an indication that, it negatively influences the flow of foreign direct investments into the eastern Africa region. From this information, equation 9 was fitted.

$$FDI = 75.7141 + 128.7487COC + 0.0573ANR - 0.0015EXP + 0.0632IMP + 0.0157LABF \quad (9)$$

Sig = (0.131) (0.979) (0.950) (0.001) (0.009)  
R<sup>2</sup> = 0.5744  
Wald  $\chi^2(6) = 107.37, p = <0.01$

Where;  
*FDI* = Foreign Direct Investments  
*COC* = Control of Corruption  
*ANR* = Availability of Natural Resources  
*EXP* = Exports  
*IMP* = Imports  
*LABF* = Labour Force

#### 4.9.5 The Relationship Between Foreign Direct Investments and Voice and Accountability

From table 11, this relationship is presented by model 9 and 10. According to the results from model 9, [Wald  $\chi^2(2) = 0.24, p = 0.8868$ ] voice and accountability has a non-significant relationship with foreign direct investments at 0.05 level. The coefficients of determination (R<sup>2</sup> = 0.0115) indicating only about 1 per cent possibility of voice and accountability explaining the variations in FDI inflows. The coefficients of voice and accountability (-59.3851, p = 0.624) show a negative and non-significant relationship with FDI, an indication that voice and accountability negatively influences the flow of FDI into the eastern Africa region. Thus, the study concludes that voice and accountability on its own does not have any significant relationship with FDI inflows into the eastern Africa region. From these results, equation 10 is fitted.

$$FDI = 343.7077 - 59.3851VAA \quad (10)$$

Sig = (0.624)  
R<sup>2</sup> = 0.0115  
Wald  $\chi^2(2) = 0.24, p = 0.8868$

Where;  
*FDI* = Foreign Direct Investments  
*VAA* = Voice and Accountability

Model 10 presents results for the controlled relationship between FDI and voice and accountability. It is established that voice and accountability under a controlled model [Wald  $\chi^2(6) = 104.68, p = <0.01$ ] is significant at 0.05 level. The coefficient of determination (R<sup>2</sup> = 0.5677) shows a 57 per cent possibility of voice and accountability explaining the variations in the flow of FDI into the eastern Africa region. The coefficients of imports and labour force (0.0647, p = 0.001 and 0.0158, p = 0.014 respectively) indicate a positive and significant relationship whereas that of voice and accountability (60.1307, p = 0.414) is positive but not significant. Availability of natural resources and exports (-0.2402, p = 0.925 and -0.0114, p = 0.634 respectively) have a negative relationship which is not significant. Thus the study concludes that, a significant relationship between FDI and voice and accountability exists in the presence of control variables. From these results, equation 11 was derived.

$$FDI = 75.1080 + 60.1307VAA - 0.2402ANR - 0.0114EXP + 0.0647IMP + 0.0158LABF \quad (11)$$

Sig = (0.414) (0.925) (0.634) (0.001) (0.014)  
R<sup>2</sup> = 0.5677

Wald  $\chi^2(6) = 104.68, p = <0.01$

Where;

*FDI = Foreign Direct Investments*

*VAA = Voice and Accountability*

*ANR = Availability of Natural Resources*

*EXP = Exports*

*IMP = Imports*

*LABF = Labour Force*

#### 4.9.6 The Relationship Between FDI and Governance (Overall Model)

This relationship is exhibited by model 11 and model 12 in table 11. As shown by model 11, governance factors [Wald  $\chi^2(6) = 0.98, p = 0.9864$ ] are insignificant at 0.05 level. Coefficients of determination ( $R^2 = 0.0647$ ) indicate only 6 per cent possibility of governance factors explaining the variations of FDI inflows into the eastern Africa region. The coefficients of government effectiveness and regulatory quality (97.9019,  $p = 0.590$  and 39.3534,  $p = 0.790$ ) are positive but not significant where as those of political stability and absence of violence/terrorism, control of corruption and voice and accountability (-21.7772,  $p = 0.799$ ; -107.9235,  $p = 0.542$  and -63.0785,  $p = 0.652$  respectively) are negative and non-significant. Therefore, we conclude that governance factors on their own are insignificant factors in influencing the flow of FDI into the eastern Africa region. Equation 12 was hence fitted.

$$FDI = 361.4067 + 97.9019GE + 39.3534RQ - 21.7772PSAVT - 107.9235COC - 63.0785VAA$$

(12)

|       |         |         |         |         |         |
|-------|---------|---------|---------|---------|---------|
| Sig = | (0.590) | (0.790) | (0.799) | (0.542) | (0.652) |
|-------|---------|---------|---------|---------|---------|

$R^2 = 0.0647$   
Wald  $\chi^2(6) = 0.98, p = 0.9864$

Where;

