JIMMA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DETERMINANTS AND TREND OF FOREIGN DIRECT INVESTMENT IN ETHIOPIA: AN EMPIRICAL INVESTIGATION

BY

SOLOMON ESTIFANOS

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ABSTRACT

Foreign direct investment plays an important role in transferring and diffusing technologies, creating job opportunities, assisting capital formation, fostering international trade integration, establishing marketing and procuring networks for efficient production and boosting sales. This paper investigates the determinants and trend of foreign direct investment in Ethiopia for the period 1980 – 2010. A Vector Error Correction Model (VECM) approach in line with stationarity test, co-integration test and impulse response analysis is employed to dismantle relationship between foreign direct investment and its determinants both in the short run and long run periods. The finding assert that the economy's market size, domestic investment, openness of the economy, government consumption expenditure, inflation, exchange rate, debt servicing burden, interest rate, road infrastructure and governance quality are the main determinants of foreign direct investment in Ethiopia. The implication of this study is that even if there are no mere policy options that can trusted, policy prescriptions designed to affect certain variables in the economic, financial and socio-political models of foreign direct investment has to be examined carefully before they are put in effect.

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ACRONYMS

ADF:	Augmented Dickey Fuller
AIC:	Akaike Information criterion
CSA:	Central Statistics Authority
EG-ADF:	Engle and Granger – Augmented Dickey Fuller
EIA:	Ethiopian Investment Authority
FDI:	Foreign Direct Investment
GDP:	Gross Domestic Product
HQIC:	Hannan and Quinn Information Criterion
MLRM:	Multiple Linear Regression Model
MNE:	Multi-National Enterprises
MoFED:	Ministry of Finance and Economic Development
OECD:	Organization for Economic Cooperation and Development
OLI:	Ownership, Location, International
OLS:	Ordinary Least Square
RGDP:	Real Gross Domestic Product
SBIC:	Schwarz Bayesian Information Criterion
TNC:	Trans-National companies
UNCTAD:	United Nation Conference on Trade and Development
VAR:	Vector Auto Regressive
VECM:	Vector Error Correction Model
WIR:	World Investment Report
HIPC:	Highly Indebted Poor Countries

DBE:	Development Bank of Ethiopia
CBBE:	Construction and Business Bank
EPA:	Ethiopian Privatization Agency
ETC:	Ethiopian Tourism Commission
MFA:	Ministry of Foreign Affairs
MOTI:	Ministry of Trade and Industry
EMA:	Ethiopian Media Agencies
EA:	Ethiopian Airlines
RIO:	Regional Investment Offices
AACC:	Addis Ababa Chamber of Commerce
PP:	Phillip-Perron
FAO:	Food and Agriculture Organization
WTO:	World Trade Organization
TNC:	Trans-National Corporations
ERA:	Ethiopian Road Authority
SAP:	Structural Adjustment Program
EPRDF:	Ethiopian People Revolutionary Democratic Front
FDRE:	Federal Democratic Republic of Ethiopia
IMF:	International Monetary Fund
NEPAD:	New Partnerships for Africa's Development
ADLI:	Agricultural Development Led Industrialization
AfDB:	African Development Bank
AGOA:	African Growth and Opportunity Act
COMESA:	Common Market for Eastern and Sothern Africa
WB:	World Bank

CHAPTER ONE

INTRODUCTION

1.1.   Background of the Study

Foreign Direct Investment (FDI) plays an important role in the developmental process of many nations. Since the developmental effort of every nation demands the overall growth of every sector of the economy, uplifting the flow of FDI is vital to think of overall development in one nation. Hence, to ensure the fruits of development to be percolated to the grass roots level, attracting FDI is important and should be part of the planned efforts of the economy. In view of this, recently many developing nations are entangled in adjusting their investment environment. This is so because FDI plays an important role in transferring and diffusing technologies, assisting both physical and human capital formation, fostering international trade integration, establishing marketing and procuring networks for efficient production and sales internationally (Louzi and Abadi, 2011; Getinet and Hirut, 2006; Mottaleb, 2004).

