Determinants of Foreign Direct Investment: Empirical Evidence from Selected states of East Africa and East Asia

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Abstract

The objective of this paper is to analyze the determinants of Foreign Direct Investment in Ethiopia using panel co-integration approach. The struggle to enhance the FDI inflow in Ethiopia dated back short period. Considering this, the study aims to identify the determinants of FDI and to draw a lesson for Ethiopia by identifying key drivers of FDI in East Asian countries vis-à-vis east African countries. It undertakes empirical analysis to establish the determining factors of FDI in Ethiopia. Our findings show that per capita GDP, infrastructure, and domestic investment, among others, have positive impact on FDI inflow. On the other hand, average cost of labor and political instability has negative impact on FDI. These findings imply that stable political environment, and improvements in average cost of labor are essential to attract FDI to Ethiopia. Furthermore, Ethiopia needs to strengthen the country's trade balance, technological choice and employment capacity to enhance the FDI inflows.

Keywords: FDI, Determinant, panel co-integration, fully modified OLS

1. Introduction

Foreign direct investment (FDI) received increased attention in recent years (Helga Kristjansdottir, 2005). Foreign Direct Investment (FDI) has grown at a phenomenal rate since 1980s and the trend of FDI was shifted from developed countries to developing countries during these past two decades. Developing countries have become increasingly attractive investment destinations as they offer more potential growth and investment returns. The rapid growth of FDI puts the foundation of international expansion for multinational enterprises. The host countries, developing countries, have also received even greater benefits of FDI as an important source of external finance, resources and capital formation, transfer of production, technology, skills, innovation, managerial practices and knowledge (Niko Fanbasten, 2015).

Foreign direct investment is believed to make significant contributions to growth and economic development of host (recipient) countries. FDI nourishes recipient countries with the capital inflows, technological knowhow, human capital development and managerial expertise required for sustainable economic development (Mohammad, 2015). FDI inflows into host countries currently have increased as these countries have started economic and political reforms in addition to having their economies more opened to international trade.

Foreign direct investment (FDI) is a policy variable to enhance economic growth in the economy. So, identifying the determinants of FDI is very challenging among the policymakers (Rudra P. Pradhan, and DevdutSaha, 2011). FDI is an important factor in solution of restricted local capital and problems of low productivity in most of the developing countries. FDI is an important tool for the economic growth and development. Most of the governments enhance FDI as priority, particularly in low income and transition economies. Therefore, FDI is regarded as a potential growth factor in a receiving country (see OktayKizilkaya, 2016 and Muhammad AZAM, 2010)).

In recent years, most developing countries have implemented various economic reforms to restructure their economies in order to achieve higher economic growth and development. These reforms include the opening up and liberalisation of the economy to allow free inflow of foreign capital, especially from developed countries. This has resulted in a dramatic increase of FDI inflow into developing countries, in general, and into African countries, in particular. However, these inflows have been unevenly distributed among developing countries, with Asian countries receiving the lion's share of FDI inflows, compared to African countries (Suleiman et al, 2015).

The foreign direct investments (FDI) have played an important role in the economic development of the South- East Asia over the last two decades, as a source of capital and technological know-how. These countries have benefited of the foreign direct investments made not only by their neighbors, such as Japan or the newly industrializing economies (like the Chinese Taipei), but also, they have attracted investments from the rest of the OECD, notably the United States and Europe. With high economic development achievements in the period 1991-1997, the FDI inflows to South-East Asia (ASEAN) reached about 8% of world total FDI, being situated, in the 1990s, among the world's largest recipients of FDI's (Laura Diaconu, 2013).

There is a long-standing impression among policymakers that foreign direct investment is more conducive to long-run growth and development than other forms of capital inflows. Arguments for this hypothesis have been diverse, but most often based on the idea that FDI brings with it foreign technology and management skills, which can then be adapted by the host country in other contexts. This impression is strengthened by the fact that rapidly growing economies tend to absorb more FDI, though with FDI both contributing directly to growth and with foreign companies naturally eager to invest in rapidly growing economies, the direction of causality is not clear(IMF, 2010).

Numerous theoretical and empirical studies have been conducted on the determinants of FDI using time series and panel data setting on developing countries. Nevertheless, the findings are still inconclusive on the factors that determine the inflow of FDI. Moreover, studies on east African and Asian region, in general, and its economic bloc groupings, specifically, on FDI are still inadequate. Hence, in this study, some of these determinants would be incorporated to investigate the significance of its influences on FDI inflow to the top ten FDI recipient member countries (five countries from each region). These countries have been selected for the purpose of this study due to the fact that, in the recent years, these countries have been receiving more FDI inflows compared to other countries in Africa and Asia.

