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The Effect of Regional Integration on Net Inward Foreign Direct Investment Flow in East African Countries

Manasseh Otieno Oiro

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The Effect of Regional Integration on Net Inward Foreign Direct Investment Flow in East African Countries

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Research and Analysis

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Abstract

This study investigates the effect of regional integration on Foreign Direct Investment (FDI) flow in EAC countries. It is based on a working hypothesis that links integration to FDI. The model used was a variant of one used by Jaumotte, where the variables identified as determinants of FDI were regressed alongside variables used to measure location advantage and a dummy representing integration. Feasible Generalized Least Squares was used to examine the relationship between FDI and variables identified by other studies to be determinants of FDI. The EAC integration was found to have no overall impact on FDI flow into the region. The degree of political risk and financial stability were positive and significant. A country whose degree of political risk was relatively high in the region was likely to lose potential investment to countries that appeared more politically stable. The study recommends that Kenya and other EAC countries institute political reforms to accompany, stability be maintained in the real exchange rate market, and political reforms be instituted to improve the country's ratings in terms of the degree of political risk.

Abbreviations and Acronyms

EAC	East African Community
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HDI	Human Development Index
MNC	Multi-National Company
OECD	Organization for Economic Cooperation and Development
PCA	Principal Component Analysis
RIA	Regional Integration Agreement
RTA	Regional Trade Agreement
UNCTAD	United Nations Conference on Trade and Development

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1. Background

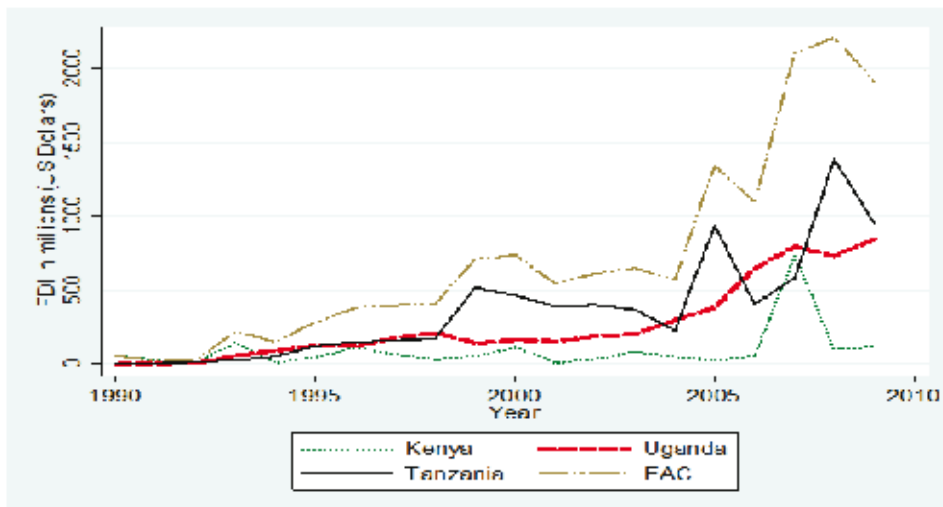
1.1 Introduction

The East African Community (EAC) was created through a Regional Integration Agreement (RIA)¹ comprising five East African countries, namely: Kenya, Uganda, Tanzania, Rwanda and Burundi, whose main priority is economic cooperation that will eventually form the basis of political cooperation in the long term. The EAC development strategy laid the foundation for the establishment of the EAC. This was done to avoid the shortcomings that led to the collapse of the earlier initiative in 1977. The EAC treaty was signed on 30 November 1999, but came into force on 7 July 2000 after ratification by Kenya, Uganda and Tanzania. Later on, the protocol for the establishment of the EAC customs union was signed on 2 March 2004, but was launched on December 2004 and its implementation started in January 2005. Rwanda and Burundi who initially attended as observers joined the community in 2007 (Mugisa *et al.*, 2009). The 1st July 2010 marked the commencement of the East African Common market operationalization (EAC Secretariat, 2010).

The EAC aims to widen and deepen cooperation among partner states in, among others, economic and social fields for their mutual benefit. One of the expected benefits of regional integration is increased FDI flow. Statistics show that, overall, there has been an increase in the flow of FDI in the region. When the treaty came into effect in the year 2000, the region received a total of US\$ 574 million worth of FDI. With the signing of the customs union in 2005, the amount increased significantly to US\$ 895 million. By 2009 when the implementation of the common market was due in 2010, investments had reached US\$ 1,585 million. The region received an average of US\$ 1,242.65 million worth of FDI between 1990 and 2009, the minimum being US\$ 90 million while the maximum received was US\$ 4,030 million. However, the region, after having benefitted from a boom in FDI inflows, experienced a decline in 2009 (UNCTAD, 2010).

