

The Mediating Effect of Ease of Doing Business on the Relationship between Economic Integration and Foreign Direct Investment in the East African Community

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Abstract

Developing countries rely on foreign direct investment (FDI) in order to promote economic development because of their typically low levels of national savings. However, low levels of FDI are still a big concern for poor countries. Regional economic integration is often considered a means to improve member countries' attractiveness to FDI. From the available anecdotal evidence, the East African region ranks as one of the poorest recipients of FDI in the world. This study sought to establish the mediating effect of Ease of Doing Business on the relationship between economic integration and FDI. The research employed an explanatory research design. East African Community was the unit of analysis consisting of Kenya, Tanzania, Uganda, Rwanda and Burundi. Empirical data analysis used path analysis (a causal procedure). The quarterly time series data used spanned the period 2001 – 2015. The study established that formation of an economic bloc leads to more attraction of FDI into a region. However, it is also found that for more effective attraction of FDI there must be a conducive business environment (Ease of Doing Business) within the integrating region. Among the key policy implications, it is recommended that, EAC should make concerted efforts to deepen the integration by taking measures that would intensify intra-regional trade; that there is need to improve investment climate, including having a business regulatory environment that is conducive for the modernization of the regional economy and attract FDI; More precisely there should be: reconciliation of the regional trade regime and border procedures within the EAC, lowering the

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transportation costs, scaling down on the effort, time, and funds businesses spend to conform with regulations, eradication of corruption, and safeguarding of property rights.

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1. Introduction

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

Ease of doing business is a set of conditions that indicate better, usually simpler, regulations for businesses and stronger protection of property rights (Singh, 2015). A high ease of doing business ranking means the regulatory environment is more conducive to the starting and operation of a local firm. The World Bank Doing Business Index is the most prominent means for assessing the ease of doing business in a country (Singh, 2015). The ease of doing business index ranks economies from 1 to 189 on the basis of some specified variables. The index is based on ten factors namely: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency. These data highlight the main obstacles to business activity as reported by entrepreneurs in 189 economies. For each economy the ranking is calculated as the simple average of the percentile rankings on each of the 10 topics included in the index. Higher rankings indicate better, usually simpler regulations for businesses and stronger protections of property rights. In terms of the determinants of FDI as identified in various empirical studies, the Ease of Doing Business indicators highlighted in the previous paragraph could be broadly categorized as either falling under political risk or trade openness measures.

Openness to the rest of the world through trade and capital is the key to the prosperity of nations.

Trade openness refers to the degree to which countries engage in trading activities with other countries. Openness to trade is measured using the ratio of exports and imports to the GDP. This indicator measures a country's "openness" or "integration" in the world (BIS Performance Indicators, 2015). Trade and investment are harmonious flows (Segre, 2000). According to Athukorola (2013) cross border liberalisation of trade sets the stage for the emergence of vertical FDI in a region. Blomstrom & Kokko (1997) added that positive FDI occurs when regional integration agreements coincide with domestic liberalisation in the member countries. A firm must assess political risk in the countries where it expects to establish subsidiaries. Many country characteristics related to the political environment can influence a firm. An extreme form of political risk is the possibility that the host country will nationalise a subsidiary. Madura (2008) identifies the following as some of the more common forms of political risk: actions of host government, war, bureaucracy, and corruption. Azzimonti & Sarte (2007) noted that political risk is an important barrier to FDI. Once an investment has been made, a foreign investor cannot prevent the government in the host country from changing the environment in which the investment decision was made. Despite attempts to establish international tribunals, contracts between MNCs and sovereign countries are almost impossible to enforce. The quality of institutions, and in particular, the degree of protection of property rights, is key in determining the expected return to foreign investors. Countries with relatively poor legal protection of assets, and a high degree of political instability, generally exhibit high rates of expropriation and this makes investment less attractive.

According to the FDI literature, Ease of Doing Business is an important determinant of foreign direct investment (Azzimonti & Sarte, 2007; Athukorola, 2013; Blomstrom & Kokko, 1997). Economic integration alone is not sufficient to attract FDI in the East African Community. Devan and Matsuert (2013) noted that there is a need to improve investment climate, including having a business regulatory environment that is well suited to act as a catalyst to modernize the regional economy and attract FDI. Improving investment climate in the EAC is therefore an essential ingredient for successful integration. These sentiments are shared by Hornberger *et al.* (2011) who noted that business opportunities as reflected in the size and growth potential of markets are the most powerful drivers of FDI, but investment climate features such as strong institutions and investor friendly regulations also matter. This study sought to evaluate the relationship between economic integration ease of doing business, and FDI in the East Africa Community. There is no previous study that synchronized the relationship among these three variables. Therefore, it is correct to state there exists a conceptual knowledge gap in that regard.

2. The East African Community

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

The current EAC is a regional intergovernmental organization of the Republics of Kenya, Uganda, Tanzania, Rwanda, Burundi and South Sudan. It was officially revived in 2000, following the signing of the Treaty for the Establishment of the East African Community in 1999 by the 3 partner states. The Republics of Rwanda and Burundi became full members of the EAC after acceding to the treaty in 2007 (Institute of Economic Affairs, 2011). South Sudan became a member of EAC on 2nd March 2016 (Omondi, 2016).