Therefore, the main research question for this paper is: "What are the determinants of FDI in the TOP countries?" To be able to address the main question, the following sub question needs to be answered: "How do economic, institutional, and political factors affect FDI inflows to the TOP countries?"The main purpose of this study is to examine the determinants of direct foreign investment flows into the economy of countries under consideration over the period of 1990-2017 using panel co integration. We use recently developed panel co integration and integration tests, which allow for heterogeneity in parameters and dynamics across countries, to examine the long-run determinants of FDI during period under consideration.

Specifically, the study examines the potential of market size, exchange rate, growth capital formation, current account balance, political stability, infrastructure development, labour cost, and population to be determinants of FDI in top East African and Asian countries, based on the amount of FDI recipient ranks.

This paper is organized as follows: Section 2 provides a review of related literatures. Section 3 discusses the empirical methodology, which includes model specification, data sources and estimation methods. Section 4 discusses the empirical results. The final section consists of conclusion with some policy implications.

2. The theoretical literature

Below we provide a brief overview of different theoretical and empirical studies to explain the relations between the theory of FDI.

Bhatt, P. (2014) clearly stated that there is an emerging consensus that FDI inflows depend on the motives of foreign investors. Motives of foreign investors can be broadly classified as (i) market seeking (ii) resource or asset seeking and (iii) efficiency seeking. Market seeking FDI is to serve local and regional markets. Tariff-jumping or export-substituting FDI is a variant type of this FDI. Market size and market growth of the host country are the main drivers. In the case of resources or asset seeking FDI, investors are looking for resources such as natural resources, raw materials or low-cost labour. This vertical-export oriented FDI involves relocating parts of the production chain to the host country. Resources like oil and natural gas, iron ore, cheap labour attracted FDI in these sectors. Efficiency seeking FDI occurs when the firm can gain from the common governance of geographically dispersed activities in the presence of scale and scope. One important variable explaining the geographical distribution of FDI is agglomeration economics. Investors simply copy investment decision taken by others. The common sources of these positive externalities are knowledge spillovers, specialized labour and intermediate inputs.

TheNeoclassical international trade and capital market theories assume perfectly competitive markets, as a result of which international specialization leads to gains from international trade. According to this approach, the scarcity and relatively high cost of labor in developed countries make them transfer production facilities to less developed, labor-intensive countries (Caves, 1996; Cantwell, 2000). As a result, there is only one direction of capital flows: from advanced countries to capital-scarce countries. However, in the context of transition, it was highly criticized due to absence of perfect competitive market and basic market institutions and tools. On the other hand, the assumption of capital movement from economically developed countries to the capital-scarce countries was very important for understanding incentives of FDI in transition economies (McDougall, 1960; Kemp, 1964).

The second theory is monopolistic advantage theory. Coase (1937) initiated the discussion of the efficient allocation of assets to dispersed locations, and explained international activities of companies as their attempt to reduce transaction costs.

He also introduced the concept of transaction costs to explain the nature and limits of the organization of the firm, Consistent with Coase, Hymer (1960) offered an alternative, a microeconomic analysis of MNCs based on industrial organization theory, which relates MNCs' motives for FDI as to extend their activity abroad and transfer intermediate products such as knowledge and technology over the world. Actually, he was the first to identify the MNC as a business entity for international production rather than international trade in an imperfect market. Also, his theory highlights such important factors for transition economies as product differentiation, managerial expertise, new technology or patents, government intervention, information asymmetry, culture differences and business ethics (Caves, 1971).

Based on the hypothesis of comparative advantage of factor endowments, which suggests that differences in endowments and initial conditions between countries explain the geographical pattern of inward FDI, Vernon (1966) introduced the theory of international product life cycle. However, his model simplifies FDI as a substitute for trade, and cannot explain the investment activities of transition countries in advanced economies.

Aggregate Variables as Determinants of FDI theory is based on empirical findings, rather than on any existing theory of FDI. While testing MNCs' incentives to invest abroad, Scaperlanda and Mauer (1969) found evidence of an impact of GNP size on FDI in Europe. Other researches also disclosed the significant role of market size, market growth, distance bbetween the investor and host countries, cultural and language similarities, and diverse trade barriers as main determinants of FDI (Goldberg, 1972; Davidson, 1980; Lunn, 1980). Many investigations of FDI in transition economies are based on this approach. In the context of CEE countries, Altomonte (1998) showed that the bigger the size of the market and its potential demand, the higher the probability of attracting foreign investment; the distance between the home and the host country also influences MNCs' FDI decisions. Using an empirical model of bilateral FDI flows between the EU and CEE countries, Brenton, Di Mauro and Liicke (1998) found that income growth and business-friendly government policies were the key determinants of FDI to the region. The results of Lyroudi, Papanastasiou and Vamvakidis (2003) for transition countries for 1995-98 indicate that FDI does not exhibit any significant relationship with economic growth, which can be explained by the fact that all the transition countries had a similar crisis situation characterized by low economic growth then. Cukrowski and Kavelashvili (2001), and Mogilevsky (2001) claim that the poor transition economies attract fewer investors.