¹ A Regional Integration Agreement can either be political or economic and normally has five levels. The lowest being a preferential trading arrangement (PTA), where members lower barriers to trade within the group, than to trade with non-member countries. The second is a Free Trade Area where barriers to intra-group trade are eliminated, while allowing each country to determine its own nationally determined barriers with non-members. This is then followed by a customs union where intra-group trade faces no barriers, and members maintain a common external tariff on trade with non-members. Fourth is the common market, which extends free trade among members to factors of production (labour migration and capital flows) as well as goods and services. Finally, the most extensive form is the monetary union, meaning common, group determined economic policies as well as a common currency or money (Yarbrough and Yarbrough, 2007).

Figure 1.1: FDI in the East Africa Community, 1990-2009



Source: World Development Indicators

FDI is defined as an investment made to acquire lasting management interest (normally 10% of voting stock) in a business enterprise operating in a country other than that of the investor, defined according to residency. There are three major forms of FDI: market seeking,² resource seeking,³ and efficiency seeking FDI⁴. The main form of FDI in Kenya is market seeking FDI. This refers to FDI driven by location factors and the relevant dynamics and size of the market. The impact of FDI in the Kenyan economy can never be underestimated (Mwega and Ngugi, 2007). UNCTAD (2007) found that FDI was important to the Kenyan economy because it brought investable financial resources, provided new technology, and enhanced the efficiency of existing technologies. Furthermore, it facilitates exports to markets, therefore strengthening the export capabilities of the domestic economy. It also helped in enhancing skills and management techniques and provided better technologies and modern environment management systems. The increase in the rate of technological progress takes place through contagion effect from more advanced technology and management practises used by foreign firms. Evidence on the impact of FDI in the Kenyan economy include development of the country's export oriented horticulture industry, which contributed to

²Market seeking FDI is driven by the size and growth of the host market. It is also referred to as horizontal FDI as it involves building duplicate plants in a foreign location to supply the market.

³Resource seeking FDI refers to investment that aims to secure access to raw materials required for production.

⁴Efficiency seeking FDI refers to investment aimed at reducing the cost of producing goods and services.

the revival of Kenya Airways and accelerated the development of the mobile telecommunications network in the country.

Evidence indicates that from the signing of the EAC treaty in the year 2000 to the implementation of the customs union in 2005, there has been an improvement in trade performance within the EAC. Examination of trade flows between the three countries reveals that there has been growth in imports and exports within the region (Mugisa *et al.*, 2009). This signifies that the East African integration process was functional, as shown by the growth in intra-regional trade volumes. It is from this background that this study seeks to establish the impact East African integration has had on FDI flow in EAC countries. The knowledge from this study can be useful in formulation of strategies and policies that will enable Kenya and other EAC countries make the most of regional integration as a means of maximizing the flow of FDI.

1.2 Problem Statement

The East African Community (EAC) is a regional organization mandated by the Governments of Kenya, Uganda, Tanzania, Rwanda and Burundi to spearhead the East African economic, social and political integration agenda. Among the expected benefits from this initiative are trade creation, factor mobility, economies of scale⁵ and external economies.⁶ Economies of scale are expected to contribute to increased inflow of FDI and to the rise in inter-territorial trade. FDI is important to East African economies because it brings investable resources, provides new technology and enhances existing technologies. Evidence of the impact FDI in East Africa includes development of the region's export oriented horticulture industry, revival of Kenya Airways and accelerated development of the telecommunications network in the region. For all levels of economic development, nations usually desire to appear economically, socially and politically stable to attract investments from cautious foreign investors and multinational companies. One such way that nations can appear more financially established and secure is to be associated through direct membership with an Regional Integration Agreement (RIA). This is because membership to a RIA requires a state to implement economic and sometimes political reforms. Empirical studies such as Baltagi *et al.* (2005), Aggarwal (2008) and Blomstrom and Kokko (1997) indicate that regional integration had a positive impact on FDI flow among members in a number of regional agreements.

⁵Economies of scale refer to the cost advantage a business obtains due to expansion.

⁶External economies are costs or benefits not transmitted through prices, incurred by a party who did not agree to the action causing the cost or benefit.

Due to the multidimensional nature of this subject, effects of integration may vary depending on the specific nature of each agreement. The effects of integration between developing countries may differ from integration between developed countries, depending on how complimentary or competitive the integrating economies are (Blomstrom and Koko, 1997). This study, therefore, seeks to empirically investigate so as to determine the impact of regional integration on FDI flow in the East African countries.

1.3 Objectives of the Study

The objectives of the study were to examine the effects of East African integration on inward FDI flow in East African countries and provide policy recommendations based on the results

EAC integration was meant to, among other things, increase FDI flow within the region and among member countries because of the large market size. The indicators of integration in the EAC include member states pursuing similar economic programmes under market oriented policies to restructure their economies. This would have an overall effect of increasing the region's competitiveness in terms of its ability to attract FDI.