Significant trade barriers still persist in the EAC. The lack of harmonized trade policy instruments limits inter-regional trade. Cumbersome trade logistics along transport corridors and time-wasting border procedures result in excessive delays, high transit costs and also increased trade costs. Efficient customs operations are hampered by excessive documentary requirements, insufficient use of automated systems, and lack of cooperation among customs and other government agencies (African Development Bank, 2012). According to the African Development Bank (2014) despite a marked improvement in the FDI inflows, the East African region is still the poorest performer in Africa. However, in the recent past there has been an upsurge in FDI flow into East Africa. According to UNCTAD (2015) in the year 2014, FDI into East Africa region grew by 11%. By World Bank standards all EAC member countries are developing economies (Have less than \$6 000 GNI per capita).

3. Theoretical Perspective

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

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

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

The customs theory has an important relevance to this study. The theory as expanded by Kindleberger (1966), argues that economic integration is supposed to trigger flow of FDI in and out of member countries. The difference between the FDI flowing in and that flowing out is known as FDI stock. This study was interested in measuring FDI stock. According to Blomstrom & Kokko (1997) the inflows of foreign capital are expected to increase if the volume of incoming FDI was initially restricted by the limited size of the individual national markets. The integrated common market may be large enough to bear the fixed costs for the establishment of new foreign affiliates as compared to individual national markets. Economic integration should influence FDI flows mostly positively, due to reduced trade barriers and extended market sizes. Marszk (2014) conducted comprehensive literature review to present the key theoretical relationships between economic integration and FDI flows and made the foregoing conclusion. Athukorola (2013) also carried out critical literature review to find out the effect of economic integration on intra-regional investment in South-East Asia. The study concluded that cross border liberalization of trade and investment regimes sets the stage for the emergence of FDI.

The decision by foreign firms to invest abroad instead of simply serving the foreign market via exports is explained by the Eclectic theory of FDI. The eclectic theory of FDI also referred to as "OLI-Model" or "OLI-Framework" tries to

explain why firms set up subsidiaries abroad instead of simply servicing the markets via exports. After all, MNCs experience additional costs in producing abroad: higher costs in placing personnel abroad, communication costs, language and cultural differences, informational costs on local tax laws and regulations, cost of being outside domestic networks; they also incur risk of expropriation by the host country.

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

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

4. Empirical Review

Among the early researchers to investigate the effects of economic integration on the flow of foreign direct investment were Blomstrom & Kokko (1997). Using descriptive statistics they examined the investment effects of regional integration agreements and discussed how such arrangement may affect inward and outward foreign direct investment flows in the integrating region. The study focused on North-North integration (Canada joining CUSFTA), North-South integration (Mexico's accession to NAFTA), and South-South integration (MERCOSUR). The conclusion of the study was that the responses to economic integration

agreement largely depend on the environmental change brought about by the agreement and the locational advantages of the participating countries and industries. More specifically, the findings suggested that the most positive impact on FDI has occurred when regional integration agreements have coincided with domestic liberalization and macroeconomic stabilization in the member countries. The robustness of study results could have been enhanced by using inferential statistics in the analysis instead of descriptive statistics. In addition, this study did not consider the role of ease of doing business and economic growth as factors contributing to attraction of FDI.

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

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

The determination of FDI into the Balkan transition economies was explored by Estrin & Uvalic (2013). FDI inflows to Southeast Europe were analyzed to determine the main differences in the volume, timing and sectoral structure of FDI within the region and in comparison to the Central East European countries. A gravity model to all transition economies during 1990-2011 was estimated to assess whether the factors driving FDI to Western Balkans were different. The explanatory variables in the model included: GDP, distance, wages, resources (fuel, ores and metal exports of the host as a percentage of merchandise exports), institutions (property rights, investment freedom, and dummies for EU membership, control for EU membership, and Western Balkans dummy variable). The study concluded that even when size of their economy, distance, institutional quality (proxied by property rights and corruption) and prospects of EU membership are taken into account, Western Balkans countries received less FDI.

But the findings stressed that EU membership was found to be highly significant. The study ignored the influence of openness to trade on FDI. In addition co-integration and stationarity tests were not conducted on the time series data used.

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

Similar results were obtained by Shahadan (2014) who explored the relationships between Doing Business indexes and FDI inflow. In this study, the main question to be answered was whether changes in Doing Business Indexes, which are indicating the quality of institutions and regulatory reforms leads to attract FDI inflows. In the study random effect method was used to identify the empirical relations and significant areas for attracting FDI net inflows. This study covered six Asian economies which are Afghanistan, Iran, Pakistan, India, Bangladesh and Sri Lanka for the period 2004-2013. The regression estimation showed all indexes have inverse relationships, except registering properties, getting credits and trade across borders. Additionally, all the areas are most likely to influence FDI inflows excluding paying taxes and resolving insolvency or closing business in the region

A paper exploring the long-term challenges for trade and foreign direct investment (FDI) of the Association of Southeast Asian Nations (ASEAN) was written by Kawai & Naknoi (2015). A multiple regression gravity model was employed in the study with FDI being the dependent variable and the following set of independent variables: bilateral trade flows, GDP, distance, FTA dummy, exchange rate volatility, difference in financial risks between economies, and the ASEAN partnership dummy, a vector of economy specific variables (GDP per

capita, tax haven dummy, institutional quality, and cost of doing business). The evidence suggested that : trade flows and inward FDI mutually reinforce each other, i.e., an increase in trade flows stimulates inward FDI and vice versa; a larger market attracts more inward FDI; FTAs tend to help stimulate inward FDI; and strong institutions, good physical infrastructure, and low costs of doing business are critical in boosting inward FDI.