Besides its tremendous benefits, the rationale behind attracting FDI is to develop a vibrant and growing domestic enterprise sector supported by foreign investment. For this, efforts to attract FDI should not surpass domestic investment by far. Since FDI and domestic investment are complement to one another through linkage effects, those efforts which are posed and biased towards attracting FDI can affect the expected surge of FDI itself in the long run since the level of domestic investment serve as an interim factor to attract FDI. Hence, FDI can serve as a modem that lead to the development of host country endogenous industry, which may in turn become capable of reducing both the relative and absolute position of MNCs in the domestic economy. However, the above rationale fades if FDI and domestic investment are competitive to one another that pertain through product market competition effect. In general, in the long-run, a further process of attracting FDI tends to be successful; if the country accomplishes sustained rates of economic growth, market development, political stability, good governance and if domestic investment is capable to generate dynamic, technologically equipped and advanced enterprises. On the other, in the process of rushing towards attracting FDI those policies and

incentive schemes targeted towards encouraging foreign investors to participate widely and constructively in the poverty reduction effort of the country must take into account changes such as multilateral investment agreements and treaties, WTO rules and disciplines for international trade, policy reforms that are propounded by the two sister institutions i.e. IMF and WB, organizational negotiations like OECD on multilateral agreements concerning investment, that are taking place in the global economy. Because investment policies that are not take these changes in the global economy and their implications for competitiveness and FDI inflow in to account, may not be materialized (UNCTAD, 2008; Moosa, 2002; UNCTAD, 2002).

However, due to over emphasis on the importance of FDI in theory and practice in the economic development of a nation, FDI is sometimes hailed as the mere salivation for developing nations, and the only solution to escape from poverty trap (Moosa, 2002). For this, the one who is interested genuinely to reach on a verdict on the effects of FDI in one nation, first of all the benefits and costs has to be dully examined. Moran (1998) in his book entitled as FDI and development posed two alternative conceptualizations that predict widely different outcomes i.e. greatly positive and much more problematic (under some circumstances decidedly negative) on the potential impact of FDI on the economic development of the host country. Recently with biased out looks in theory and practice a decisive importance is allotted for FDI in the economic development of developing countries.

With this emphasis, those developing countries especially African countries have made considerable efforts over the past decades to improve their investment climate. They have liberalized their investment regulations and have offered incentives schemes such as tax holidays, duty free importation of capital goods and export tax exemption to foreign investors. More importantly, the economic performance of the continent had substantially improved from the mid-1990s. However, the expected flow of FDI into Africa as a whole has not occurred as expected. Too often, potential investors discount the African continent as a location for investment because a negative image of the region as a whole conceals the complex diversity of economic performance and the existence of numerous investment opportunities in individual countries. For instance, the expected surge of FDI in developing countries continued to exhibit a growing trend for three consecutive years i.e. 2009 – 2011. This rise of FDI flows in 2011 was

widespread in all three major groups – developed, developing and transition economies. Developing economies continued to absorb nearly half of global FDI in 2011 as their inflows reached a new record high of $684 billion. The rise in 2011 was driven mainly by investments in Asia and better than average growth in Latin America and the Caribbean (excluding financial centers). FDI flows to transition economies also continued to rise, to $92 billion, accounting for another 6 percent of the global total. In contrast, Africa, the region with the highest number of LDCs, and West Asia continued to experience a decline in FDI (UNCTAD, 2012).

Developing Asia continued to account a growing trend in FDI inflows with a greater level of regional disparity. South-East Asia and South Asia experienced faster FDI growth than East Asia. Besides the two large emerging economies, China and India, which saw inflows, rise by nearly 8 and 31 percent in 2011, respectively, major recipient economies in the Association of South-East Asian Nations (ASEAN) sub-region, including Indonesia, Malaysia and Singapore, also experienced a rise in FDI inflows. While, West Asia witnessed consecutive decline in FDI flows for the years 2009 – 2011 i.e. from $66 billion in 2009 to $58 billion in 2010 to $49 billion in 2011, despite the strong rise of FDI in Turkey in 2011 (UNCTAD, 2012).