Evidence of this effort can be seen from the initiatives taken by various states to establish institutions specifically for ensuring the countries maintain a favourable position for FDI flows. In Kenya, for example, there is the Kenya Investment Authority and public-private partnerships used to promote investment in the country. The Tanzanian government and private sector have been affiliated through public private dialogue in different fora. They include National Investment Committee led by their Prime Minister; the Tanzanian National Business Council, an initiative established through a presidential circular, Local Investors Roundtable and International Investors Roundtable (IIRT) meetings. In Uganda, the Presidential Investors Roundtable consisting of 24 national and international corporate leaders was launched to advise the Ugandan government on how to make Uganda a competitive investment destination, and increase its share in the international, regional and local markets (EAC, 2009). This necessitates a study to establish the kind of effect EAC integration has had on FDI flow in EAC.

Most studies in Kenya and Africa have always focused on identifying the determinants of FDI, and little has been done on regional integration effects on FDI. This study fills the existing knowledge gap by establishing whether regional integration affects FDI flow in EAC. The study will also highlight the critical policy actions that need to be carried out alongside regional integration for EAC to increase the amount of FDI inflows.

2. Literature Review

2.1 Theoretical Literature

The theory of regional integration is built from standard trade theories, which support free trade over any other trade regime (Ng'eno *et al.*, 2003). The Ricardian model and Heckscher-Ohlin model provide the pillars upon which much of pure theory of international trade rests. Both models advocate for free trade, but differ on what drives nations to trade with each other. The Ricardian model takes the crucial variable used to explain international trade patterns to be technology. The theory holds that a difference in comparative costs of production is the necessary condition for the existence of international trade. This difference, however, reflects a difference in production techniques. According to this theory, technological differences between countries determines international division of labour, consumption and trade patterns. It concludes that trade is beneficial to all participating countries.

The Heckscher-Ohlin theory predicts that nations would specialize in industries most able to utilize their mix of national resources efficiently. This takes place indirectly when countries export those commodities that use intensively the factors in relative abundance. Therefore, free trade in commodities could equalize factor prices between countries with the same technology, even though the production inputs do not have an international market. This concept applies to the operations of multi-national firms. Foreign direct investment involves international capital flows where a firm in one country creates or expands a subsidiary in another. The distinctive feature of FDI is that not only does it involve transfer of resources, but also acquisition of control. The subsidiary, therefore, forms part of the organizational structure, apart from having financial obligation to the parent company (Krugman and Obstfeld, 2009). This study is based on the Heckscher Ohlin theory as it best explains the movement of multinational firms mostly from developed to developing countries. Developing countries normally have an abundance of labour, while developed countries have an abundance of capital. This theory is relevant for this study, since majority of the firms in the EAC are from industrialized countries (Mwega and Ngugi, 2007), where there is abundance of capital, with Kenya having abundant labour.

The Heckscher Ohlin theory explains the movement of factors, for example capital, from capital abundant to capital scarce countries, and the movement of firms from labour scarce to labour abundant countries. Most multinationals, for example, come to Kenya to provide the much needed capital, while taking advantage of the abundant labour. This principle similarly works within the regional integration agreements. As RIAs advance to different stages, the more

it opens up the region to trade and free movement of production factors such as labour and capital. The lowest level of integration is the formation of a preferential trading arrangement (PTA). Under this system, member countries agree to lower barriers to trade within the group than to trade with non-member countries. Each country determines its own policies, but the trade policy of each includes preferential treatment of group members.

It then moves to the free trade area where barriers to intra-group trade are eliminated, while each country is allowed to retain its own nationally determined barriers to trade with non members. From the free trade area, the region moves to a customs union, where the partners do away with barriers to intra-group trade as was the case in the EAC in 2005. The members, however, maintain a common external tariff on trade with non-members. The subsequent stage involves the common market, where the EAC currently is at. Under this arrangement, free trade is extended among members to factors of production (labour migration and capital flows) as well as to goods and services. The member countries are expected to maintain fixed exchange rates among their national currencies. This, however, has not been implemented within the EAC. The most extensive form of integration refers to the economic union. It involves implementation of common group-determined economic policies as well as a common currency or money. Integration has the effect of reducing or eliminating protection among member countries, allowing them to specialize in trade according to comparative advantage, and enabling them to exploit potential economies of scale.

The removal of tariff or non-tariff barriers among RIA partners has the effect of motivating foreign firms to produce from their home countries and sell to the host countries. This is as a result of cost reduction resulting from removal of barriers put by countries to protect their markets. The tariff jumping FDI (FDI that primarily exists to avoid the extra cost involved in exporting goods to the host countries) would then shift to their home countries because producing from there would be more attractive than relocating to the host countries. This has the effect of reducing tariff jumping FDI. On the other hand, the removal of barriers would lead to an increase in FDI, especially for vertically integrated FDI, where one affiliate company provides inputs for the other, specialized according to their location factors. Location of production is often determined by resources. These resources could be natural, for example minerals such as copper, aluminium and oil, while human resources could apply to skills that are necessary in the production of goods or provision of services. The trade liberalization element of RIAs is, therefore, generally expected to increase the flow of FDI to the region (Yarbrough and Yarbrough, 2007).