Recently, Hossan (2015) investigated the effect of economic integration on intra-regional trade and intra-regional FDI. The study focused on various aspects of intra-regional trade and FDI in the South Asia region. In a regression model, multilateral trade agreements and bilateral investment treaties were used as proxy for economic integration. The study used time series data. Explanatory variables included Per capita GDP, population, Lending interest rate, cost of business start-up procedures as a percentage of GNI per capita, Average effective tariff rate, and inflation rate. The findings suggested that South Asian Free Trade Area (SAFTA) was positively associated with both intra-regional trade and intra-regional FDI. However, none of the bilateral investment treaties appeared to be a significant impacting factor of intra-regional FDI flow in South Asia. The researcher never conducted co integration test despite using time series data and also ignored the role of openness to trade.

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

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

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

5. Conceptual Framework and Variable Operationalization

The inter-relationships among study variables are illustrated below:

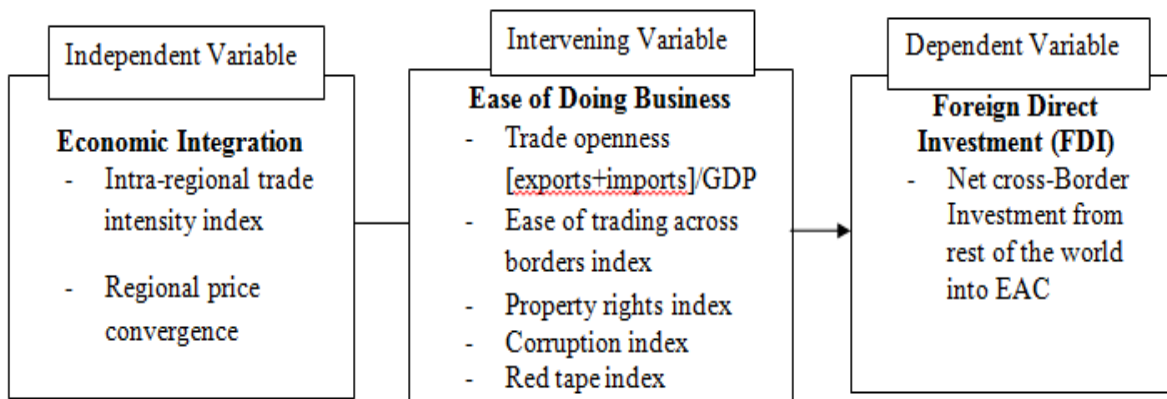


Figure 5.1 Conceptual Framework
Source: Author (2016)

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

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

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

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

Political risk can be measured using the following three indicators: property rights, corruption index, and red tape (bureaucracy). Bureaucracy refers to all state organizations engaged in formulating and implementing policy as well as in regulating and delivering services. The bureaucracy index focuses on how much time, money and effort businesses spend to conform to regulations e.g. business registration and licensing process. Favorable bureaucracy ranking is expected to attract FDI hence the positive coefficient (Hossan, 2015). The Transparency International corruption index reflects the degree of informality in the economy. It combines several indicators which measure the extent to which public power is abused for private gain. This includes petty and grand forms of corruption. Corruption is expected to discourage FDI (Uvalic, 2013). A high corruption index score as given by Transparency International means that a country is less corrupt and hence a higher index is expected to lead to higher FDI and hence a positive

coefficient. Property rights index takes into account protection of physical property rights, registering property, access to loans, protection of intellectual property rights, patent protection, and copyright piracy. A higher ranking on property rights attracts FDI hence a positive coefficient (Singh, 2015). The following table gives a summary of the indicators and measures of the study variables.

Table 5.1 Measurement/Operationalization of variables

Independent variable			
Variable	Indicator(s)	Operational definition	Sources
Economic integration	Intra-regional trade intensity index	$[X_{ii} / (X_i)] / [(X_i)/X_w]$, where X_{ii} is export of region i to region i plus imports of region i to region i , X_i is total exports of region i to the world plus total imports of region i from world, X_w is total world exports and imports	(Dreger <i>et al.</i> , 2007).
	Regional price convergence	Inflation variance among the member countries	Barro & Sala i Martin, (1995).;Engel and Rogers (2001)
Dependent variable			
Foreign Direct Investment(FDI)	FDI stock	Difference between FDI inflows and outflows at a particular point in time	Athukorola (2013)
Intervening Variable			
Ease of Doing Business	Trade openness	$[\text{exports} + \text{imports}]/\text{GDP}$	BIS Performance Indicators (2015).
	Ease of trading across borders index	Harmonization of regional trade policy, trade logistics, border procedures, and transit costs	African Development Bank (2012)
	Property rights index	Protection of physical property rights, registering property, access to loans, protection of intellectual property rights, patent protection, and copyright piracy	Singh (2015)
	Corruption index	Degree of informality in the economy; petty and grand forms of corruption	Uvalic (2013).
	Bureaucracy index	How much time, money and effort businesses spend to comply with regulations e.g. business registration and licensing process	Hossan (2015)