Similar to west Asia, in Africa, after almost a decade of growth, FDI flows declined for three successive years from a peak of $72 billion in 2008 to $52.6 billion in 2009, to $ 43.1 billion in 2010 and to $42.7 billion in 2011. However, the decline in FDI inflows to the continent in 2009 and 2011 was due to the contraction of global demand and the fall in commodity prices and divestments in North Africa as a result of protracted political instability respectively. In terms of share in global FDI flows, the continent's position diminished from 4.4 percent in 2009 to 3.3 percent in 2010 to 2.8 percent in 2011. In contrast, inflows to Sub-Saharan Africa recovered from $29 billion in 2010 to $37 billion in 2011, close to their historic peak in 2008 (UNCTAD, 2012, 2010 and 1999).

As per UNCTAD (2012) report, FDI flow to East Africa, which accounts the lowest inflow in Sub Saharan Africa, reversed the downward trend of 2009 and 2010 i.e. $3.78 and $3.68 billion respectively to reach $3.96 billion in 2011, a level just comparable to the peak of 2008. The sub region have not attracted a significant amount of FDI into export oriented production in the

primary sector, except in agriculture, since the sub region have not been considered rich in natural resources so far. However, the discovery of gas fields is likely to change this pattern.

Ethiopia, one of the poorest countries in the world has shown a very dismal economic performance during the past two regimes.   In response, new economic and political policies were introduced by the current government to enhance the role of private sector in the developmental process of the country. In line with this different policy measures were designed to attract and create conducive   environment for investment. The investment policy of the country, despite its commitment to encourage FDI in the economy, did not seem successful in attracting FDI as compared to other developing nations. For instance, the share of Ethiopia out of the total FDI inflow in the continent is insignificant. On the basis of UNCTAD (2012), Ethiopia on average receives only 0.44 percent of the inflow occurred in Africa between the years 2008 – 2011. However, the flow of FDI has increased modestly in recent years, as the image of the country among many foreign investors is changed. In fact, the act of creating a good image to the nation is a tedious task, the nation destiny to see the fruits of development are not so far as efforts in different dimensions such as international relation, human capital formation, infrastructural development reveals. Yet, more has to be done.

1.2.   Statement of the Problem

Even though, there are plenty of studies conducted on the determinants of FDI for different countries on various stages of development in general i.e. using panel data, few studies are done so far specifically regarding determinants and trend of FDI in Ethiopia. Nowadays, due to greater strive for development different developing countries like Ethiopia are in a hurry in revising their respective investment climate to attract FDI. In doing so, it is obvious to see a frequent change on the investment law of the country. Such laws are enacted to attract as much as FDI in the economy and in turn to ensure that it contributes to improvements in transferring and diffusing technologies, assisting human capital formation, fostering international trade integration and diversification, expanding physical infrastructure and economic growth.

Since, there exist a highly pronounced gap between domestic investment and savings in Ethiopia, in order to bridge the gap, FDI as a complement rather than a substitute to domestic investment is considered as a vent to finance the overwhelming economic growth and development in which the country is aspiring recently. For instance, for the years between 2000 and 2006 as per World Bank (2006) database, on average gross domestic investment as percentage of GDP was 20.6 percent which was pretty much higher as compared to the gross domestic saving as percentage of GDP that accounts only 3.5 percent on average. For this reason, keeping the contribution of other financial sources such as domestic credit markets, multilateral financial institutions, official development assistance, foreign remittance as crucial in filling this gap, FDI plays an indispensable role as relying on the other financial sources is doubtful and no more plausible in recent times for developing countries like Ethiopia as they are conditional. For instance, the IMF and WB lending system as Easterly (2005) points out, besides the political and economic situation residing in the recipient country it's also affected by overall geostrategic importance, UN voting pattern of the country and strategic interest of powerful rich nations. In this regard, to pull out the emerging economy which faces a huge domestic capital shortfall, FDI plays a greater role in sustaining the current pace of economic growth. In cognizant of this, in the current globalized economic environment it is highly helpful to identify the determinants of FDI in Ethiopia to design policies and incentive schemes which make the country more competitive in attracting FDI .Therefore, the need for studying the determinants and trend of FDI in Ethiopia is important.