2.2 Empirical Literature

Empirical studies have begun to address the links between RIAs and FDI. Empirical research on trade issues confirms that implementation of some regional agreements such as the Economic Partnership Agreements (EPAs) with the EU, and European Free Trade Area (NAFTA) resulted in a significant increase in bilateral trade volumes among member countries. FDI also increased much faster than trade, even within OECD and among the members of the mentioned RTAs (Baltagi *et al.*, 2005).

Market size has a positive impact on FDI received by countries participating in RTAs. By increasing the size of the potential market, it could increase the quantity of investment made by both domestic and outside investors. This, alongside the size of the domestic population, matters because of its effect on availability of labour supply. Most FDI also migrate to countries with high per capita GDP alongside the large market size (Worth, 2008 and Fernandez, 1997).

Aggarwal (2008) examined the prospects and problems of serious fiscal consolidation within the integrating countries in South Asia. The study found that regional integration had the potential to promote intra and extra regional FDI flows and economic development in individual countries of the region. Structural weaknesses, institutional bottlenecks, political movements, narrow nationalism and mutual mistrust explained the failure of the region to exploit possibilities.

Jaumotte (2004) investigated whether the market size of a RIA was a determinant of FDI received by countries participating in the RIA. This was done by regressing the FDI received by a country against its market size, as well as other determinants of FDI identified in the study. The study covered 71 developing countries involved in RIAs. Evidence from this study found that RIA market size had a positive impact on FDI received by member countries. The size of domestic population mattered because of effects on availability of labour supply, and not all countries benefited equally from the RIA.

Basu and Srinivasan (2002) found that a high level of economic development reflected by the availability of quality infrastructure, both human and physical, was beneficial to investors in Sub-Saharan Africa. Similarly, in Kenya, Mwega and Ngugi (2007), and in Pakistan, Khan and Kim (1999), found that infrastructure was a major determinant of FDI for host countries.

Chen *et al.* (2010) examined the investment diversion effect of a RIA, with the different productivity and income between countries based on a three-country footloose capital model. He found that the formation of a Regional Trade Agreement (RTA) induced strong investment diversion effect. More FDI was found to flow into the RTA, but also possible FDI flew out of the RTA within some

ranges of productivity difference between members and non-members. When trade got more free, the difference between member and non-member became larger, and the amount of FDI among RTA became greater. Freund and Ornelas (2010) held that trade diversion could make a trade agreement harmful for both members and non-members alike.

Blomstrom and Kokko (1997) dealt with the investment effects of RTAs and how such arrangements affected inward and outward flow of FDI. Their findings were that the response to RTAs depended on the environmental change brought about by the agreement, and locational advantages of the participating country. Further, the most positive impact on FDI occurred when RTA agreements coincided with liberalization and macroeconomic stabilization in member countries.

Ayanwale (2007) investigated the empirical relationship between non-extractive FDI and economic growth in Nigeria. The study went further and examined the determinants of FDI into the Nigerian economy. An augmented growth model was used to estimate via Ordinary Least Squares and Two Stage Least Squares to ascertain the relationship between FDI, its components and economic growth. Results suggested that determinants of FDI in Nigeria were market size, infrastructure development, and a stable macroeconomic policy. Openness to trade and available human capital were not FDI inducing. Generally, FDI did not have a significant effect on growth, but components of FDI had a significant impact. FDI in the communications sector had the potential to grow the economy, while manufacturing FDI negatively affected the economy and reflected poor business environment in the country. The available human capital was low, and there was need to develop it through education and training to raise its potential to contribute to economic growth.

Obwona (2002) and Semwanga (2011) in two similar studies investigated the Ugandan experience with FDI, with the aim of establishing the FDI growth linkage. It was evident that to attract FDI, macroeconomic and political stability and policy consistency were more important than incentive schemes such as tax holidays and exemptions. Institutional and infrastructure bottlenecks were found to act as deterrents to FDI. Results from both studies confirmed that FDI had an impact on economic growth in Uganda. Achandi (2011) in a similar study aimed at determining whether the increase in FDI inflow in Uganda had an impact on the country's export performance found that FDI inflows increased exports in Uganda and recommended the Ugandan government maintains its policy of attracting FDI and undertakes policy interventions that boost the linkage between FDI and exports, to realize the optimal benefits from the inflows of FDI.

Ngowi (2001) evaluated the impact of FDI on economic development in Tanzania and concluded that although FDI was still at infancy stage in Tanzania,

it had played and still had the potential to play a positive role in the development of the country. Day (2010) conducted a study aimed at exploring the impact of the global financial crisis on FDI inflows to Mozambique and Tanzania, countries that shared similar economic qualities, but exhibited different abilities to attract FDI during the financial crisis. The study revealed that adherence to the key indicators that serve as determinants of FDI could allow a country to realize growth in FDI inflow, despite an economic climate that predicted otherwise. Government policy rather than uncontrollable resources, such as natural resource endowment, was a successful driver in attracting FDI.