6. Methodology

This study sought to establish the relationships among four variables namely economic integration, economic growth, ease of doing business and foreign direct investment. For that reason an explanatory research design was employed. According to Waters (2005) an explanatory research, also known as causal research is conducted in order to identify the extent and nature of cause-and-effect relationships. Explanatory studies focus on an analysis of a situation or a specific problem to explain the patterns of relationships between variables. It provides empirical evidence suggesting two or more variables are – or are not – related.

The choice of explanatory research design is justifiable because this study used regression models seeking to establish the existence or otherwise of statistically significant relationship among the four variables of study. Quarterly time series data was utilized to evaluate the relationships. Therefore, the fact that the research was interested in estimating the extent to which the study variables are related justifies the reason why explanatory design is the most appropriate.

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

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

6.1 Model Specification

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

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

hypothesized values of the population parameter is statistically significant. The corresponding probability value (p value) for each t - value was used to test the significance of regression coefficients at 5% significance level.

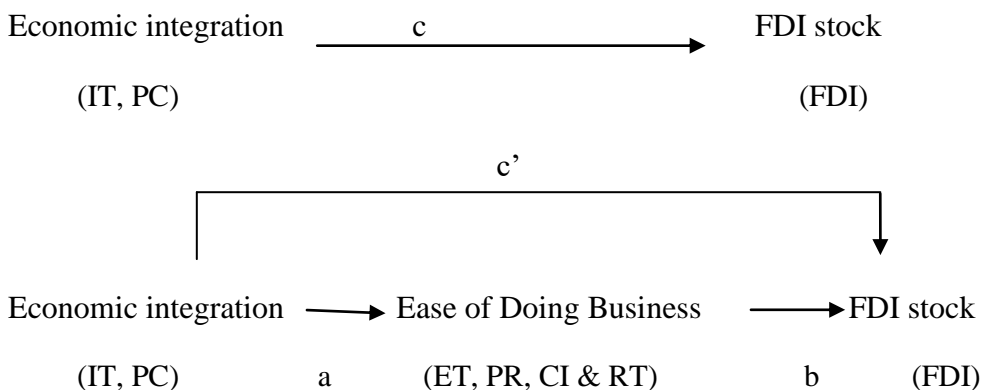
The following general model was used in this study:

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

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

Note: For ET, RT, CI, and PR the average score for EAC member countries was computed, for instance $CI = \{(\text{corruption index for Kenya} + \text{corruption index for Uganda} + \text{corruption index for Tanzania} + \text{corruption index for Rwanda} + \text{corruption index for Burundi}) / 5\}$.

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



Step	Analysis
1	Conduct regression analysis with Economic Integration (IT&PC) predicting FDI to test for path C alone, $\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{IT}_t + \mu_t$ $\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{PC}_t + \mu_t$
2	Conduct regression analysis with Economic Integration(IT&PC) predicting Ease of Doing Business (ET, PR, CI & RT) to test for path a, $\ln(\text{ET, PR, CI \& RT})_t = \beta_0 + \beta_1 \ln\text{IT}_t + \mu_t$ $\ln(\text{ET, PR, CI \& RT})_t = \beta_0 + \beta_1 \ln\text{IPC}_t + \mu_t$
3	Conduct regression analysis with Economic Integration(IT&PC) and Ease of Doing Business (ET, PR, CI & RT) predicting FDI to test for C', $\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{IT}_t + \beta_2 \ln\text{ET}_t + \beta_3 \ln\text{PR}_t + \beta_4 \ln\text{CI}_t + \beta_5 \ln\text{RT}_t + \mu_t$ $\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{PC}_t + \beta_2 \ln\text{ET}_t + \beta_3 \ln\text{PR}_t + \beta_4 \ln\text{CI}_t + \beta_5 \ln\text{RT}_t + \mu_t$

Note: A composite index for measuring Ease of Doing Business (EDB) was computed from openness to trade, ease of trading across borders, bureaucracy, corruption, and property rights indices.

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

The second possibility is the presence of partial mediation, that is, Ease of Doing Business partially mediates the relationship between economic integration and FDI. This will be the conclusion if all the following three conditions are met: Economic integration predicts FDI; Economic integration predicts Ease of Doing Business; and Both economic integration and Ease of Doing Business predict FDI, but economic integration has a smaller regression coefficient for the same sample when both economic integration and Ease of Doing Business are used to predict FDI than when only economic integration is used.

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

not predict FDI; or the regression coefficient of economic integration remain the same before and after Ease of Doing Business is used to predict FDI.