However, in Ethiopia studies on the determinants and trend of FDI are scant even if there are dearths of studies in aggregate basis concerning the issue in developing countries. For instance, it is possible to trace out some of the studies by Hussain and Kimuli (2012), Anyanwu (2011), Mottaleb (2010), Ajayi (2006), Ancharaz (2003), Asiedu (2002), Singh and Jun (1995) and so on[1]. Accordingly, these studies try to analyze the determinants of FDI in those developing nations in aggregate level. But, as far as the issue of FDI determinants is concerned, it is highly crucial to study the matter along specific country case in order to come up with specific country

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[1] Besides these studies other studies such as Esiyok, 2011; Albulescu, Briciu and Coroiu, 2010; Mottaleb and Kalirajan, 2010; Walsh and Ju, 2010; Agiomirgianakis, Asteriou and Papathoma, 2006; Mwega and Ngugi, 2006; Anghel, 2005; Benassy-Quere, Coupet and Mayer, 2005 and Mottaleb, 2004 also can be accounted for panel data analysis.

outcomes. This is because the residing situations in one nation may not be compatibly the same with that of the other. For this reason some of the policy implications that are proposed by pooling a group of countries that are structurally diverse may not be effective in addressing issues regarding FDI. The paper unlike other papers which pose a simple OLS model such as Anyanwu (2011), Masku and Dilamini (2009), Getinet and Hirut (2006), Hussain and Kimuli (2002), adopt a Multiple Linear Regression Model (MLRM) in line with a VAR to capture the existing relationship between FDI inflow and those explanatory variables using an economical, financial and socio political categorization in order to alleviate the problem of variables agglomeration. So, this paper with certain departures from the works done by different authors on the determinants of FDI in developing countries focuses on the macroeconomic, financial and socio-political determinants that influence the inflow of FDI in Ethiopia. Along with the above facts, this study will be in a position to answer the following prominent questions regarding the determinants and trend of FDI in Ethiopia.

- ✓ What are some of the changes that have been made on the investment policy of Ethiopia?
- ✓ What trend and performance does FDI exhibit in Ethiopia?
- ✓ What are the determinants of FDI in Ethiopia?

Therefore, keeping the above situations in mind, the issue of FDI determinants and its trend in Ethiopia is pretty much convenient area of interest for the researcher as there are no as such pronounced and adequate studies that have been conducted on the determinants and trend of FDI so far.

1.3. Objective of the Study

With the general objective of examining the determinants and trend of foreign direct investment in Ethiopia, this study tries to address the following specific objectives;

- ✓ Evaluate the investment policy trends in Ethiopia
- ✓ Analyze the trend and performance of FDI in Ethiopia
- ✓ Empirically analyze the determinants of FDI in Ethiopia

1.4. Significance of the Study

This study is expected to benefit different parties that are in need of the findings of this research in one way or another. In general it is expected to:

- ✓ Inform policy makers in the area of FDI policy making and analysis of trends in the country

- ✓ Provide insights and may be used as a bench mark for other researchers who are interested in conducting their research on related research titles

1.5. Scope of the Study

This study is limited in accessing only the determinants and trend of FDI in Ethiopia for the years ranging from 1980 – 2010. The study is addressed based on aggregate econometric approach in analyzing the determinants of FDI rather than relying on micro-oriented econometric and survey data approach. On the other, the paper also conducts a gross analysis on the FDI performance of the country. However, the detail sectoral level FDI disbursement is beyond the realm of this paper. Additionally, the paper is in a position only to analyze the inward pattern of FDI.

1.6. Limitation of the Study

Without shading its perceived important contributions, the study faces certain limitations. Three limitations can be asserted in this study. First, this study considers only some variables in analyzing the determinants of FDI. Second, due to data limitation that encompasses the whole study period, performance of FDI is analyzed only relative to its share out of the GDP of the country. Third, with the fear of not losing some of the important variables of interest for which there is no long period observations, the study considers small sample period. But, the results of this study robust

1.7. Organization of the Study

The thesis is comprised in to six chapters. The first chapter provides the introductory aspect of the study. The second chapter reviews some theoretical and empirical works concerning FDI. The details on the type and sources of data employed in the study, the model used and the respective description on each variables used in the model and the procedures followed to make econometric analysis are presented in chapter three of the research methodology. Chapter four goes through the performance, trend and policy frame works of FDI in Ethiopia. Chapter five is devoted for the purpose of econometric analysis. The last chapter is used to jot down conclusion and policy implication of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Theoretical Literature