In Kenya, studies conducted on FDI reveal that institutional factors are important in attracting FDI into the country. These include law and order, corruption, political stability, internal conflict and civil liberties, among others. The other major drivers of FDI were the macroeconomic environment, a conducive business environment, market size and trade agreements (Mwega and Ngugi, 2005; Ngugi and Nyangoro, 2005 and Kinuthia, 2010). The most serious impediments to attracting FDI were identified as political instability and corruption. The general conclusion from these studies is that there is need for the government to put a lot of resources to curb crime, restore law and order, embrace positive democratic practices, maintain stability and embrace zero tolerance on corruption in order to gain substantially in larger FDI flows. Economic growth was also important in complementing openness of the economy.

3. Methodology

3.1 Conceptual Framework

Figure 3.1 shows the expected increase or decrease in FDI flow from multinational companies in home countries based outside (extra-EAC FDI) and inside (intra-EAC FDI) the EAC. All these are based on the main forms of FDI (market seeking, efficiency seeking and resource seeking) together with other determinants of FDI, including: political stability, quality of infrastructure and financial stability (Feils and Raluman, 2008). Market seeking FDI will move into the EAC to take advantage of the large market size and enjoy the tariff advantages of intra-EAC FDI. The liberalization of internal tariff regimes prompts efficiency-seeking FDI to shut down plants in the home country and move into rationalized regional production. The net effect of these actions may or may not be positive depending on economies of scale and the scope of plants being switched to regional production centres. Resource seeking FDI will move into the region to maximize on location advantage factors such as low labour costs or availability of highly skilled workers.

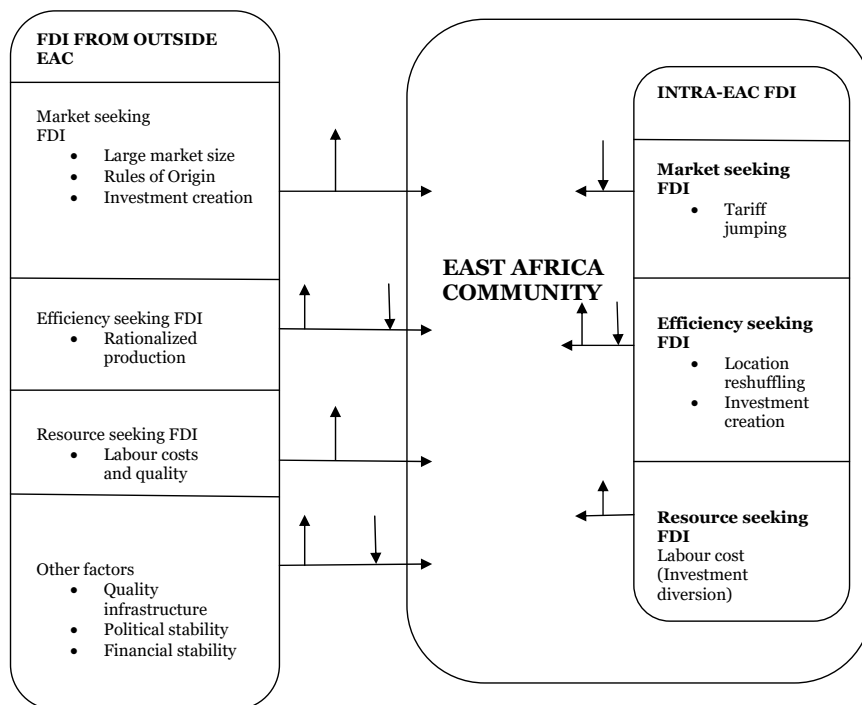
The other factors such as political stability, quality of infrastructure and financial stability may determine the increase or decrease of net FDI into EAC depending on their state. An improvement in the quality of infrastructure will lead to an increase in the net FDI flow and vice versa. Political stability gives investors an assurance that their investments are secure and contracts are respected, and this is therefore likely to increase net FDI flow. Political instability, on the other hand, may lead to massive outflow of FDI. Financial stability gives investors a sense of predictability in terms of profitability. Unstable financial environments discourage investments, and this may lead to a decrease in net inward FDI.

3.2 Empirical Model

The model used in this study is a variant of the model used by Jaumotte (2004). This model was, however, modified to include variables that had been identified by Basu and Sirinivasan (2002) and Mwega and Ngugi (2007) as determinants of FDI in Africa and Kenya, respectively. This model, therefore, takes into account factors such as market size, quality of local labour, political risk, level of economic development, and openness of the economy.

Host market size plays an important role in attracting FDI. Jaumotte (2004), Worth (2008) and Fernandez (1997) found that market size played an important role in attracting FDI, especially when the host country market allowed the exploitation of economies of scale for import substituting investment. This was proxied by per capita GDP, $Y_{i,t}$. This variable is expected to have a positive impact on FDI.