6.2 Data

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

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

7. Preliminary Analysis

7.1 Descriptive Statistics

Descriptive statistics were very important in this study because they enable presentation of the data in a manner which allows for simpler interpretation. These statistics forms the basis of every quantitative analysis of data in a study. Analysis was conducted on the data to establish the measures of central tendency (mean) and dispersion (standard deviation). The results also indicated the normality of the variables which was shown by the Jarque Bera characteristic. The null hypothesis is of normality, and rejection of the hypothesis (because of a significant p-value) leads to the conclusion that the distribution from which the data came is non-normal. The results are indicated in Table 7.1.

Table 7.1 Descriptive Statistics Summary

	CI	ET	FDI	IT	OT	PC	PR	RT
Mean	2.66	31.98	1,763.97	0.61	50.00	13.76	55.18	64.79
Median	2.58	31.93	1,422.98	0.47	50.00	9.41	55.97	63.89
Maximum	3.26	51.61	6,417.68	2.12	84.00	72.66	58.03	78.50
Minimum	2.03	16.75	274.63	0.27	27.00	0.62	49.34	47.07
Std. Dev.	0.36	12.04	1,446.69	0.36	13.00	13.67	2.62	10.01
Skewness	0.10	0.23	1.38	1.90	33.00	2.14	(1.08)	(0.09)
Kurtosis	2.03	1.53	4.51	7.21	2.73	8.32	3.01	1.74
Jarque Bera	2.43	5.94	24.76	80.34	1.28	116.72	11.75	4.05
Probability	0.30	0.051	0.000	0.000	0.53	0.000	0.00	0.13
Observations	60	60	60	60	60	60	60	60

Source: Author computation (2016)

Table 7.1 above gives a summary descriptive statistics of all the variables of the study. These variables include foreign direct investment (FDI) which is the dependent variable, the two measures of economic integration which is the independent variable namely regional price convergence (PC) and intra-regional trade intensity index (IT). The other variables in the table are indicators of Ease of Doing Business which is an intervening variable. These measures are: corruption index (CI), ease of trade across borders (ET), trade openness (OT), property rights (PR) and red tape (RT) index.

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

The results further showed a mean value of Corruption Index at 2.66 with a standard deviation of 0.36 which indicates a small variation in the corruption index score recorded over the study period. The minimum and maximum corruption index recorded over time is 2.03 and 3.26 respectively. Data on corruption index recorded over time was normally distributed since the Jarque Bera value was significant at 5% level of significance.

The mean FDI stock recorded over the study period was USD 1,763.97 million with a standard deviation of USD 1,422.98 million which indicated a large variation in the FDI stock over the study period. The highest FDI amount recorded

in the study period was USD 6,417.68 million while the lowest amount was USD 274.63 million. The Jarque Bera value was non-significant at 5% level of significance which led to rejection of the null hypothesis of normality. This implies that the FDI variable was not normally distributed.

The intra-regional trade intensity index had an average value of 0.61 with a standard deviation of 0.36 indicating large variation in intra-regional trade intensity index. The largest intra-regional trade intensity index recorded over the study period was 2.12 while the minimum was 0.27. Intra-regional trade intensity index had a significant Jarque Bera value which led to rejection of the null hypothesis of normality hence the conclusion that intra-regional trade index data was not normally distributed.

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

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

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

The results obtained in this section are very important for the subsequent analysis. For instance some data series were found not to be normally distributed. In section 7.2.3 a test about normality of the residuals is conducted before the data is entered in analytical models. This is essential in validating the model estimates.

7.2 Diagnostic Tests

7.2.1 Multicollinearity Test

Multicollinearity has the undesirable effect of magnifying the standard errors and confidence intervals hence rendering the regression coefficients to become unreliable estimates (Belsley *et al.*, 1980). In this research, multicollinearity was tested using a correlation matrix. Pearson correlation values greater than 0.7 are indicators of multicollinearity (Field, 2009). To solve the problem, the study

adopted a method to standardize the predictors by using a method known as centering the variables. This strategy eliminates the multicollinearity occasioned by interaction and higher-order terms as successfully as the other known standardization procedures, but it has the added beauty of not altering interpretation of the coefficients (William *et al*, 2013).

Table 7.2 Correlation

	CI	ET	IT	OT	PR	PC	RT
CI	1.000						
ET	0.882*	1.000					
IT	0.714*	0.793*	1.000				
OT	0.634	0.604	0.359	1.000			
PR	0.601	0.448	0.247	0.750*	1.000		
PC	-0.129	-0.133	-0.272	0.364	0.158	1.000	
RT	0.912*	0.971*	0.752*	0.657	0.593	-0.139	1.000

* Multicollinearity

Source: Author computation (2016)

Table 7.2 above gives a summary of correlation coefficients between the various explanatory variables of study namely: regional price convergence (PC) and intra-regional trade intensity index (IT) which are measures of the independent variable namely economic integration and the five indicators of the intervening variable (Ease of Doing Business) namely corruption index (CI), property rights (PR), ease of trade across borders (ET), openness to trade (OT) and red tape (RT)

The overall results indicate that there is multicollinearity between ease of trade and corruption index, intra-regional trade intensity index and ease of trade, intra-regional trade intensity and corruption index, ease of trade and red tape, corruption index and red tape, and intra-regional trade intensity and red tape .To solve the problem, the study adopted a method to standardize the predictors by using a method known as centering the variables. This method removes the multicollinearity produced by interaction and higher-order terms as effectively as the other standardization methods, but it has the added benefit of not changing the interpretation of the coefficients (William *et al*, 2013).

