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## Foreign Direct Investment Inflows to East Africa: Do Institutions Matter?

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*This study analyses the role of institutions in determining foreign direct investment inflows to East Africa between 1987 and 2008. Data was obtained from World Bank Development indicators and Political Risk Service. We use a model based on Dunning's (1981) eclectic paradigm but modified to include institutional variables. Analytically we use fixed effects (FE) and random effects (RE), then using Hausman's specification test we were able to determine FE as the preferable model. The findings show that institutional variables particularly economic risk rating (ERR), financial risk rating (FRR), and corruption significantly influence FDI inflows to East Africa. But governance, law and order do not significantly influence FDI inflows. Other than institution variables, other factors like inflation, GDP per capita and openness of the economy were also found to be significant. The findings suggest that East African governments need to reform their institutions particularly improve on the components of ERR and FRR in order to attract more FDI and benefit from the positive spillovers that accompany FDI inflow into a country and a general sustainable development of the economies.*

**Keywords:** Foreign Direct Investment, Institutions, and East Africa

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### Introduction and Study Concern

For the past three decades, many developing countries have attempted to attract foreign direct investment (FDI) to their economies. They have used different policies including trade and exchange rate liberalization, privatization, offers of various incentive schemes such as tax holidays and subsidies to foreign investors, and a general improvement in the regulatory framework and investment climate (Ngowi 2002, Mutenyo 2008). Countries

pursue these policies under the belief that FDI contributes to a host country's economic growth. This growth can occur directly by increased employment, capital inflow, and usage of advanced equipment and technology through joint ventures or establishing Greenfield. Other benefits from FDI that are however indirect includes, increased competition, technological and managerial spill-over effects from subsidiaries of multinational corporations (MNCs) to local indigenous firms.

Although FDI inflows are concentrated in developed countries, FDI flows to many developing countries has been increasing in the last two decades. According to the World Investment Report (2009), FDI inflows to Africa reached a record high of US \$88 billion in 2008. Also according to World Development Indicators (2009), net FDI to East Africa (Kenya, Tanzania and Uganda), increased from US \$8.8 million in 1988 to \$1.9 billion in 2007. However, most of these inflows tend to go to the natural resource sector; according to UNCTAD, out of US \$516.7 million in FDI inflows to Tanzania in 1999, US \$345.3 million went to mining and petroleum.

Previous studies on determinants of FDI in developing countries have largely aimed at testing Dunning's (1981) eclectic paradigm of ownership, location and internalization (OLI) advantages; (Obwona 2001, Asieudu 2002, Onyeiwu 2005, Mutenyu 2008, and Opolot and Mutenyu 2009). These studies concentrate on analyzing the effects of ownership or firm specific advantages (both tangible and intangible) of multinational firms over the local firms on FDI inflows to a country. They emphasize how locational advantages of a host country such as market size, availability of natural resources, and macroeconomic stability, affect FDI inflow.

However, although the importance of institutions in determining FDI inflows cannot be underestimated, only a handful of studies have attempted to investigate its importance; among these studies includes; Basi, (1963); Aharoni (1966), and Jensen (2003), who show support for the importance of political instability and democratic governance; Others are Gastanaga et al. (1998); Campos and Kinoshita, (2003) on importance of quality of institutions.

Also, recent firm level surveys have corroborated that institutions are a key factor for foreign investment inflows. These surveys have concluded that institutional reforms that change laws, rules and regulations, create a better investment climate in an economy by reducing transaction costs hence creating opportunities that attract FDI. More importantly, issues of property rights, rule of law, corruption, governance and political security are important factors in influencing foreign investment.

Surprisingly, although institutional indexes for East African states have been worsening, FDI inflow has been rising. For instance between 1990 and 1999 average FDI inflows to Kenya, Tanzania and Uganda were respectively, US \$17 million, \$12 million and \$90 million, and their respective corruption indices were 2.8, 3.4 and 2.7. But between 2000 and 2007, average FDI inflows in millions of US dollars for Kenya, Tanzania and Uganda rose significantly to, \$119, \$402, and \$281 yet their corruption index had plummeted to 1.6, 2 and 2 respectively. The aggregate indices such as the political risk rating (PRR) and economic risk rating (ERR) were not any better over the same period. The question then is, what is the role of institutions in influencing FDI inflows to developing countries?