Figure 3.1: The effect of regional integration agreement on FDI in EAC



Source: Feils and Raluman, 2008

Secondly, the cost and quality of labour denoted (LBR) have been identified as another significant factor in location considerations. This particularly applies to export-oriented investments. Investors would also like to operate in countries that allow employment of expatriate staff (Basu and Sirinivasan, 2002). This was proxied by the Human Development Index (HDI).

HDI is the geometric mean of the three dimension indices $I_{Life}^{\frac{1}{3}} \cdot I_{Education}^{\frac{1}{3}} \cdot I_{Income}^{\frac{1}{3}}$ measuring achievement in each dimension. This expression represents imperfect substitutability across all HDI dimensions. The life expectancy index takes into account life expectancy at birth, education index takes into account the mean and expected years of schooling, and finally, the gross national income gives the index for gross national income that indicates a decent standard of living (UNDP, 2010). This is expected to be positive, especially so if the type of FDI present in the country is efficiency seeking.

HDI is a good measure for cost and quality of labour because the education component determines both the cost and quality of labour. The availability of low skilled (in terms of years of schooling) labour implies lower production costs, hence validates relocation of production processes to foreign countries. However, in instances where there is intensive use of technology in production, firms may

demand for highly educated workers because they are more interested in the quality of output. The education component measured by the number of years of schooling adequately captures these two elements. The life expectancy component captures the quality of life in terms of health and the number of years one is expected to live. Healthy workers as opposed to sickly ones are more productive and likely to deliver more output.

Financial stability (denoted by *STABFIN*) was proxied by the real effective exchange rate. A depreciation of the real exchange rate can be expected to encourage FDI inflows and discourage outflows by enhancing the competitiveness of the economy. This variable is expected to be positive, since a strong exchange rate reduces the amount of investment in the economy (Jaumotte, 2004). The real exchange rate was calculated using the following formula: $r = e \frac{p^*}{p}$ where

r = Real effective exchange rate

e = nominal exchange rate

p^* = Foreign prices

p = Domestic prices

The infrastructure index (denoted *INFRST*) was used as a proxy for the quality of infrastructure. This index was constructed using the Principal Component Analysis method. Well developed infrastructure is an incentive to locate new FDI close to existing FDI. Infrastructure is therefore an agglomeration related variable that qualifies to be a determinant of FDI; for this reason, it is expected to have a positive sign (Jaumotte, 2004; Mwega and Ngugi, 2007 and Basu and Sirinivasan, 2002).

The methodology for construction of the infrastructure index is given below:

The Principal Component Analysis gives a linear combination of optimal weighted observed variables

$$C_1 = b_{11}(x_1) + b_{12}(x_2) + \dots + b_{1p}(x_p) \quad \text{where}$$

C_1 = score on principal component 1

b_{ip} = regression coefficient or weight

x_p = The subject's score on the observed variable p

The components used in the construction of this index are:

- Air transport freight in millions per tonne
- The number of air transport passengers
- Rail total route in km

- Railways goods transported
- Mobile phones per 1,000 people
- Fixed telephone lines per 1,000 people

The degree of a country's openness (OPEN) affects FDI in multiple ways. Lower import barriers discourage tariff jumping FDI, but may stimulate vertical FDI by facilitating imports of inputs and machinery. Lower export barriers facilitate re-export of processed goods, thereby increasing (non-tariff jumping) horizontal FDI by expanding the market size, leading to an improved business climate and higher expectations of better long term economic growth. This was measured by the trade to GDP ratio. This variable is expected to have a negative sign because the more a country opens up, the more it is accessible from outside, hence no need for a foreign firm to relocate there.

Political stability (PIN) encompasses perceptions of civil unrest, instability of government and violation of civil liberties. Political instability may constitute a large part of the total risk that investors face when investing in emerging markets. Political instability is found to be significantly negative in developing countries. Investors are also concerned about the quality of institutions. This relates to the safeguard for their property rights and the bureaucratic red tape of undertaking investment. Potential investors consider the rule of law, strong and clearly defined property rights, the extent of corruption, the regulatory framework and local bureaucracy in making their decisions (Blomstrom and Kokko, 2003). This variable is expected to be positive because an improvement in the country's ranking in the degree of political risk (the lowest rank is high risk where a country has the lowest percentage points, whereas low risk refers to a country that has scored high points in terms of perception of political stability), would lead to greater inflows of FDI.

The additional variables were used to measure the locational advantage of the EAC. REGY denotes market size extended to include RTA market size for countries belonging to an RTA. The regional market size is calculated as the sum of the domestic market size and the market size of all the countries within the EAC. The prefix GAP denotes the ratio between the domestic value of the variable and the average value for all the countries in the EAC (including Kenya). The variable t is a dummy variable that was used to distinguish between periods before and after EAC integration where:

$D_{it} = 1$ if it was during the period after integration (2000-2009)
= 0 otherwise (period before integration 1990-1999)

The coefficient attached to the dummy variable indicates whether integration had an effect on FDI if it is found to be statistically significant. This variable is expected to be positive.