*FDI = Foreign Direct Investment Inflows*

*GE = Government Effectiveness*

*RQ = Regulatory Quality*

*PSAVT = Political Stability and Absence of Violence/Terrorism*

*COC = Control of Corruption*

*VAA = Voice and Accountability*

When control variables are introduced into the model, results in model 12 are obtained. They indicate the relationship between FDI and VAA [Wald  $\chi^2(10) = 141.64, p = <0.01$ ] as being significant at 0.05 level. The coefficients of determination ( $R^2 = 0.6225$ ) an indication that governance factors have the ability of explaining about 62 per cent of the variations in the flow of foreign direct investments into the eastern Africa region. The coefficients of PSAVT, Imports and labour force (145.2967,  $p = 0.046$ ; 0.0741,  $p = <0.01$  and 0.0173,  $p = 0.003$  respectively) are positive and significant, an indication that they significantly influence the flow of foreign direct investments into the eastern Africa region in a significant way. Regulatory quality, control of corruption and availability of natural resources (152.9703,  $p = 0.144$ ; 124.9412,  $p = 0.333$  and 1.2852,  $p = 0.610$  respectively) have a positive relationship but which is not significant. On the other hand, government

effectiveness (-251.2572,  $p = 0.072$ ) has a negative relationship which is significant at 0.1 level, an indication that it can significantly influence the flow of FDI into the eastern Africa region negatively. Voice and accountability and exports (-41.3823,  $p = 0.629$  and -0.0112,  $p = 0.635$ ) also have a negative relationship but which is not significant. Therefore, the study concludes that governance factors when controlled for availability of natural resources, availability of labour force, exports and imports, significantly influence the flow of foreign direct investments into the eastern Africa region. From these results the following equation 13 was fitted.

From the results explained above, it was established that controlled models presented better results than un-controlled models and they were therefore adopted for the purpose of this paper. This means that countries that are better governed and are endowed with natural resources, have it easy in importation of raw materials and have a large pool of affordable labour force possess a competitive edge in the attraction of foreign direct investments than countries that don't.

$$FDI = 19.4495 - 251.2572GE + 152.9703RQ + 145.2967PSAVT + 124.9412COC - 41.3823VAA + 1.2852ANR - 0.0112EXP + 0.0741IMP + 0.0173LABF$$

(13)

Sig = (0.072) (0.144) (0.046) (0.333) (0.629) (0.610) (0.635) (< 0.01) (0.003)