This paper emerges amidst scanty literature on the relationship between institutions and FDI inflow to East Africa, it therefore represents a real value added. Indeed hardly any literature exists on the impact of the quality of institutions on FDI among these countries. One key study that attempts to analyze the role of institutions is by Mutenyi (2008), which uses Freedom House's index of political freedom. However, his study looks at a larger sub-Saharan African (SSA) sample, which comprises heterogeneous countries. Different from previous studies, in this paper we examine the role of institutions in influencing FDI inflows to East African countries. These countries can be considered to be homogeneous; for instance, first they obtained independence at closely similar periods and from the same colonial master. Second, they have somewhat similar GDPs per-capita at US \$895 for Kenya, \$482 for Tanzania and \$458 for Uganda as of 2008. Third, agriculture makes up the largest percentage of their GDP; their major export is coffee, and fourth, they have lived under the same "umbrella" the East African community for about five decades with a short stint between mid 1970s and early 1990s.

To achieve our objective, we use a wide range of institutional measures; economic, political and social, both individual and aggregate measures to examine the impact of institutions on FDI inflows. Analytically since the study involves a small number of countries, we use the standard panel estimation method; fixed effects (FE) and random effects (RE) models, and using the Hausman specification test, we focus on the FE model. Results from the regressions show that ERR, FRR and corruption are significant determinants of FDI inflows. Other significant determinants of FDI are the market size proxied by GDP per capita and macroeconomic stability proxied by rate of inflation.

The rest of this paper is structured as follows; in section two we provide literature review on FDI; in section three, we present the theoretical framework

and the methodology; section four discusses the empirical analysis and the results; and in section five, we conclude and provide policy recommendations.

## Literature Review

### Theoretical overview

The theoretical literature on FDI has mainly concentrated on Dunning's (1981) eclectic paradigm, which represents a combination of the three partial theories of FDI: ownership, locational, and internalization advantages (OLI). In order to overcome the information advantage that domestic enterprises may have over foreign firms, a foreign firm that enters the economy must have some offsetting firm-specific also known as ownership advantage (Johnson 2006). Such advantages include; scale economies, brand name, managerial skill, and superior technology. Location advantages on the other hand, are the economic, institutional and political characteristics that make a country attractive for FDI. These advantages include lower labor costs, availability of natural resources, size and growth of the domestic market, general infrastructure, policy of governments toward general foreign direct investment, general political, social and economic stability of the country, and attitudes of the local population to foreign firms (Dunning, 1988; and Johnson, 2006). While the internalization advantages compel firms to expand their business in order to decrease transactional costs (Johnson 2006). These advantages can be achieved through protecting technology, quality, and brands and, by leveraging information and learning within the firm's cross-border network of subsidiaries and joint ventures (Oxelheim et al. 2001).

Recently however, the role of institutions in investment decisions has gained momentum. First North 1997, defines institutions as the rules and regulations that structure political, economic, and social interactions. These rules include both informal contracts (sanctions, taboos, customs, traditions and codes of conduct) and formal rules (constitutions, laws and property rights). Indeed issues of property rights, tax laws, and political stability are crucial when one is making investment decisions. For instance, North (1990), Butler and Joaquin (1998), assert that political risk involves unexpected change of the institutional environment within which business operates. This may alter the operating cash flow of a firm, in such a way that MNCs may either avoid the risk altogether, or by buy insurance, or negotiate with the government prior to investment.

A study by O'Donnell et al. (1996), offers useful insights about the

expected effect of democratic institutions on FDI inflows to developing countries. On one hand they argue that democratic institutions hinder FDI inflows through three avenues. First, democratic constraints over elected politicians tend to weaken the oligopolistic or monopolistic positions of MNCs. Second, these constraints further prevent host governments from offering generous financial and fiscal incentives to foreign investors. Third, broad access to elected officials and wide political participation offer institutionalized avenues through which indigenous businesses can seek protection. In all these cases, the increased pluralism ensured by democratic institutions generates policy outcomes that reduce the MNC's degree of freedom in the host developing country. On the other hand however, O'Donnell and colleagues argue that democratic institutions promote FDI inflows by strengthening property rights protection.

### **Empirical Overview**

There is a dearth of empirical studies on the impact of institutions on FDI particularly on developing countries. Most empirical studies have concentrated on the traditional determinants of FDI both in the developed and developing economies. This can be attributed to lack of data on institutional variables. For instance, World Bank data on governance and other institutions start in 1996; while the comprehensive data published by the Political Risk Survey guide (PRS) starts in 1885; and Freedom House's<sup>1</sup> annual survey of freedom has a longer time series data set which starts from 1773, but publishes only two institutional variables; political risks and civil liberties.

Earlier studies on the impact of institution on FDI include Wheeler and Moody (1992), who examine 13 host countries using a composite risk factor that comprises the level of bureaucracy, quality of the legal system and the extent of corruption. Their findings show a negative relationship between institutions and the location of US manufacturing FDI. Similarly, Brunetti et al. (1997), show that weak respect for the rule of law and high levels of corruption have a large and negative effect on private investment. Based on their results, the authors surmise that had Nigeria been able to reduce graft levels to those of Hong Kong over the 15-year period (1974–1989), it would have been able to increase its investment rate by more than 5 percent points of GDP.