The other theory is substitute theory of FDI. Mundell (1968) argued that relations between commodity and factor movements are substituted when high trade barriers discourage commodity movements. This implies that FDI growth will diminish exports from the home country to the host country, and capital movements driven by FDI become the perfect substitute for exports. Goldberg and Kelin (1999) also argued that FDI can serve as a complement or substitute for trade on the effects identified by the Rybczynski curve. Their results indicated that the relations between FDI and trade present a mixed pattern of linkages, while some FDI flows tend to expand manufacturing trade, the other FDI reduce trade volumes. In the context of transition economies, Johnson (2005, 2006) proved that investment in a host country leads to an increase in the trade of intermediate goods used in production, which also implies that MNCs invest in the transition host country in order to export the output to third countries (neighboring markets).

An alternative to Substitute theory, complement theory, developed by Kojima (1979), called Complement Theory of FDIstates that FDI originates from the comparatively disadvantaged industries of the home country, which are potentially comparatively advantaged industries for the host country, depending on the different stages of economic development in home and host countries. In other words, export-oriented FDI occurs when the source country invests in those industries in which the host country has a comparative advantage; and thus, it is welfare improving and trade creating since it can promote both host countries' and source countries' exports. Such evidence found by him for Japanese business may also be extended to other transition countries.

The Theory of Internalization of FDI (OLI Paradigm). According to this theory of Dunning (1988), transactions are made within an institution if the transaction costs on the free market are higher than the internal costs. Later, this theory was developed into the eclectic OLI paradigm, which argues that production of a firm in a foreign country depends on these three conditions: firm should have tangible and intangible assets and skills so that they can compete with the domestic firms of the host country who have national knowledge and experience (production technique, entrepreneurial skills, returns to scale, trademark - *O*wnership); for a firm, through an advantage taken from the host country, it should be more profitable to produce in the host country than to produce in the home country and export it (such as existence of raw materials, low wages, special taxes or tariffs - *L*ocation), and realizing FDI project should be more profitable than selling, leasing or licensing the skills (advantages by producing through a partnership arrangement such as licensing or a joint venture - *I*nternalization). In the context of transition countries, Dunning was the first to consider structure of resources, market size and government polices as the determinants of the location of FDI. He also argues that the patterns of FDI are not constant, but differ according to these determinants.

Three approaches were proposed within TheTheory of Traditional Multinational Activity. The first is the vertical FDI model, that FDI geographically fragments the production process into stages, and thus, possibly reverses trade in terms of asymmetries of factor endowments between host country and home country, and the asymmetries between countries also make it possible for trade and FDI to coexist (Markusen, 1984); the horizontal FDI model,

That FDI produces the same goods and services in different locations, the interacting countries are assumed to be identical in technologies, preferences, and factor endowments, and hence MNC can be motivated by international trade (or by high productivity, lower labor costs, resource endowments, and favorable business environments) (Helpman, 1984), and the knowledge-capital model, which integrates vertical and horizontal approaches (Markusen et al., 1996).

Both horizontal and vertical models highlight variables such as research and development across plants, plant-level scale economies, market size, factor endowments and transport costs, including geographical and cultural distance costs as well as the other kinds of barriers involved in the trade between home country and host country. Brenton, Di Mauro and Liicke (1998) demonstrated that FDI has a direct impact on the economy of the source country in terms of being a substitute for trade, supporting the hypothesis of complementary relationship between FDI and trade. Lankes and Venables (1996) note that the mode of MNCs' entry into transition economies forms are different and reflects changes in both internal and external conditions. Bevan and Estrin (2000) and Hunya (2000) in case of CEE countries, Kumar and Zajc (2003) in the context of Slovenia, and Sova, Albu, Stancu and Sova (2009) for the new EU countries have studied many aspects of this issue. Their general finding is that MNCs prefer to construct horizontal FDI in transitional economies patterns due to the high uncertainty of host markets.

According to The Resource-Based Theory of FDI, MNCs aim to possess resources that are rare, unique, and limited in order to beat their competitors in various performance indicators (Wernerfelt, 1984; Barney, 1991; Grant, 1991; Davidow, 1986). Tondel (2001) supports a hypothesis of market-seeking and resource-seeking investments prevailing in CEE and former Soviet republics. In line with Kudina and Jakubiak (2008), market-seeking orientation has the most positive effect on investment performance, followed by skilled labor and cheap input orientations in smaller transition countries. Based on statistically significant positive relation between FDI and market size, wage differential, the stage of the transition process and the degree of openness of the economy, Resmini (2000) also argues the same. However, in transition economies where the government is main stakeholder, the natural-resource-seeking activity of foreign investors is limited, which is particular characteristic of rent-seeking countries, such as Russia (Filippov, 2008). Consequently, foreign investors should seek labor and efficiency and form horizontal FDI patterns.