As per OECD (2008) benchmark definition of FDI, foreign direct investment is a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long-term relationship with the foreign direct investment enterprise to ensure a significant degree of influence by the foreign investor in the management of the FDI enterprise. The "lasting interest" is evidenced when the foreign investor owns at least 10% of the voting power of the FDI enterprise. FDI may also allow the foreign investor to gain access to the economy of the FDI enterprise which it might otherwise be unable to do.

A growing number of studies on the determinants of FDI highly rely on theoretical framework developed by Dunning (1977, 1993) to identify those socio-economic and political determinants as to why and where transnational companies (TNCs) are interested to invest abroad. Accordingly, Dunning points out three justifiable advantages such as Ownership (O), Location (L) and International (I) advantages in his OLI framework of eclectic paradigm to connote the reason that rush TNCs to involve in cross border investments. The ownership advantages are factors that induce the multinational enterprise (MNE) to develop the sense of superiority in investing in an economy where it is stranger. These advantages are firm specific in their nature and include issues like superiority in technology, trademark, brand name, good reputation, improved managerial and marketing skill, capital intensity, product differentiation and other intangible assets. The location advantages infer those factors as to why MNEs locate their production in host country rather than in home country. In doing so, the foreign firm tries to compare those opportunities residing in the home and host country in order to make investment decision. These locational advantages are like endowment of cheap natural resources and labor force, availability of well - established institutional arrangements and infrastructures, political

and economic stability, host country's tax and trade regulations, cultural distance and so on. Accordingly, significant relationships have been found between FDI and endowment of natural resources (Campos and Kinoshita, 2003), infrastructure (Masku and Dilamini, 2009; Khan and Bamou, 2006; Yusop and Ghaffar, 1994), political and economic stability (Sethi *et al.,* 2003; Hussain and Kimuli, 2002), trade liberalization (Getinet and Hirut, 2006; Asiedu, 2002; Singh and Jun, 1995) and cultural distance (Sethi *et al.,* 2003). On the other the internalization advantages are bound to occur due to external market imperfections and the foreign firm will be benefited through reduction in transaction costs which in turn bring a competitive advantage to it. These internationalization advantages are come through reduction of uncertainty and transaction costs in order to generate knowledge more efficiently as well as the reduction of state generated imperfections such as tariffs, foreign exchange controls, and subsidies (Anyanwu, 2011). A significant effect of foreign exchange rate on FDI have been found by (Wafure and Nurudeen, 2010; Aqeel and Nishat, 2005; Khrawish and Siam, 2010). The issue of reduction in import tariffs (Aqeel and Nishat, 2005) and corporate tax rate (Aqeel and Nishat, 2005; Hussain and Kimuli, 2002) would significantly and positively affect FDI inflow.

Foreign direct investment (FDI) is a key element in this rapidly evolving international economic integration, also referred to as globalization. FDI provides a means for creating direct, stable and long-lasting links between economies. Under the right policy environment, it can serve as an important vehicle for local enterprise development through domestic capital market growth, transfer of financial capital, technology and other skills and it may also help improve the competitive position of both the recipient ("host") and the investing ("home") economy. In particular, FDI encourages the transfer of technology and know-how between economies. It also provides an opportunity for the host economy to promote its products more widely in international markets. FDI, in addition to its positive effect on the development of international trade, is an important source of capital for a range of host and home economies (OECD, 2008). Generally, FDI plays an important role in transferring and diffusing technologies, assisting capital formation, fostering international trade integration, establishing marketing and promoting efficient production and sales across the globe.