Gastanaga et al. (1998), investigate the role of contract guarantee, corruption, and risk of nationalization among other factors on FDI inflow. They find that, contract enforcement, low nationalization risk and corruption

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1 [www.freedomhouse.org](http://www.freedomhouse.org)

positively influence FDI. But contrary to Gastanaga and colleagues, Wei (2000) and Asiedu (2005), find that corruption negatively affects inflow of FDI. Their results suggest that foreign investors generally avoid investing in highly corrupt countries because it can create operational inefficiencies. Wei further observes that weak enforcement mechanisms and political instability affects investment decision negatively. He further argues that corruption in a host country induces foreign investors to favor joint ventures over wholly owned firms.

Kinoshita and Campos (2001), using a panel data framework, investigate the factors that account for the geographical patterns of FDI inflows among 25 transition economies. They classify determinants into three categories; locational factors, institutions and agglomeration economies. Using the fixed effects and GMM models, they find that the quality of institutions is the major determinant in the location of FDI. Specifically, they find that poor quality of bureaucracy and lack of rule of law are a deterrent to foreign investors because they increase the transaction cost which directly affects the profitability of investment projects.

Harms and Ursprung (2002), examine the relationship between average foreign direct investment per capita and indices of political rights, civil liberties, and repression. They find a negative and significant relationship between the dependent variable and all three indices. In a related study, Jensen (2003), argues that a country which protects democratic rights receives more FDI compared to a non-democratic one. In other words, multinational firms prefer to invest in countries where democratic rights are protected.

All these studies highlight the importance of institutions in determining FDI inflows. However, none of these studies focus on the East African states and more so, they tend to focus on a few types of institutions. To deviate from previous studies, we look at the impact of different types of institution on FDI classify them into aggregate and individual indices. Aggregate indices are a combination of several individual institutional indices. Among these includes; economic risk rating (ERR), political risk rating (PRR), financial risk rating (FRR) and governance. While individual institutional indices include bureaucratic quality, corruption, law and order, civil war, contract viability, democratic accountability, government cohesion, ethnicity, government stability, external conflict, and internal conflict.

## Methodology

### Theoretical Framework

Dunning (1981) proposes a comprehensive theoretical framework that explains why MNCs invest in foreign countries through their affiliates. Although several other theories have been propounded for instance, the gravity model (see Breuss and Egger, 1997), the “vertical” firms, “horizontal” firms and the “knowledge-capital model” of multinational firms (see Markusen and Maskus, 1999), Dunning’s eclectic model remains profound. Various studies on determinants of FDI have concentrated on the locational advantage variables in their analysis because data on such variables are easily available and measurable, (Obwona 2001; Asiedu 2002; Onyeiwu 2005; Mutenyo 2008). The major location specific determinants of FDI that are common in the literature include; market size and market potential measured by GDP per capita and GDP growth rate respectively; infrastructure development measured by telephone lines per 1000 people or ratio of paved roads to total roads; and ratio of government spending to total GDP. Others are; availability of natural resources measured by ratio of oil and mineral exports to total exports; policy of governments toward general foreign direct investment proxied by openness to trade.

However, recent studies have shown that institutions are important determinants of FDI inflows. For instance some studies suggest that multinationals would prefer to invest in authoritarian regimes because authoritarian leaders can provide them with better entry deals, since there is lack of pressure from below, and the repressive system drives down wages, leading to higher levels of FDI inflows, while other studies suggest that lack of discretion by leaders due to democratic pressures, is a benefit to multinationals, since it leads to higher levels of policy stability and credibility, hence no policy reversals by the central government. Put it differently, democratic governments are more credible than despotic ones when dealing with multinationals. Therefore, good quality institutions such as democratic governments, political stability, property rights, lack of risks of nationalization and expropriation, encourage the inflow of FDI, (Asiedu, 2006).

### Model Specification

Basing on the preceding section, we can specify the empirical model for estimation as;

$$FDI_{it} = \alpha_i + \beta_i X_t + \gamma_i Inst_t + \varepsilon_t \dots\dots\dots 1$$

where  $FDI_{it}$  is the ratio of net FDI inflow to GDP;  $X$  is a vector of location

specific explanatory variables; *Inst* are institutional variables;  $\alpha_i$  is parameter specific to each country and the subscripts 'i and t' represent country and time respectively. We then specify a linear model as;

$$\ln FDI_i = \alpha_i + \gamma Inst_i + \beta_1 \ln GDP_{PC_i} + \beta_2 GDPGR_i + \beta_3 \ln Open_i + \beta_4 Infl_i + \beta_5 \ln Gov_i + \varepsilon_i$$