Lagged values were taken to account for the suspected presence of endogeneity among the independent variables.⁷

$$\begin{aligned} LNFDI_{i,t} = & \phi_1 LNY_{i,t-1} + \phi_2 LBR_{i,t-1} + \phi_3 LNSTABFIN_{i,t-1} + \phi_4 INFRST_{i,t-1} \\ & + \phi_5 LNOPEN_{i,t-1} + \phi_6 PIN_{i,t-1} + \phi_7 REGY_{i,t-1} + \phi_8 GAPLBR_{i,t-1} + \phi_9 GAPSTABFIN_{i,t-1} \\ & + \phi_{10} GAPINFRST_{i,t-1} + \phi_{11} GAPOPEN_{i,t-1} \end{aligned}$$

The models were estimated via panel data for the three countries: Kenya, Uganda and Tanzania (leaving out Rwanda and Burundi since they are late entrants into EAC, therefore have insufficient data) over the period 1990-2009.

The model was first tested for specification errors via the Ramsey regression specification error test. Powers of the fitted values of log FDI were used to check whether the model had any omitted variables. Given that the F-statistic was found to be insignificant, it was concluded that the model had no omitted variables. Further, the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity was conducted to check whether the variance in the disturbance term was constant. The null hypothesis of constant variance was not accepted given the results. The empirical results of the tests are shown in the diagnostic results shown in Table 4.2.

Given the presence of panel heteroskedasticity, the Feasible Generalized Least Squares (FGLS) was used to run the model. Obtained results are given in section 4. The study used data from World Development Indicators, UNCTAD world investment reports and the EAC secretariat.

⁷ Shepherd (2008) stated that the most common approach to address endogeneity is by lagging the suspected variables by 1 or more periods.

4. Results and Discussion

Table 4.1 provides the descriptive statistics for all the variables. FDI had a mean value of US\$ 210.68 million, a minimum of US\$ -5.91 million which was attributed to the net outflow of FDI from Uganda in 1990 as it was stabilizing from a period of internal conflict, and a maximum of US\$ 798.77 million, which was similarly received by Uganda in 2009. Political instability represented by the political risk index had a mean of 57.8, minimum of 37 scored by Uganda in 1991, 5 years after it emerged from a civil war and maximum of 68.08 percentage points scored by Tanzania in 1995. GDP per capita had a mean of 336.95, a minimum of 181 scored by Uganda in 1990 and a maximum of 457 scored by Kenya in the year 2007, when the country experienced its highest economic growth in recent times. The real exchange rate had a mean of 699.20, a minimum of 5.4925 and a maximum of 2,657.455. The infrastructure index, which measures the quality of infrastructure had a mean of 3,340,400 and a minimum of -1.14, which indicated deterioration of infrastructure in Tanzania, and a maximum of 2.62 points attributed to the Kenya government's heavy investment aimed at improving the country's quality of infrastructure. The degree of openness had a mean of 36.91 per cent, a minimum of 20 and a maximum of 66 per cent. The quality of labour represented by the human development index had a mean of 0.38, minimum of 0.31 and a maximum of 0.42. GAPGDP had a mean of 1, minimum of -1 and a maximum of 3. GAPREER had a mean of 1, minimum of 0 and maximum of 2.8. GAPINFRST had a mean of 1, minimum of 0.26 and maximum of 2.01. GAPOPEN had a mean of 1, minimum of 0 and maximum of 2.1. GAPHDI had a mean of 0.33, minimum of 0.73 and maximum of 1.19.

The sample covered three East African countries, namely: Kenya, Uganda and Tanzania during the period 1990-2009. Table 4.1 reports estimates of the model run via FGLS, with correction for panel heteroskedasticity. Results revealed positive and significant values for financial stability (1.098), proxied by the real exchange rate and the degree of political risk (0.113), as measured by the ICRG political risk ratings. The GAP in degree of political risk was found to be negative and significant, with a coefficient of -5.934. The dummy representing regional integration was insignificant, like the rest of the other variables, though positive.

The coefficient for financial stability was positive, indicating that an increase in the real effective exchange rate would lead to an increase in FDI flow within the EAC. These results suggested that if there was a 1 percentage change in the real effective exchange rate, there would be a 1.1 percentage change in FDI flow in the EAC. This variable took the positive sign as expected, and this finding was similar to results obtained by Jaumotte (2004), whose study revealed that a strong exchange rate reduced the amount of investment in the economy.