Even though, the above enhancing effects of FDI in a given economy are likely to happen, there are some debatable issues on the way that FDI can assist human capital formation in developing countries. With advances in capital intensiveness of modern FDI there is no doubt on how FDI assist physical capital formation, where as the human capital formation aspect of benefit to poor countries is debatable. Human capital development (HCD) and FDI are among the key drivers of growth in developed and developing countries. While HCD and FDI individually affect growth, they also reinforce each other through complementary effects. In general, enhanced HCD plays an indispensable role in attracting FDI by creating favorable conditions to foreign investors. This is done through a direct effect of upgraded skill level of the workforce, as well as via indirect effects such as improved socio-political stability and health. On the other hand, FDI contributes to HCD since MNEs themselves can be active providers of education and training, bringing new skills, information and technology to host developing countries. Ultimately, this complementary effect leads to a virtuous circle of HCD and FDI where host countries experience continuous inflow of FDI over time by increasingly attracting higher value added MNEs, while at the same time upgrading the skill contents of preexisting MNEs and domestic enterprises.

Since MNEs are one of the limited channels of foreign technology coming into the host developing country, they cannot only provide training but also provide innovative training in areas such as information and technology, organizational skills, and management, to which otherwise host developing countries have limited access. However, the sector in which FDI surge and the type of FDI determines whether FDI contribute to human capital formation or not. Unlike other sectors, high value-added MNEs in the service sector FDI especially some of the growing services-related MNEs, require a high skilled workforce. These include MNEs operating in the area of financial services, information technology, telecommunication, pharmaceutical, medical, as well as firms that locate regional headquarters in the host country. The common feature among these services-related MNEs is that they require strong business support linkages and global connectivity. This calls for a highly-skilled workforce that could handle business administration and management as well as computing and information and technology. Efficiency seeking FDI also has the tendency to assist and reinforce human capital formation i.e. Countries seeking natural resources and/or market-seeking MNEs do not necessarily need to improve the level of human capital, while countries that seek higher value-

added MNEs need to have a solid human capital base even if human capital can still be a determinant for any type of FDI (Miyamoto, 2003; Velde, 2001).

In fact, for someone who sees loosely, in his/her attempt to reach a verdict on whether indulging FDI is good or bad, he/she inclined only on the positive aspect of FDI. A detail realization considers both the positive and negative aspects of FDI. In doing so, detail analyses on the arguments for and against FDI are found in Moosa (2002).

2.1.1. What Motivates FDI?

Form one perspective, FDI can be viewed as an activity that satisfies basic business needs. Hence, Moosa (2002) identifies some firm specific motivations as to why firms are interested to invest across national borders. Accordingly, Moosa come across motivations like the need for market, the need for production efficiency, the need for raw materials, the need for information and technology, the need to minimize or diversify risk, integrating operations, non-transferable knowledge, protecting knowledge, protecting reputation, capitalizing reputation, avoid tariffs and quotas, exchange rate considerations and relationships with other MNCs. In a number of FDI literatures, the aforementioned brief summary of the reasons behind the initiation of FDI are circumscribed in to four broad different motives (Khrawish and Siam, 2010; Masuku and Dlamini, 2009; Getinet and Hirut, 2006; Ajayi, 2006; Ogunkola and Jerome, 2006; Sethi *et al.,*2003; UNCTAD, 1998). These are:

- ➢ **Market Seeking FDI:** is targeted towards in serving local markets that are highly potential in terms of their size and growth to boost greater sales and profitability. As such, market-seeking FDI with the desire to serve the local market by local production considers market size, per capita income and market growth potential of the hosting country.

- ➢ **Efficiency Seeking FDI:** take in to account the cost of production advantages inherent in the FDI hosting country. The motive considers some of prominent factors such as cost of factors of production, cost and quality of infrastructure, cost of excessive red tape and some administrative costs in doing business. Generally, this motive predominantly focuses

on the issues of economics of scales in production, the degree and nature of risk involved in business and the pattern of governance residing in that FDI seeking nation.

> **Natural Resource Seeking FDI:** motivated by the abundance of cheaper resources which are not available in home country. Such resources can be natural resources like oil, minerals or skilled and unskilled labor force.

> **Strategic Asset Seeking FDI:** is associated with the availability of high level of research and development, innovation, advanced technology and other benefits. Such kind of FDI mostly takes the form of cross-border mergers and acquisitions in which the foreign firm taking part in the process with the intension of getting those benefits relating with the hosting firm brand names, goodwill, market share, administrative quality, technological superiority etc..