Where,

*FDI* is the ratio of FDI inflow to gross domestic product,,

*GDP<sub>PC</sub>* is the GDP per capita,

*GDPGR* is the real GDP growth rate,

*Open* is the openness of the economy,

*Infl* is the rate of inflation, and,

*Gov* is ratio of government expenditure to GDP

### **Definition and Measurement of Variables.**

The first category of explanatory variables is institutions (*Inst*). Here we use both individual and aggregate institutional indices each at a time to avoid co-linearity. The individual indices used in this study are corruption and, law and order. Other individual institutional indices of interest such as civil war, contract viability- a measure of expropriation of foreign owned assets, do not have sufficient time series data. And the aggregate indices which are used in this study are; economic risk rating (ERR), financial risks rating (FRR), political risk rating (PRR) and governance. These variables are described by the political risk survey group (PRS) as follows;

*Corruption*: This is considered a threat to foreign investors because it distorts the economic and financial environment. It also reduces the efficiency of government and business by enabling people to assume positions of patronage rather than ability. The types of corruption that foreign investors and other businesses are likely to face are in form of demand for special payments and bribes connected with import and exports licenses, tax assessments, exchange controls, operation licenses, police protection and loans. Such corruption makes conducting business very difficult and may force some firms to withdraw or withhold investing in a country. The corruption index takes a maximum of 6 points and a minimum of 0; where a score of 6 means very low corruption while 0 is very high corruption. We therefore expect a positive sign to imply that high levels of corruption (smaller score) discourage FDI inflow, conversely low levels of corruption (greater score) encourage FDI.

*Law and Order*: This index comprises two risk sub-component; law and order, where each weighs zero to three points making a total of six points. The "law" sub-component assesses the strength and impartiality of the legal



system, and the "order" sub-component assesses popular observance of the law which includes property rights. For instance, a country can enjoy very high rating of three for its judicial system but with a very low rating of one if it has high crime rates and wide spread strikes. We expect a positive coefficient for this variable to signify that high judicial ratings and less crime and fewer strikes encourage FDI inflows into a country.

*Economic Risk Rating (ERR):* This index measures a country's economic strengths and weaknesses and it is composed of several subcomponents. Risk points are assigned to with a minimum score of zero indicating very high risk and a varying maximum (indicated in brackets on each subcomponent below) showing least risk. This index is computed using the component factors of GDP per head (5), real annual GDP growth (10), annual inflation rate (10), budget balance as a percentage of GDP (10), and current account balance as a percentage of GDP (15). ERR therefore, ranges from a low of 0 (highest risk) to a high of 50 (least risk). An ERR index of less than 25 is considered to be very high risk; between 25 and 29.9 is high risk; 30.0-34.9 is moderate risk; 35.0-39.9 is low risk; and 40.0 -50 is very low risk. Generally, the lower the risk point, the higher the economic risk and the greater the risk point, the lower the economic risk. It is assumed that foreign investor are attracted to a country with a lower economic risk; therefore, we expect a positive relationship between ERR and FDI inflows.

*Financial Risk Rating (FRR):* This index measures a country's ability to finance its official, commercial, and trade debt obligations. Foreign investors and other businesses tend to be skeptical about investing in a country that is debt burdened for fear that higher taxes could be imposed in order to service government debts (debt-overhang theory). Also investors may expect these countries' governments to crowd-out private businesses in the financial sector by raising interest rates while attempting to borrow more funds to finance government obligations and service government debts. Risk points are assigned to financial component factors, with a minimum score or points of zero indicating very high risk and a varying maximum (indicated in brackets on each subcomponent) showing least risk. These sub-components are; foreign debt as a percentage of GDP (10), foreign debt service as a percentage of exports of goods and services (10), current account as a percentage of exports of goods and services (15), net international liquidity as months of import cover (5), and exchange rate stability (10). The FRR index ranges from a high of 50 (least risk) to a low of 0 (highest risk). Generally an FRR index of less than 25 is considered to be very high risk; between 25 and 29.9 is high risk; 30.0-34.9 is moderate

risk; 35.0-39.9 is low risk; and 40.0 -50 is very low risk. This implies that higher values of the index are preferred by investors; therefore, we expect a positive relationship between FRR and FDI.