R<sup>2</sup> = 0.6225

Wald  $\chi^2$  (10) = 141.64, p = < 0.01

*Where;*

*FDI = Foreign Direct Investment Inflows*

*GE = Government Effectiveness*

*RQ = Regulatory Quality*

*PSAVT = Political Stability and Absence of Violence and Terrorism*

*COC = Control of Corruption*

*VAA = Voice and Accountability*

*ANR = Availability of Natural Resources*

*EXP = Exports*

*IMP = Imports*

*LABF = Labour Force*

**Table 10: GLS Regression Results**

|                 | Model 1             | Model 2                 | Model 3             | Model 4                 | Model 5             | Model 6                    | Model 7             | Model 8                  | Model 9             | Model 10                 | Model 11                           | Model 12  |
|-----------------|---------------------|-------------------------|---------------------|-------------------------|---------------------|----------------------------|---------------------|--------------------------|---------------------|--------------------------|------------------------------------|---|
|                 | FDI and GE          | FDI and GE (controlled) | FDI and RQ          | FDI and RQ (controlled) | FDI and PSAVT       | FDI and PSAVT (controlled) | FDI and COC         | FDI and COC (controlled) | FDI and VAA         | FDI and VAA (controlled) | FDI and GE, RQ, PSAVT, COC and VAA | FDI and GE, RQ, PSAVT, COC and VAA (controlled) |
| GE              | 23.0778<br>(0.856)  | 46.1511<br>(0.560)      |                     |                         |                     |                            |                     |                          |                     |                          | 97.9019<br>(0.590)                 | -251.2572<br>(0.072)                            |
| RQ              |                     |                         | 20.5584<br>(0.858)  | 84.0109<br>(0.264)      |                     |                            |                     |                          |                     |                          | 39.3534<br>(0.790)                 | 152.9703<br>(0.144)                             |
| PSAVT           |                     |                         |                     |                         | -29.5161<br>(0.681) | 112.664<br>(0.031)         |                     |                          |                     |                          | -21.7772<br>(0.799)                | 145.2967<br>(0.046)                             |
| COC             |                     |                         |                     |                         |                     |                            | -61.0984<br>(0.674) | 128.7487<br>(0.131)      |                     |                          | -107.9235<br>(0.542)               | 124.9412<br>(0.333)                             |
| VAA             |                     |                         |                     |                         |                     |                            |                     |                          | -59.3851<br>(0.624) | 60.1307<br>(0.414)       | -63.0785<br>(0.652)                | -41.3823<br>(0.629)                             |
| ANR             |                     | 0.1113<br>(0.965)       |                     | -0.5792<br>(0.818)      |                     | -0.1178<br>(0.956)         |                     | 0.0573<br>(0.979)        |                     | -0.2402<br>(0.925)       |                                    | 1.2852<br>(0.610)                               |
| EXP             |                     | -0.0067<br>(0.772)      |                     | -0.0094<br>(0.687)      |                     | -0.0094<br>(0.680)         |                     | -0.0015<br>(0.950)       |                     | -0.0114<br>(0.634)       |                                    | -0.0112<br>(0.635)                              |
| IMP             |                     | 0.0671<br>(< 0.01)      |                     | 0.0619<br>(0.001)       |                     | 0.0649<br>(< 0.01)         |                     | 0.0632<br>(0.001)        |                     | 0.0647<br>(0.001)        |                                    | 0.0741<br>(< 0.01)                              |
| LABF            |                     | 0.0136<br>(0.535)       |                     | 0.0160<br>(0.010)       |                     | 0.0185<br>(0.003)          |                     | 0.0157<br>(0.009)        |                     | 0.0158<br>(0.014)        |                                    | 0.0173<br>(0.003)                               |
| _cons           | 396.4979<br>(0.004) | 59.4383<br>(0.535)      | 394.9643<br>(0.004) | 94.7101<br>(0.318)      | 366.9482<br>(0.002) | 63.7949<br>(0.361)         | 354.1761<br>(0.008) | 75.7141<br>(0.325)       | 343.7077<br>(0.016) | 75.1080<br>(0.432)       | 361.4067<br>(0.012)                | 19.4495<br>(0.846)                              |
| Obs             | 180                 | 180                     | 180                 | 180                     | 180                 | 180                        | 180                 | 180                      | 180                 | 180                      | 180                                | 180   |
| Wald $\chi^2$   | 0.03                | 105.64                  | 0.03                | 105.88                  | 0.17                | 111.71                     | 0.18                | 107.37                   | 0.24                | 104.68                   | 0.98                               | 141.64  |
| Prob > $\chi^2$ | 0.9837              | < 0.01                  | 0.9842              | < 0.01                  | 0.9188              | < 0.01                     | 0.9152              | < 0.01                   | 0.8868              | < 0.01                   | 0.9864                             | < 0.01  |
| R <sup>2</sup>  | 0.0132              | 0.5667                  | 0.0357              | 0.5718                  | 0.0147              | 0.5912                     | 0.0100              | 0.5744                   | 0.0115              | 0.5677                   | 0.0647                             | 0.6225  |
| Countries       | 12                  | 12                      | 12                  | 12                      | 12                  | 12                         | 12                  | 12                       | 12                  | 12                       | 12                                 | 12  |

## **5. CONCLUSIONS AND POLICY RECOMMENDATIONS**

Based on the finding from the previous section, this section provides a short conclusion and recommends measures to be taken to attract foreign direct investments into the eastern Africa countries.

### **5.1 Conclusions**

The aim of this paper was to establish the role of governance in influencing the flow of foreign direct investments into the eastern Africa region. From the controlled overall GLS model, it was established that governance is a significant factor in influencing the flow of foreign direct investments. This is an indication that investors take a keen interest at governance factors before channelling their investments into eastern Africa region. However, those countries endowed with natural resources, have easier importation procedures and have a pool of labour force possess a competitive edge in the attraction of foreign investments than those that don't.

Specifically, Political stability and absence of violence and terrorism, imports and labour force are significant factors in influencing the flow of foreign direct investments into the eastern Africa region positively. In a nut shell, investors think about their security and that of their investments, how easy they will be able to import raw materials the availability of skilled and affordable labour force to man their investments into wealth maximization. Similarly, Regulatory quality, control of corruption and availability of natural resources also influence the flow of FDI positively but not in a significant way. To this extent, the process of formulating and implementing sound policies on private sector development is dear to investors. Corruption is an additional cost to businesses and the ability of governments to control it will earn them an edge towards the attraction of foreign investments. Availability of natural resources is an added advantage for countries likelihood to attract foreign investments.

On the other hand, government effectiveness, voice and accountability and exports influence the flow of FDI into the eastern Africa region but in a negative way. This is an indication that investors have little interest on how effective governments are run, citizen participation and freedoms and the volume of exports.

### **5.2 Policy Recommendations**

Anchored on the evidence generated from this study, countries are hereby counselled to ensure good governance structures which promote a stable political environment fostering peace, dialogue, and national integration and cohesion. Additionally, due to its significance, both politically and ethnic instigated tension should be discouraged and building of independent institutions for public service delivery encouraged. It is important to align the regulatory process, which includes policy making and

implementation towards the development of the private sector because of its enormous contribution to social economic development. Last, corruption is an expensive cost to both businesses and governments, therefore, a deliberate effort should be done to ensure all form of corruption ranging from petty bribes to mega corruption scandals to abuse of office and state capture cartels are dismantled.

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