According to Krugman (1999), if trade is largely shaped by economies of scale, then those economic regions with most production will be more profitable and therefore will attract even more production and FDI, and production will tend to concentrate in a few regions (or big cities) with high levels of business infrastructure and large market size.This theory is known as The Theory of New Economic Geography. Analyzing FDI distribution in Russian regions, Ledyaeva and Mishura (2006) conclude that only a factor of aggregate profit is robustly related to regional distribution of investment in Russia, which can be explained by the fact that only high profits can compensate for the risks and attract investors, due to unfavorable investment climate in Russia.

While the transaction-cost approach and the knowledge-capital model can explain horizontal and vertical patterns of FDI, they cannot explain diversified FDI (both in product and in location), as it occurs because of MNCs' desire to spread investment risk (Faeth, 2009) and explained by Diversified FDI and Risk Diversification Model. And there is strong evidence of this phenomenon among MNCs emerging in transition countries according to recent studies. Apart from advantage-seeking, a crucial motive for capital outflow is to avoid or diminish the unfavorable environment impact for domestic business. The attitude towards risk in the home country is strongly related to the size of FDI outflows that can be observed in transition countries (Kimino, Saal, and Driffield, 2007; Kayam, 2009).

The host government's promotion of an attractive business environment for foreign investors can influence MNCs' FDI decisions. In the context of transition, the role of government is strengthened even more by a high level of uncertainty, and thus, the risk. Tests of different proxies of transition uncertainty (such as the level of privatization and risk of expropriation, corruption, use of mass media by competitors, imperfect, non-transparent, and frequently revised legislative systems, political and economic instability, and the dual role of government in declaring policies to attract investment while in fact promoting domestic MNCs in which it is a stake-holder) produce evidence of such an impact. These factors also might cause capital flight from transition countries, and then capital return again via offshore jurisdictions (such as Cyprus, one of few countries with which many CIS countries have agreement to avoid the double taxation).

2.1 Empirical Literature Review

Empirical literature often found the size of the market and the market potentiality, typically proxied by the level of GDP and GDP growth rate, significantly affect FDI inflow (see Nunnenkamp and Spatz, 2002; Bandera and White, 1968; Schmitz and Bieri, 1972; Root and Ahmed, 1979; Torrisi, 1985; Schneider and Frey, 1985; Petrochilas, 1989; Wheeler and Mody, 1992; Jun and Singh, 1996).

In most empirical literatures, It is extensively recognized that foreign direct investment (FDI) produces economic benefits to the recipient countries by providing capital, foreign exchange, technology, competition and by enhancing access to foreign markets (for example Brooks and Sumulong, 2003; World Bank, 1999; Caves, 1974; Crespo and Fontura, 2007; Romer,1993; UNCTAD, 1991). It is argued that FDI can also enhance domestic investment and innovation (Brooks and Sumulong, 2003).

Singh and Jun (1995) find export orientation to be the strongest variable for explaining why a country attracts FDI. Yet, it is somewhat heroic to conclude that their findings are "in line with the secular trend toward increasing complementarity between trade and FDI" (ibid.: inside cover). Surprisingly, the study also supports the tariff jumping hypothesis, which is in conflict with the authors' conclusion.

Gastanaga, Nugent and Pashamova (1998) address the tariff jumping hypothesis in the context of a panel analysis on the effects of host country reforms on FDI. While cross-section results suggest that FDI flows were motivated more strongly by tariff jumping than by potential exports, the effects of import tariffs on FDI tend to be negative in a time-series context.13 These authors conclude that "over time in individual countries trade liberalization has become the more important motive for FDI" (ibid.: 1312).

According to the sensitivity analysis of Chakrabarti (2001), openness to trade (proxied by exports plus imports to GDP) has the highest likelihood of being correlated (positively) with FDI among all explanatory variables classified as fragile. Asiedu (2002), using the same proxy for openness, comes to a similar conclusion when separating Sub-Saharan host countries from host countries in other regions. Africa differs significantly from non-African sample countries with regard to other FDI determinants, whereas the promotional effect of openness to trade on FDI is found to be only slightly weaker in Africa.

Taylor (2000) resembles most other studies in that he does not assess changes over time in the importance of openness as an FDI determinant. His results do suggest, however, that a globalization-induced increase in the relevance of openness cannot be taken for granted. The positive correlation between openness and FDI is restricted to the manufacturing sector, whereas the correlation is insignificant for FDI by MNEs from the United States in the services sector. Considering that the recent boom of FDI in developing countries is largely because of FDI in non-traded services the relevance of openness even may have declined.