Table 4.1: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Foreign direct investment	60	210.6816	243.0577	-5.91	798.7714
Market size	60	336.95	81.85362	181	457
Quality of labour	57	.3799392	.0300918	.312	.424
Real exchange rate	60	699.2064	693.0925	5.4925	2657.455
Infrastructure	60	3.34e-07	.9999995	-1.14007	2.62512
Degree of openness	57	36.91228	11.79479	20	66
Political risk	60	57.79583	6.822101	37	68.08334
Gap in political risk	60	1	.0973191	.7306035	1.189078
Gap in market size	60	1	.2281777	.5801282	1.442308
Gap quality of labour	60	.3333333	.0951301	0	.5468608
Gap in real exchange rate	60	1	.851306	.0339003	2.703019
Gap in infrastructure	60	1.000168	218.6053	-1293.7	1036.26
Gap in openness	60	1	.4126756	0	2.096385

The degree of political risk was important in attracting FDI in the EAC. This variable was found to be positive and significant. The findings suggest that a 1 percentage change in degree of political risk would lead to an 11.9 percentage change in the net FDI inflow into the region. It should be noted that in the ICRG ratings of political risk, a country is considered high risk if it accumulates the least points in terms of political risk ratings: the closer a country is to attaining the maximum 100 percentage points, the more it is considered as low risk.

The GAP in degree of political risk was significant but negative. Therefore, a decrease in the country's political risk rating below the region's average would lead to a 99.7 per cent decline in net FDI inflow. This shows that countries whose political risk ratings deteriorate would lose FDI to their partner states, since the multinational firms will relocate to countries where there is political certainty and guaranteed security for their investments.

Table 4.2: Estimates of the model run via OLS and FGLS

	Panel OLS	Panel GLS
Variable	Fdi	LogFdi
Log regional market size	3.039 (3.699)	3.039 (3.244)
Log financial stability	1.098* (0.616)	1.098** (0.540)
Degree of openness	0.576 (1.506)	0.576 (1.321)
Degree of political risk	0.113 (0.0743)	0.113* (0.0652)
Quality and cost of labour	3.793 (7.690)	3.793 (6.745)
GAP in quality of labour	4.490 (3.403)	4.490 (2.985)
Regional integration dummy	0.221 (0.766)	0.221 (0.672)
GAP in financial Stability	0.0118 (1.370)	0.0118 (1.201)
GAP in degree of openness	0.256 (0.798)	0.256 (0.700)
GAP in degree of political risk	-5.934* (3.438)	-5.934** (3.015)
Constant	-27.15 (19.00)	-27.15 (16.66)
Observations	52	52
R-squared	0.698	
Number of id	3	
Diagnostic tests	P value	
Ramsey Reset Test		
Ho: Model has no omitted variables	0.1687	-
Breusch Pagan/Cook Weisberg test for heteroskedasticity Ho: Constant variance	0.0000	-
Wald test		77.10
P value		0.0000

Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5. Conclusion and Policy Recommendations

5.1 Conclusion

EAC integration has had no impact on FDI flow into the region, according to the findings from this study. Other variables such as financial stability and degree of political risk played a greater role in attracting FDI into the East African countries. Depreciation of the real exchange rate plays a big role in attracting FDI, because it makes investing in the EAC countries cheaper for the foreign companies. When a country's currency depreciates, it loses value with respect to the value of the other currencies. This country becomes attractive as an investment destination because both wage and production costs become cheaper compared to the other countries. This improves the firm's overall rate of return to multinational firms that are considering making investments into the country. However, long run exchange rate volatility may lead to risk aversion by foreign investors, as this worsens their position in terms of the expected future profits.

Investment is a forward looking activity that is based on the anticipation of future returns. In the EAC, foreign investments are positively related to political stability. Foreigners are less willing to risk in a politically unstable environment, because it eventually reduces the rate of return on investment. Also, it lowers the economic value of the firm's assets after a period of conflict, regardless of whether the conflict was internal or external. This is because the host economy's exchange rate becomes more volatile in the face of political instability. Greater political stability among the EAC countries serves to increase the amount of FDI in the integrating economies. Any member state in the EAC whose degree of political risk goes below the region's average stands to experience an outflow of FDI from their economy to other destinations within the RIA. This was evident from the coefficient of the GAP in degree of political risk as seen from the results.

5.2 Recommendations

This study consequently recommends that EAC countries should strive to maintain a high level of political stability. Some of the components that should be targeted to achieve this are government stability, which indicates a government's ability and effectiveness in carrying out its programmes, observance of the rule of law and order, enhancement of security within the country to minimize the risk of internal conflict, elimination of corruption and promotion of transparency and accountability both within and outside government, and finally improvement in the quality of a country's bureaucracy.

Financial stability should be maintained amongst the EAC economies so that investors have confidence in their expected future profits. As much as countries experiencing real exchange rate depreciation have the advantage of attracting foreign investment, EAC countries should protect themselves against exchange rate volatility because this normally has the effect of reducing FDI. Exchange rate stability will attract risk averse investors who seek certainty in the expected future profits.

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