*Political risk rating (PRR):* This index measures the political stability of a country and it is composed of twelve subcomponents each with a minimum score of zero but with varying maximum as indicated against each subcomponent below; government stability (12), socioeconomic conditions (12), investment profile (12), internal conflict (12), external conflict (12), corruption (6), military in politics (6), religious tensions (6), law and order (6), ethnic tensions (6), democratic accountability (6), and bureaucracy quality (4). This risk rating therefore ranges from a high of 100 (least risk) to a low of 0 (highest risk). Generally, a country with point total that is less than 50 is considered to be very high risk; a range between 50 and 60 is high risk; 60-70 is moderate risk; 70-80 is low risk and 80-100 is very low risk. Foreign firms are likely to weigh the political stability of a country before investing abroad. When a country is politically stable, it reduces risks and investment uncertainty leading to an increase in FDI inflows to that country. This implies that a country with a higher PRR score (least political risk) is politically and socially desirable to a foreign investor; therefore, we expect a positive relationship between PRR and FDI.

*Governance or Quality of Governance:* The World Bank (2007) defines governance as the manner in which public officials and institutions acquire and exercise the authority to shape public policy and provide public goods. This governance index is a sum of three subcomponents each with a minimum of zero points and with a maximum shown in brackets; corruption (6); bureaucratic quality (4) and rule of law (6). Governance indicator therefore, ranges between 0 (very high risk) and 16 (very low risk). We expect a positive coefficient since FDI is attracted to countries with good governance.

Other explanatory variables (control variables), are locational advantage factors which include; market size; measured by GDP per capita (GDPPC), market potential; measured by GDP growth rate (GDPGR), these two factors are very important for market-seeking FDI, and are expected to have a positive impact on FDI inflows. Another key variable is openness of the economy (Open): This guarantees integration of a country into the world economy, providing ease of importing and exporting. The standard measure of this variable is the ratio of the sum of exports and imports to GDP. It is expected that countries that are more open attract more FDI particularly export-oriented FDI.

Macroeconomic stability is another determinant of FDI inflows. The standard measure of this variable is the rate of consumer price index (inflation). Inflation not only deters foreign investment but also provides an un-conducive investment climate since it erodes firms' profits in real terms. Therefore, low inflation is expected to attract FDI while high inflation rates deter FDI inflows; for that matter, we expect a negative coefficient. Availability of natural resources such as minerals and oil is also important in attracting FDI. Indeed recent inflow of FDI to Uganda and Tanzania has been mostly to oil exploration and mining respectively. Unfortunately, there is no data on ratio of minerals and oil exports to total exports or to GDP for these countries. The ratio of government expenditure to GDP (Gov) is a proxy for infrastructural development with the assumption that government expenditures are in construction of roads, schools and hospitals that raise the standards of living. Countries with good infrastructure attract FDI since it reduces the operational costs of the firm. We therefore expect a positive relationship between government expenditure and the flow of FDI.

### **Data Source**

Apart from institutional indices, the rest of the data were obtained from the World Bank's World Development Indicators (WDI). Data on institutions were obtained from Political Risk Service data set published by the PRS Group. Secondary annual data set on the three East African countries: Kenya, Tanzania and Uganda were obtained over the period 1987 to 2008. The choice of this period was mainly due to data availability especially on the key variable –FDI. Prior to that period, countries like Tanzania and to some extent Uganda did not entertain foreign investment. Tanzania opened its doors to foreign investment in 1986 upon dismantling its socialist political system, while Uganda's nationalization program of the 1970s was a hindrance to FDI such that data is not readily available prior to the study period.

### **Model Estimation**

We use the standard panel regression models of random effects (RE) and fixed effects (FE) and by use of the Hausman specification, a preferred model is considered. Since we are interested only in average system wide impacts of exogenous variable, and not in obtaining individual country coefficients, slope heterogeneity does not matter and the Error Components Model versus Random Coefficients Model is preferred. In order to test for the most appropriate specification, we used the Hausman test, which tests the null hypothesis that random effects ( $u_i$ ) and regressors ( $x_{it}$ ) are uncorrelated. If random effects and regressors are uncorrelated, then we estimate random

effects model. Conversely, if they are correlated, then the fixed effects model would be considered. The test is such that if the Hausman statistic is smaller than its critical value then we fail to reject  $H_0$  that regressors and random effects are uncorrelated.

## Empirical Analysis

### Data Description

Table 4.1 and 4.2 show the summary statistics and the pair wise correlations respectively.

Several institutional variables were used together with other control variables. We classify the institutional variables into two groups namely; aggregate variables such as ERR, PRR, FRR and governance, and two individual variables; corruption and, law and order.