Peter Nunnenkamp (2002) argued that Traditional market-related determinants are still dominant factors. Among non-traditional FDI determinants, only the availability of local skills has clearly gained importance. As concerns the interface between trade policy and FDI, we find that the tariff jumping motive for FDI had lost much of its relevance well before globalization became a hotly debated issue.

Sobir Shukurov (2016) obtained the results of empirical analysis using panel data models, conducted with the purpose of identifying the factors that determine the motivation and decision of multinational companies (MNC) to invest in CIS economies, show that regardless of the presence of high investment risk in transition economies, the choice of FDI location always depends on a preliminary analysis of countries' advantages (FDI stock, market size, abundance in natural resources) and disadvantages at macro level (fiscal imbalance and inflation). These pre-existing conditions can always roughly predict the type of FDI (resource-seeking, market-seeking, efficiency-seeking).

Overview of FDI in East Africa and Asia

Foreign direct investment is considered as a major factor towards development progress in East Asia and Africa countries (China, Singapore, Vietnam, South Korea, Malaysia, Ethiopia, Kenya, Tanzania, Mozambique, and Rwanda) via capital inflows, technological knowhow, human capital development and managerial expertise. In 2016, the FDIinflow to the top FDI receiverEast Africa and Asia countries reached 296 billion dollar.

As per the data of World Bank database, foreign direct investment inflow in the top FDI receiver East Asia and Africa countries have been increased in the last 20 years. As for the share of FDI inflow, between 1996 and 2016, East Asia countries saw a high increase in their share of FDI inflow compared to those of East Africa. Between 1996 and 2016, the average growth of East Asia countries share in the world FDI inflow has increased by 2.2%, whereas the East Africa countries has been slightly increased by 0.02%. Although FDI inflow has generally been growing, it is apparent that the growth rates remain quite different across the selected countries. For instance, China and Singapore accounted for 7.7 % and 3.05 % of world FDI inflow in 2016 respectively. In general, the top FDI receiver countries of East Asia account for about 11% of global FDI inflow, while the top FDI receiver countries of East Africa accounts only about 0.25% in 2016.

Figure FDI inflow in the top FDI receiver East Africa and Asia countries
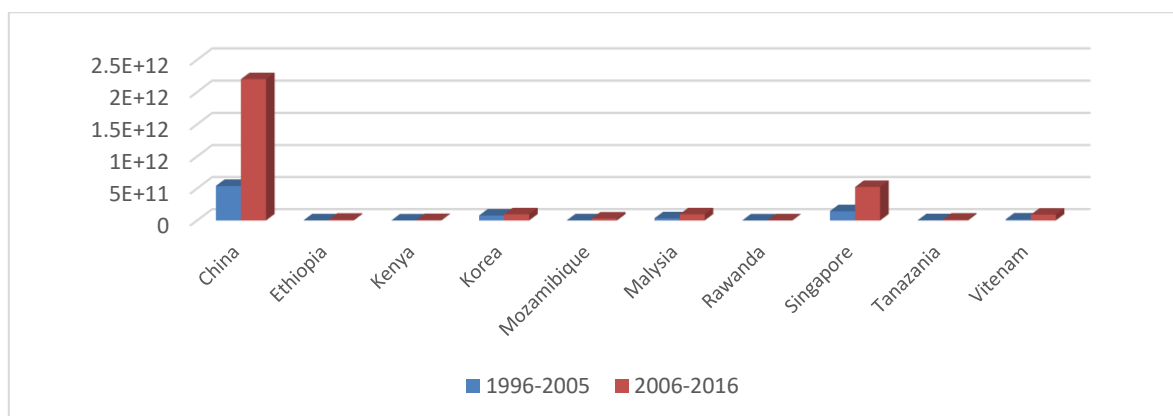
Source: World Bank data base

The Above figure showed that the achievements East Africa countries in attracting FDI are still low compared to the East Asia. Among the East Africa, Kenya achieved the highest Average growth in FDI inflow at 453 %, followed by Ethiopia (130%) between 1996 and 2016. Mozambique has achieved the lowest growth rate in attracting FDI. Compared with other east-Asia countries, the increase in FDI inflows is more noticeable in case of China and Singapore in the 20 years.