7.2.2 Unit Root Tests

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

variables indicated long increasing trends followed by long decreasing trends which was an indicator of predictability thus suggesting presence of unit roots. The tests were conducted to establish the presence of unit roots in the data.

Table 7.3 gives a summary of stationarity test results. The variables subjected to unit root test as captured in tables 7.3 include: foreign direct investment (FDI) which is the dependent variable, the two indicators of economic integration which is the independent variable namely regional price convergence (PC) and intra-regional trade intensity index (IT) and the five measures of the intervening variable (ease of doing business) namely corruption index(CI), ease of trade across borders(ET), openness to trade(OT), property rights(PR) and red tape (RT).

Table 7.3 Unit Root Test at Level

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

Source: Author computation (2016)

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

The findings indicated that all the variables were non stationary at level apart from regional price convergence which did not indicate presence of unit root at 1%, 5% and 10% significance level. The study further conducted first differencing and tested for the presence of unit roots again. The results are presented in Table 7.4.

Table 7.4 Unit Root Test at First Differencing

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

Source: Author computation (2016)

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

7.2.3 Test for Normality of Residuals

The test for normality was first examined using the graphical method approach as shown in the Figure 7.1. The results in the figure indicate that the residuals are normally distributed hence appropriate to run the model to test the study variables.

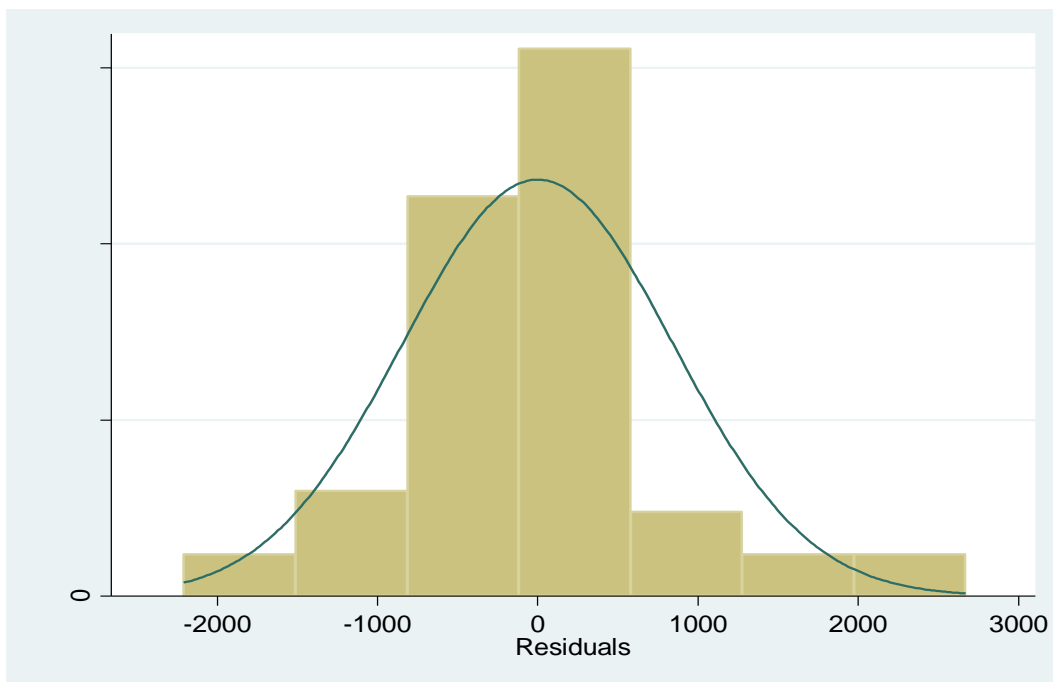


Figure 7.1: Normality of Residuals
Source: Author computation (2016)

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

Table 7.5 Normality Test of Residuals

Skewness/ kurtosis test for normality					
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Residual	60	0.0536	0.0052	9.74	0.077

Source: Author computation (2016)