**Table 4.1:** Summary Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
Ratio of FDI	66	1.64	1.68	-0.14	5.98
Corruption	66	2.56	0.81	0.5	4
Law and order	66	4.55	1.81	1.5	6
Governance	66	8.36	2.25	4.75	12
ERR	66	29.06	6.48	8.17	36.75
PRR	66	56.59	7.29	37	67.5
FRR	66	29.68	6.22	17.88	39.75
GDP per capita	66	860.39	301.22	330.41	1589.95
GDP per current us Dollars	66	322.02	129.33	150	783
Trade GDP	66	47.05	12.34	25.35	72.86
Inflation	66	19.96	33.97	-0.29	200.03
Government expenditure	66	14.49	3.68	6.97	24
GDP growth rate	66	4.98	2.63	-1	12
GDP per capita growth rate	66	1.8	2.53	-4	8

Table 4.2: Pair-wise Correlation

	Ratio of FDI	GDP per cc	Trade GDP	Inflation	Ge	Gdpgr	Gdpcgr	corr	law order	governance	err	prr	frr
Ratio of FDI	1												
GDP per cc	-0.0158	1											
Trade GDP	-0.248*	-0.355*	1										
Inflation	-0.343*	-0.0027	-0.2322	1									
Ge	-0.283*	0.0385	0.5164*	-0.298*	1								
Gdpgr	0.5308*	0.0533	-0.436*	-0.0665	-0.278*	1							
Gdpcgr	0.5416*	0.1008	-0.422*	-0.1662	-0.252*	0.976*	1						
corr	-0.349*	-0.623*	0.0262	0.2347	0.1635	-0.248*	-0.327*	1					
law order	-0.2263	0.0929	0.6532*	-0.1916	0.4367*	-0.491*	-0.432*	0.2388	1				
governance	-0.245*	-0.0315	0.7009*	-0.1966	0.3947*	-0.607*	-0.558*	0.3731*	0.8239*	1			
ERR	0.5165*	0.4637*	0.1445	-0.360*	0.0811	0.2714*	0.3261*	-0.544*	0.0047	-0.0057	1		
PRR	0.3683*	0.0316	0.5514*	-0.475*	0.2511*	-0.1469	-0.0991	-0.0056	0.5391*	0.5810*	0.5247*	1	
FRR	0.0746	0.5279*	0.476*	-0.359*	0.3691*	-0.0061	0.0217	-0.358*	-0.0649	0.0702	0.4930*	0.3522*	1

The summary statistics show that data was collected on three countries over the period of 22 years (1987-2008) giving rise to 66 observations and is a balanced panel. The values of the standard deviations, suggests that the variables are worth including in the regressions. In addition, there are no outliers since the minimum and maximum of each variable is relatively close to its mean. From Table 4.2, we note that FDI inflow is positively and significantly related to ERR, PRR, and GDP growth rate as expected. It is negatively and significantly related to inflation as expected, but negatively and significantly related to corruption, governance and trade, not as expected. Among the aggregate institutional variables, ERR is the most highly correlated to FDI inflow while FRR is the least, and among the individual institutional variables, corruption is more strongly correlated with FDI than is law and order.

However, pairwise correlations can be spurious, reflecting the effect of the presence of unobserved country effects, so we need investigate these relationships in a multivariate regression analysis. In this case, we include other control variables that are considered key determinants of FDI inflows such as per-capita GDP, GDP growth rate, inflation, openness, and government expenditure.

### **Estimation of the Results**

In all regressions, the dependent variable is the ratio of net FDI inflow to GDP while the explanatory variables are the institutional indices and control variables. In some estimations, we use a single institutional index, while in others, we use a combination of the non-linearly correlated institutional variables. Analytically, Baltagi (2005) recommends the use of FE for a panel with a small N (in our case,  $N=3$ ) because for large N, the regression includes  $(N-1)$  dummies that lead to a large loss of degrees of freedom equal to  $(N-1)$ . He further recommends use of FE for studies that involve a fixed number of countries, firms as opposed to those that involve households that have un-observed specific effects. In addition, we use the F-test to test for the significance of the country effects, that is, the null hypothesis that all country dummy coefficients are equal. When the test is significant, it means that the country dummies are jointly significant. It also means that the OLS estimates which omit these country dummies are biased and inconsistent. To further ascertain whether there are random effects, we use the Breusch-Pagan test (Lagrange multiplier- LM test), to test the null that the variance of the error terms are zero.

Since the Hausman specification test, is significant (not shown), we reject the null hypothesis that the RE estimators is consistent, thus we adopt the FE estimator. In addition, the results of the Breusch-Pagan test (not shown) are insignificant, which confirms that the RE model generates inconsistent results. Table 4.3 shows the regression results under different specifications.