Figure: Average share in the world FDI inflow between 2006 and 2016
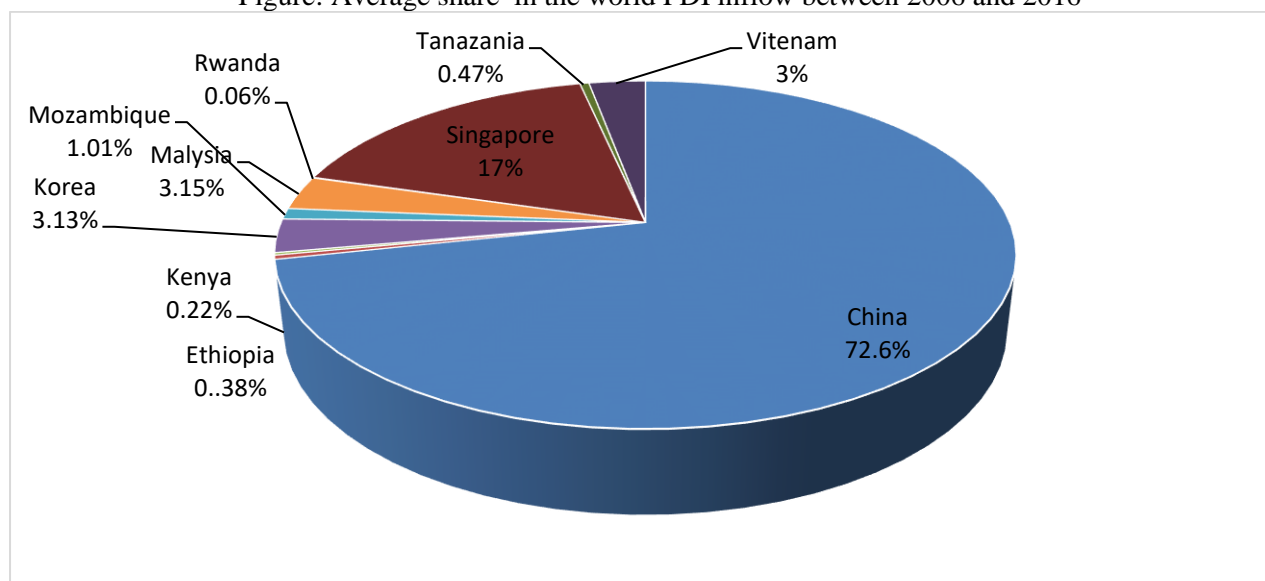
Source: World Bank data base

Within selected two regions in the paper, foreign direct investment inflows are concentrated in East Asia countries. For instance, more than 72 percent of the foreign direct investment inflows were concentrated to the china. As depicted in Figure, amongst the countries, china and Singapore were the main contributors, with shares of 72.6% and 17.01% between 2006 and 2016, respectively.

As for the East African countries, Mozambique accounted for the largest share 1.1 % in 2013 (compared to 15.4% in 1990). This is followed by Tanzania (0.47%) and Ethiopia (0.38%).

3. Data and Methodology

3.1 Theoretical Framework

To identify the determinants of FDI several models have been used. One of the first models was the Heckscher model that explains the FDI theory based on the possibility of high profitability in growing market, low interest rate to finance the investment and low trade barrier in the host country. Some scholars show that the transaction cost and ownership advantage as one of the determinants of FDI (Buckley and Casson, 1981). OLI (Ownership, Location, Internalization) paradigm developed by the John dunning shows that foreign firms hold advantage over domestic firm as result of the ownership, location and internalization advantages. The efficient infrastructure will encourage the foreign investors since it reduces the means high costs for transaction and facilitate Dunning (1993) states that FDI inflow is seeking of the low wage rate in the host country. Market size that mostly indicated by GDP per capita considered as a key determinate of FDI inflow that allow for the foreign companies to benefit from scale and scope economies (Mossa, 2002). The political instability has an adverse influence on the decision of the foreign companies (Fatehi-Sedah and Safizedah, 1989). Thus, based on the different model above, there are different factors that determined the FDI. The study used some of the factors that mentioned in the above.

Model Specification

Following the theoretical and empirical framework in the above, the variables used in this paper are net inflow of FDI, GDP per capita, current account, labor cost, infrastructure, political stability and population.   FDI is treated as dependent variable while others as independent variables. The model can be specified as follows:

$$LnFDI_{it} = \alpha + \beta_1 LnGDPPC_{it} + \beta2LnINFRAST_{it} + \beta_3LnDOMINVEST_{it} + \beta_4LnEX_{it} + \beta_5LnLACOST_{it} + Dummy\ political\ instability + \varepsilon_{it}$$

Where,

lnFDI lnGD PPC lnINFRAST lnDOMINVEST lnEX lnLACOST DummyPOLSTA

$LnFDI_{it}$: natural logarithm of net inflow of FDI in current US$ to the ratio of GDP for country i at time t used as dependent variable.

$LnGDPPC_{it}$: Natural logarithm of GDP per capita in real terms for a country i at time t. It is expected to have a positive sign.

$LnINFRAST_{it}$: natural logarithm of percentage of electricity coverage country i at time t and used as the proxy for infrastructure and it is expected to have a positive sign.

$LnDOMINVEST_{it}$: is the natural logarithm of domestic investment with a positive expected sign

$LnEX_{it}$: the natural logarithm of exchange rate.