7.2.4 Test for Heteroskedasticity

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

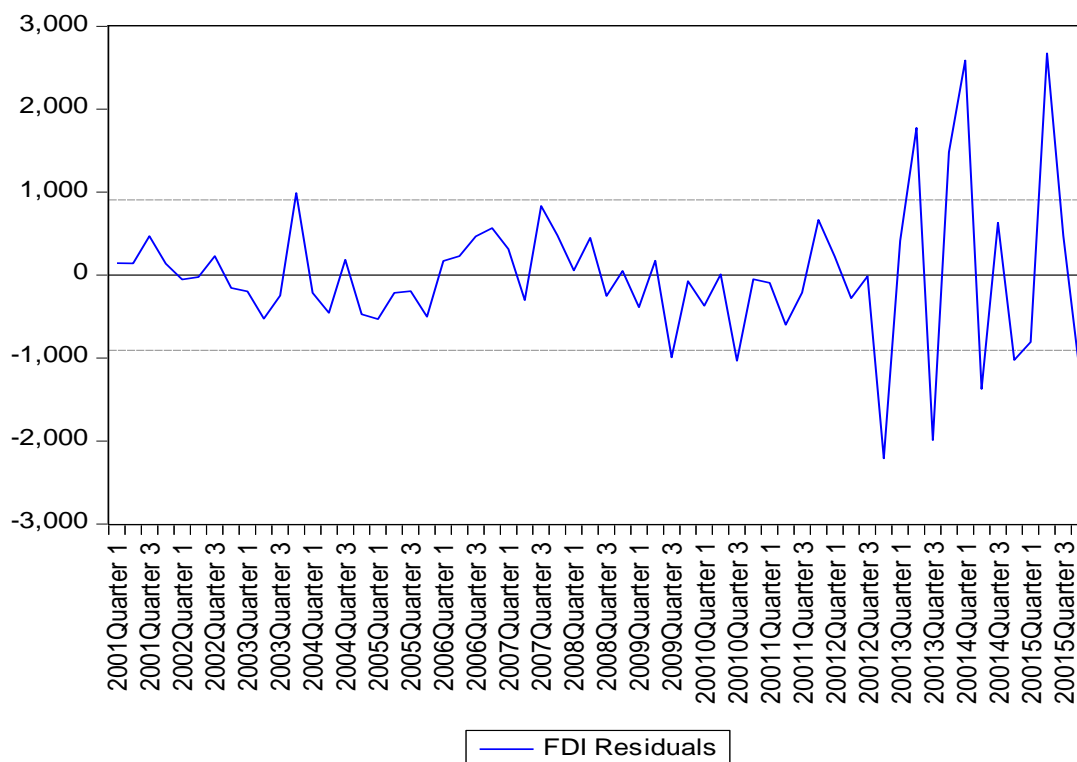


Figure 7.2:Residuals Plot for Heteroskedasticity

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

Table 7.6 White Test for Heteroskedasticity

White's test for Ho: homoskedasticity			
against Ha: unrestricted heteroskedasticity			
chi2(44)	=	55.87	
Prob > chi2	=	0.1082	

7.2.5 Test for Autocorrelation

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

correlation exists. The results of the Table 7.7 indicate that the null hypothesis of no autocorrelation is rejected and that residuals are auto correlated (p-value=0.008). This means that the residuals suffer from first order autocorrelation. The study solved for this problem by using robust standard errors. Obs* R-squared means “(the number of observations times the R-square) statistic.

Table 7.7 Breusch- Godfrey Serial Correlation LM Test

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

Source: Author computation (2016)

8. Empirical Results

The following empirical results were obtained after employing the path analysis causal procedures as described in section 6 above.

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

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

$$\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{PC}_t + \mu_t \dots\dots\dots(a)$$

$$\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{IT}_t + \mu_t \dots\dots\dots(b)$$

Where:

FDI = foreign direct investment

PC = regional price convergence

IT = intra-regional trade intensity index

The following table (Table 8.1) presents the results showing relationship between regional price convergence and foreign direct investment.

Table 8.1 Relationship between regional price convergence and FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Price Convergence	-0.0879	0.100	-1.9959	0.0481
Constant	3.294	0.105	31.4125	0.000
F-statistic	3.9835	Durbin-Watson stat		0.1935
Prob (F-statistic)	0.0481	R squared		0.0643

Source: Author computation (2016)

The results confirm that there is a significant (P value = 0.0481 at $\alpha=0.05$) relationship between regional price convergence and foreign direct investment stock.

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

Table 8.2 Relationship between intra-regional trade intensity and FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intraregional trade intensity	1.2886	0.1482	8.6976	0.0000
Constant	3.4569	0.0510	67.751	0.0000
F-statistic	75.6474	Durbin-Watson stat		1.6331
Prob (F-statistic)	0.0000	R squared		0.5560

Source: Author computation (2016)

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

Step Two: Testing whether economic integration influences Ease of Doing Business (Path a)

Since economic integration is measured using two indicators in which a composite indicator could not be computed, the following two regression equations were used. A composite index combining ease of trade across borders, trade openness, property rights, corruption and red tape was computed to form a single variable representing Ease of Doing Business.

$$\ln EDB_t = \beta_0 + \beta_1 \ln PC_t + \mu_t \dots \dots \dots (a)$$

$$\ln EDB_t = \beta_0 + \beta_1 \ln IT_t + \mu_t \dots \dots \dots (b)$$

Where:

EDB = ease of doing business

PC = regional price convergence

IT = intra-regional trade intensity index

The results on the relationship between ease of doing business and regional price convergence are as presented in table 8.3 below:

Table 8.3 Relationship between Regional Price Convergence and Ease of Doing Business

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

Source: Author computation (2016)

The results indicate that there exists a significant relationship between regional price convergence and Ease of Doing Business (P value = 0.000 at $\alpha=0.05$). A trend towards regional price convergence leads to improved Ease of Doing Business in the East Africa Community. More specifically economic integration explains 2.8% improvement in the ease of doing business in the East Africa community. The relationship between economic integration (as measured using intra-regional trade intensity) and Ease of Doing Business was also tested.