Table 4.3: Regression Results

	FE (1)	RE (2)	FE (3)	RE (4)	FE (5)	FE (6)	FE (7)	FE (8)	FE (9)
Trade	0.30 (-0.14)	0.037* (0.08)	0.011 (0.559)	-0.038* (0.075)	.039** (0.04)	0.004 (0.822)	0.017 (0.273)	-0.013 (0.476)	0.022 (0.333)
Inflation	-0.17*** (0.000)	-0.007 (0.182)	-0.014*** (0.001)	-0.007 (0.166)	-0.18*** (0.000)	-0.17*** (0.001)	-0.015*** (0.000)	-0.014*** (0.003)	-0.023*** (0.000)
Govexpd	-0.047 (0.286)	-0.103** (0.032)	-0.094 (0.019)	-0.102** (0.027)	-0.065* (0.104)	-0.015 (0.746)	-0.101*** (0.008)	-0.061 (0.135)	-0.085* (0.088)
Gdpcgr	-0.018 (0.776)	.214*** (0.002)	0.024 (0.714)	.214*** (0.002)	-0.025 (0.7)	0.031 (0.652)	0.017 (0.781)	0.071 (0.294)	0.063 (0.424)
Gdppc	.005*** (0.005)	-0.001 (0.652)	.003* (0.064)	-0.001 (0.645)	.004*** (0.009)	.007*** (0.000)	.003* (0.072)	.005*** (0.000)	.006*** (0.005)
ERR	0.100*** (0.002)	0.057 (0.124)	.099*** (0.003)	0.058 (0.112)	.124*** (0.000)		.111*** (0.000)		
PRR	0.038 (0.282)	.099*** (0.005)	0.019 (0.598)	.099*** (0.004)		.119*** (0.000)		.099*** (0.000)	
FRR	-0.076** (0.03)	0.002 (0.960)			-0.067** (0.049)	-0.073* (0.052)			-0.012 (0.762)
Corruption									
Law & Order									
Governance									
Const	-3.26** (0.047)	-2.41 (0.123)	-2.12 (0.183)	-2.39 (0.114)	-1.89* (0.063)	-5.09*** (0.003)	-1.48 (0.145)	-3.97** (0.014)	0.636 (0.568)
F-test	20.44***		16.78***		26.45***	14.67***	23.18***	12.17***	18.27***
ProbF	0.000		0.000		0.000	0.000	0.000	0.000	0.000
LIM P(X2)		0.0706		0.0708					





In the first two regressions, we estimate the impact of the aggregate institutional indices while controlling for the traditional determinants of FDI. We exclude governance because it is strongly correlated with PRR as can be seen from Table 4.2. Results from the FE model (Regression 1) show that apart from PRR, the rest of the institutional variables are significant. Specifically, ERR is significant at the 1 percent level, implying that FDI inflows to EA decrease with an increase in the economic risk. PRR is insignificant in regression 1, possibly due to collinearity with ERR as can be seen from Table 4.2. Indeed when ERR is excluded as in regressions 6 and 8, PRR is significant at 1 percent and with the expected positive sign. FRR is significant in the first regression but with the opposite sign, and when other institutional variables are excluded (regression 9), it becomes insignificant. This may suggest that FRR does not influence FDI inflows to East Africa.

Regressions 3, 5 and 6 analyze the impact of two aggregate institutional variables on FDI. Again PRR is significant only when ERR is excluded from the regression, and FRR is significant with the opposite sign. Regressions 7, 8, 9 and 13, analyze the impact of a single aggregate institutional variable on FDI. Of the four aggregates, ERR and PRR are strongly significant at the 1 percent level with the correct sign, but FRR and governance are insignificant. This seems to suggest that foreign investors are mainly concerned about the economic returns but governance issues do not concern them. So as long as the country is economically stable (lower economic risk), and politically stable (lower PRR), more FDI shall flow into the country.

Regression 10 shows the contemporaneous impact of all the institutional variables, both individual and aggregates. This regression is characterized by a lot of collinearity, such that most of the institutional variables are insignificant apart from ERR. Regressions 11 and 12, investigate the impact of the single institutional measures; corruption and law and order. Corruption is weakly significant and with an unexpected negative sign, but law and order is insignificant.

In regressions 14 through 18, combinations of aggregate institutional measure and individual institutional indices are used. ERR and PRR are robust in all the specifications. Corruption is significant in all these regressions but with a negative sign. In regressions 16 and 18, law and order is significant, also with a negative sign. In all the regressions, the F-test is strongly significant at 1 percent showing that the models are well specified and the FE is the correct model of analysis.

## Discussion of Results

*Economic Risk Rating (ERR):* In all specifications, ERR is robust and with the expected positive sign. ERR measures a country's economic strength and weakness; a strong economy has a lower risk rating. From Table 4.1, average level of ERR for the three countries is 29 with a minimum of 18 and maximum of 40. Since this index ranges from 0 to 50, an average of 29 is considered to be "high risk". The robustness of ERR shows that FDI flows more to an economically less risky country.