$LnLACOST_{it}$:natural logarithm of labor cost (the wage and salaries in US$ for country i at time t) and the result is expected to be negative sign.

$DUMMY\_POLSTA_{it}$: is a dummy variable for Political instability (1 for political instability in country i at time t.

i and t: Country (i) and time period (t) respectively

ε_{it} = the error term

This paper looks into the time-series properties of panel data followed by panel estimation methods. Yearly data was collected for the period 1996-2016 providing 210 observations. The data is collected from the World Development Indicators database. The study focused on 10 countries (China, South Korea, Singapore, Malaysia, Vietnam, Rwanda, Ethiopia, Kenya, Tanzania, and Mozambique). The countries have been selected based on the top 5 countries FDI in the East Asia and east Africa countries. The objective of the study is to examine the determinants of FDI in East Africa and Asia. This study examines the time-series properties of panel data followed by panel estimation methods.

The main method used for estimating the model is panel data techniques. The panel data has an advantage to control the individual heterogeneity that a risk for obtaining biased result. Fully Modified Ordinary Least Square (FMOLS) that proposed by Pedorni (2000) was used for estimating the impacts of factors on the FDI inflows. It provides more information and estimation and captures the dynamic behavior of the parameters. It is also able to take into account both the serial correlation and endogeneity problem. After panel unit root tests (Levin, Lin and Chu, 2002; Pesaran and Shin, 2003) are conducted to check whether the variables are stationary, the next stage is to test by Panel co_integration test for the presence of co-integrating relationship among the variables. Panel co_integration test is generated by Pedroni (1999) to test long term co_integration relationship between non-stationary variables. It allows for individual member specific deterministic trends, slope coefficients and fixed effects.

Empirical Result

Table4.1 Summary statistics of variables for the full sample (10 countries)

Variable	Mean .	Std. Dev	Min	Max
lnFDI	21.25	2.64	14.36	26.40
lnGDPPC	8.37	1.49	6.13	11.31
lnCA	23.67	1.77	16.42	26.76
lnINFRAST	3.57	1.12	0.15	4.61
lnGCF	23.67	2.38	18.36	29.15
lnDOMINVEST	23.45	2.46	16.90	29.11
lnEX	4.08	2.48	0.22	7.69
lnLACOST	3.30	0.90	1.59	4.50

test of unit root

This section presents the integration properties of the variables included in the model using panel unit root test. The results were obtained by using Fisher-ADF unit root test. Tables 1 below respectively presents panel unit root results of both the explanatory and explained variables at level and first difference in the study

Table 4.2 Test of unit root

Variables	Level					First Difference				
	Test Statistic	p-value for Z(t)	1% Critical Value	5% Critical Value	10% Critical Value	Test Statistic	p-value for Z(t)	1% Critical Value	5% Critical Value	10% Critical Value
lnFDI	-0.8424	0.1998	-2.190	-1.990	-1.880	-7.5300***	0.0000	-2.210	-1.990	-1.890
lnGDPPC	6.0004	1.0000	-2.190	-1.990	-1.880	-5.4869* **	0.0000	-2.210	-1.990	-1.890
lnDomestic Investment	4.9565	1.000	-3.8085	-3.0206	-2.6504	4.9565***	0.0001	-3.8085	-3.0206	-2.6504
lnLACOST	-0.3107	0.3780	-2.190	-1.990	-1.880	-6.2925***	0.0000	-2.210	-1.990	-1.890
lnPOP	-1.2085	0.1134	-2.190	-1.990	-1.880	-1.3146**	0.0943	-2.210	-1.990	-1.890

Note: ** and *** shows the stationarity of the variables at5% and 1% respectively

As it is clear from the Table 1, the lnFDI, lnGDPPC, lnDOFDI,lnLACOST, and lnPOP, Fisher-ADF test fail to reject the null hypothesis that they are "non-stationary in level". The p-values of dependent and explanatory variables are greater than 0.05 and the null hypothesis that states non-stationarity accepted in level. From table 1, all variables are non-stationary in levels as evident from the reported p-values.

Therefore, we test for stationary of these variables at first difference. From the p-values obtained by using Fisher-ADF test it is apparent that all the variables are stationary at first difference. This implies that all the variables included in this study are I (1) for all the countries under consideration. Since all variables follow an I (1) process and therefore we believe that there may exist co_integration between them. Therefore, the Fully Modified Least Squares (FMOLS) of the panel co-integration technique to identify the determinants of FDI inflow to the lists of countries.

xtcointtest Pedroni lnFDI lnGDPPC lnINFRAST lnDOMINVEST lnEX lnLACOST DummyPOLSTA
Table 4.3. Panel Co-Integration result

Pedroni test for cointegration			
Ho: No cointegration		Number of panels = 10	
Ha: All panels are cointegrated		Avg. number of periods = 18.9	
Cointegrating vector: Panel specific			
Panel means: Included		Kernel: Bartlett	
Time trend: Not included		Lags: 2.00 (Newey-West)	
AR parameter: Panel specific		Augmented lags: 1	
		Statistic p-value	
Modified Phillips-Perron t		3.1229 0.0009	
Phillips-Perron t		-4.4846 0.0000	

All the test statistics reject the null hypothesis of no co_integration in favor of the alternative hypothesis that foreign direct investment, Growth domestic product per capita, infrastructure, labor cost and population size are co-integrated in all panels with a panel co-integrating vector.