Table 8.4 Relationship between intra-regional trade intensity and Ease of Doing Business

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

Source: Author computation (2016)

The results captured in table 8.4 shows that there is a significant (P value = 0.000 at $\alpha=0.05$) positive relationship between intra-regional trade intensity and Ease of Doing Business. An increase in intra-regional trade intensity index which is an indication of a deepening in economic integration leads to improvement in the Ease of Doing Business within the East African Community. Precisely, 59.7% improvement in the Ease of Doing Business is explained by intensity of intra-regional trade.

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

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

$$\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{PC}_t + \beta_2 \ln\text{EDB}_t + \mu_t \dots\dots\dots(a)$$

$$\ln\text{FDI}_t = \beta_0 + \beta_1 \ln\text{IT}_t + \beta_2 \ln\text{EDB}_t + \mu_t \dots\dots\dots(b)$$

Where:

FDI = foreign direct investment

EDB = ease of doing business

PC = regional price convergence

IT = intra-regional trade intensity index

The results about the effect of regional price convergence and Ease of Doing Business on foreign direct investment presented in table 8.5 below:

Table 8.5 Relationship between Regional Price Convergence, Ease of Doing Business and Foreign Direct Investment

Variable	Coefficien t	Std. Error	t- Statistic	Prob.
Price convergence	-0.2000	0.0519	-1.6942	0.049
Ease of Doing Business	0.7749	0.0601	12.8937	0.000
Constant	-0.7834	0.3207	-2.4427	0.017
F-statistic	90.7905	R Squared		0.761
Prob (F-statistic)	0.0000	Adjusted Squared	R	1
				0.754
				9

Source: Author computation (2016)

The results obtained showed that price convergence and Ease of Doing Business jointly predicts FDI. This is as attested by the P value of 0.000 at 5% significance level. In addition, the results indicated that 76.11% variation in foreign direct investment is explained by regional price convergence and Ease of Doing Business. Further, the study evaluated the joint effect of intra-regional trade intensity and Ease of Doing Business on foreign direct investment. The results are as summarized in table 8.6 below:

Table 8.6 Relationship between Intra Regional Trade Intensity, Ease of Doing Business and Foreign Direct Investment

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

Source: Author computation (2016)

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

A summary of the results obtained through the three casual sequence steps is summarized in table 8.7 below:

Table 8.7: Summary of causal sequence procedure (Path analysis) results

Steps	Path and test	Results	Coefficient and (P – Value)
1.	Path C: Effect of economic integration on foreign direct investment	Regional price convergence significantly affects FDI	-0.0879 ** (0.0481)
		Intra-regional trade intensity significantly affects FDI	1.2886 (0.0000)
2.	Path a: Effect of economic integration on the Ease of Doing Business	Regional price convergence significantly affects Ease of Doing Business	-0.1450 (0.000)
		Intra-regional trade intensity significantly affects Ease of Doing Business	1.4457 (0.0000)

3.	Path C' : The joint effect of economic integration and Ease of Doing Business on foreign direct investment	Regional price convergence and Ease of Doing Business have significant effect on FDI	Regional price convergence: -0.2000 ** (0.0000)
			Ease of Doing Business 0.7749 (0.0000)
		Intra-regional trade intensity and Ease of Doing Business have significant effect on FDI	Intra-regional trade intensity 0.3561 (0.000)
			Ease of Doing Business 0.6451 (0.000)

Source: Author computation (2016)

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

The results obtained above meets the following conditions: Economic integration predicts FDI; Economic integration predicts Ease of Doing Business; Both economic integration and Ease of Doing Business predict FDI; But economic integration has a smaller regression coefficient when both economic integration and Ease of Doing Business are jointly used to predict FDI than when only economic integration is used. It is noted from the results that the regional price convergence coefficient declines from -0.0879* to -0.2000* while the intra-regional trade intensity coefficient reduces from 1.2886 to 0.3561.

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

Ease of Doing Business does not significantly mediate the relationship between economic integration and foreign direct investment in the East African Community These findings are in line with outcomes of previous studies. Kofarbai & Bambale (2016) found out that “ease of doing business” indicator; play an important mediating role between investment climate and FDI. They noted that the cost of a poor business environment and investment climate constraints add substantially to the cost of doing business hence discouraging FDI. Similar results were echoed by Kastrati (2013) who after carrying out a study to highlight the most important channels through which FDI makes a significant impact on the economic growth of the host countries concluded that FDI is best attracted when there is presence a healthy enabling environment for business. Related results were obtained by Ebero & Begum (2016) who evaluated the effect of doing business indicators on

the flow of foreign direct investment (FDI) and concluded that costs of starting business, cost to get electricity connection, cost of registering property, resolving insolvency and cost of construction permit had a strong negative relation to the FDI flow to Ethiopia. Anita *et al* (2015) also found out that corruption, government instability, and inefficient government bureaucracy are influencing negatively on the international capital flows into the Southern Euro-Med states.

9. Conclusion

The objective of this study was to find out whether Ease of Doing Business mediates the relationship between economic integration and foreign direct investment. The research concludes that ease of doing business is an important driver of the extent to which economic integration achieves attraction of foreign direct investment into the East African Community. That is, ease of doing business is important in transmitting the effect of economic integration to the attraction of foreign direct investment.

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

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

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

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

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