*Political Risk Rating (PRR):* From Table 4.3, in most of the specifications, this variable is strongly significant and with the expected positive sign. This demonstrates that foreign investors want to invest in countries that are politically and socially stable. Since this variable ranges from 0 to 100, and from Table 4.1, the average PRR is 57, so East African countries are considered to be "high risk".

*Financial Risk Rating (FRR):* This variable is insignificant in most of the specifications and where it is significant; it has the unexpected negative sign. The insignificance could suggest that foreign investors to East Africa are not concerned about the governments' debt positions. While the negative coefficient of FRR is tricky to explain, but could imply that EA governments borrow to subsidize foreign investors, perhaps through infrastructural development.

*Corruption:* This variable is weakly significant and with an unexpected negative sign, implying that foreign investors are comfortable with some level of corruption. From Table 4.1, the average level of corruption in the region is 2.5, showing that there are high levels of corruption in the East African region. The negative coefficient is a bit surprising, as one would expect FDI inflows to decline with increase in corruption. However, in the most recent decade, most of the FDI inflows to EA, particularly Tanzania and Uganda, were in the mining and oil sectors respectively. The mining and oil sectors are high return sectors in which foreign investors are prone to bribe corrupt government officials since the expected returns are much higher than the risk

*Control Variables:* Turning to other determinants, inflation and GDP per capita are strongly significant in all specifications and with the expected negative and positive signs respectively. Inflation is used as a proxy for macroeconomic stability, and its negative coefficient imply that foreign investors prefer investing in a stable economy. On the other hand, the positive

coefficient of GDP per capita signals that FDI to East Africa seem to be market-seeking. These findings are in support of several past studies (Root and Ahmed, (1978); Woodward and Rolfe, (1993); Asiedu, (2003); Assanie and Singleton, (2001); Agiomirgianakis et al., (2003); Onyeiwu, (2005);, and Mutenyu, (2008)).

Openness to trade is weakly significant in a few specifications with the expected positive sign implying some influence of free trade as a determinant of FDI inflows. This could also mean that most FDI to EA does not target the foreign market but instead the domestic one. Government expenditure is also weakly significant with a negative sign. This variable is used as a proxy for infrastructural development. The theoretical expectation is that government spends on infrastructure such as roads and other services that reduce the operating costs of the investors hence encouraging FDI. The negative coefficient may suggest that an increase in government spending actually crowds out private investment spending particularly in the financial sector by increasing interest rates, since some foreign investors obtain loans from domestic banks.

## **Conclusions and Policy Recommendations**

### **Conclusions**

The major objective of this paper was to examine the role of institutions in influencing FDI inflows to Kenya, Uganda, and Tanzania. To achieve this objective, we used the eclectic model proposed by Dunning (1981). We considered several institutional variables together with other control variables. The institutional variables were classified into two categories; aggregate variables (ERR, PRR, ERR and governance) and individual variables (corruption and, law and order). The control variables used were the traditional determinants of FDI inflows such as per capita GDP, GDP growth rate, rate of inflation, openness to trade, and government expenditure. Analytically, we use FE and RE models during estimation and using the Hausman specification test preference was for the FE model.

The findings of the study show that ERR, PRR and to a smaller extent corruption significantly influenced FDI inflows to East Africa, whereas 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.

### **Policy Recommendations**

Basing on the above findings, there is a need for stakeholders to understand and appreciate the role of institutions in their government reforms

in an attempt to attract FDI. This can be done through sensitization seminars, conferences, training and workshops and above all strict enforcement of the law. There is also a need to frequently reform institutions in line with the prevailing situations. Specifically, given that PRR, which comprises political and social subcomponents, positively and significantly influences FDI, there is need for the EA governments to maintain social and political stability because investors weigh these factors prior to investing abroad. Political stability reduces risks and investment uncertainties hence encouraging FDI inflows. This can be achieved through regional economic cooperation: Regionalism can promote political stability by restricting membership to democratically elected governments. Second, regionalism permits countries to coordinate their policies. For example, members of a regional bloc may require all participating countries to curb corruption, implement sound and stable macroeconomic policies, and adopt an 'investor friendly' regulatory framework (such as removing restrictions on profit repatriation). Errant countries may face costly sanctions or be barred from membership.

Another significant institutional variable is ERR, the components of which cannot be altered by a single policy instrument but rather by a set of policies. This set includes maintaining macroeconomic stability, equitable resource distribution, and current account stability by avoiding debt levels that might deter investors because of the debt-overhang process. Finally investor confidence in sustainability of the policy framework and future policies is very essential.

### **Areas for Further Studies**

This study used macroeconomic variables and institutional indices in the analysis. However, a microeconomic study based on investor responses about the impact of the different institutional variables to their businesses could be of interest, since it provides first hand analysis of the mechanisms relating institutions to FDI inflows.

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