The model underlying the reported statistics includes panel-specific means and panel-specific AR parameters and does not include a time trend. All three statistics used a Bartlett kernel with two   lags, as selected by the Newey–West methods, to adjust for serial correlation. The ADF test used a regression with only one additional lag.

Fully Modified Least Squares (FMOLS) Analysis

Dependent Variable: Foreign Direct Investment Inflow

Method: Fully Modified Least Squares (FMOLS)

Sample (adjusted): 1997 2016

Included observations: 20 after adjustments

Cointegrating equation deterministic: C

Long-run covariance estimate (Bartlett kernel, Andrews bandwidth = 33.4344)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP Percapita	1.869836	0.180861	10.33852	0.0000
Domestic Investment	-1.547077	0.139250	-11.11006	0.0000
Population	-28.36772	1.827289	-15.52449	0.0000
Labor Cost	8.375951	0.472388	17.73110	0.0000
Infrastructure index	42.66010	3.316155	12.86433	0.0000
Political Instability	-0.085807	0.017062	-5.029164	0.0002
C	418.8897	32.96207	12.70823	0.0000

R-squared	0.978885	Mean dependent var	25.43036

Adjusted R-squared	0.969140	S.D. dependent var	0.748825
S.E. of regression	0.131546	Sum squared resid	0.224956
Long-run variance	0.000477		

Using a panel of ten countries over the period 1996-2016, we examine the relative significance of key economic determinants of foreign direct investment flows. The focus of the study is to show the impact of political instability and GDP Per capita income to the inflow of foreign direct investment.

The results signify that a 1% increase in GDP Per capita increases FDI inflows by 186%. This is because GDP Per capita can be taken as a measure of the capacity of an economy to uphold the market need of the entrepreneur that goes to invest. This result is consistent with the argument of Demirhan and Musca (2008), Asiedu (2002) argued that high Per capita GDP implies a better business prospect in the host country after they represents Per capita GDP as a market size i.e. the economic conditions and potential demand in the host country which is one of the factors that foreign investors consider to invest in a different country. Political instability which is used as a proxy for an index made up of: Government Stability, Corruption, Law and Order, Democratic Accountability, Bureaucracy Quality, is the main determining factor for the inflow of foreign direct investment and it has a negative impact on the inflow of foreign direct investment. This result is consistent with Barro and Lee (1994) which carried out a study that check the impact of political instability on economic development for different countries and found out that political instability has negative effects on economic development.

The result that political instability affects the flow of foreign direct investment adversely and significantly is consistent with the study of Edward (1990), who uses political assassination, violent ratios and politically motivated strikes as a measure of political instability that gets an adverse effect of the variable to FDI inflow to the hosting country.

The positive impact of availability of good infrastructure on FDI inflows is also supported by several empirical studies, With the poor state of basic infrastructure in many countries and an improvement in infrastructure would be expected to encourage more FDI inflow for the case of Ethiopia. The empirical results depict that labor cost and infrastructure significantly determine the inflows of foreign direct investment to a country while domestic investment and Population have a negative impact on foreign direct investment inflow to Ethiopia.

Conclusion and recommendation

This study tries to identify the determinants of foreign direct investment in selected 10 countries. The empirical results derived using the technique of FMOLS clearly reveals that all the variables, GDP Per capita, lower labor cost and infrastructure (except Domestic investment and population) have positive and strong bearing on the inflows of foreign direct investment. There is strong empirical evidence of positive relation between FDI and the GDP Per capita of any country. This implies that the countries with higher GDP Per capita (large market size) are getting a large amount of overseas investments. It seems that more political instability and initial domestic capital formation (Domestic Investment) by a country influences the investment decisions. The variable infrastructure is also one of the main determinants of FDI as revealed by the empirical results that strongly influences the flow of FDI.

This implies countries with better and improved infrastructure facilities and political stability out-compete others in attracting the foreign direct investment. Infrastructure facilities increase the productivity of the investments and therefore may stimulates FDI inflows into the country. The impact of low wage rate on inflows of foreign direct investment is found to be positive and significant as expected. This implies that lower labor cost would encourage inflows of FDI. In other words, countries with availability of cheap labor are preferred than countries with higher labor cost.

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