Following the above theoretical review on FDI, the empirical literature on this study focuses on in identifying some of the prominent macroeconomic, socio - political and financial determinants that influence the inflow of FDI in one nation.

2.2. Empirical Literature

Different studies on the determinants of FDI employed different methodologies with their respective pros and cons. However, it is not possible to set a concrete methodology that suit each study conducted by different researchers on the issue. In relation to those discrepancies in methodologies, the studies also vary in their respective variable treatment. Keeping this in view, the study assesses those empirical evidences on the determinants and trend of FDI that are used in the studies of FDI in the following session.

Market Size of Hosting Economy

Even if, it is not pretty much conclusive, many studies have cited the host country's potential market size (measured by the growth of real Gross Domestic Product, RGDP) as an important determinant of FDI inflows. In this regard, positive and significant relationships have been found by (Anyanwu, 2011; Debab and Mansoor, 2011; Khrawish and Siam, 2010; Bevan and Estrin,

2000; Yusop and Ghaffar, 1994) confirming that market size of a host country is associated with greater FDI owing to greater market opportunities for the one entangled in FDI activities. However, according to the study by Walsh and Ju (2010) on the determinants of FDI using a sectoral and institutional approach for 27 advanced and emerging economies reveal that the relationship between macroeconomic variables and primary sector FDI is minimal. While both the secondary and tertiary sector FDI has a relatively more macroeconomic linkage. In their study a strongly significant tied appear between GDP per capita and FDI in the manufacturing sector. The study of Mottaleb and Kalirajan (2010) using panel data from 68 low-income and lower-middle income developing countries to make a comparative discussion on the two groups demonstrates that, GDP growth rate has significant positive influence on the inflow of FDI to low income countries, which is insignificant in the case of lower middle income countries. Importantly, the size and significance level of GDP growth rate differ not only among low-income and lower-middle income developing countries but also across continents. As such, the role of GDP growth rate in attracting FDI positively and significantly matters only for African and Latin American countries as compared to Asian countries. So, their paper asserted that foreign investors give more priority to the growth potentials of the economy in the case of low income countries in general and African and Latin American countries in particular.

Export Trade Orientation

Most studies on the determinants of FDI like Seim (2009), Agiomirgianakis, Asteriou and Papathoma (2006), Anghel (2005), Chakrabarti (2001) and Singh and Jun (1995) pursued that the extent to which an economy trade structure is oriented for openness determine the level of FDI that a country receives. Lim (2001) on his summary of recent literatures concerning determinants of, and the relation between, foreign direct investment and growth propagates the impact of openness to be mixed, depending on whether the FDI is mostly horizontal (catering to the host market) and tariff-hopping, or vertical (catering to export). Horizontal FDI which is undertaken to get behind trade barriers (trade barriers) may decrease with an increase in openness as the act of trade liberalization owing it to a stiff competition in the domestic market. However, as Lim substantiate, vertical FDI will increase with greater openness since it requires substantial flows of intermediate inputs and goods in and out of the host country. The study by Aseidu (2002) points out liberalizing trade as a way through which a country can increase trade

openness. Even if her finding reveal openness to trade has positively significant impact on FDI inflows among sub-Sahara African countries, trade liberalization is less effective in promoting FDI to Africa as compared to other regions. In the study two possible reasons are raised as to why foreign investors do not perceive reforms like the trade liberalization as credible reforms. First, African governments have used their trade policy as a macroeconomic instrument to manage their balance of payments. As such, based on the prevailing terms of trade, trade restrictions are viable to be imposed. Second, since reforms are used as part of aid conditionality or as means of fitting the policy prescription of donors to get aid once the aid is granted there is no incentive to run the reform up to the end. The study asserts that since reform sustainability is questionable due to the above two reasons foreign investors lack the motive to increase investments when trade liberalization appears.

Economic Intervention

Another economic variable that determine FDI inflow is the size of government. Accordingly, Ancharaz (2003) using a comparative perspective to testify if there is a bias against sub Saharan Africa using a sample consisting of an unbalanced panel of 84 countries pooled over the period 1982-1995, analyzed the factors that government size captures. The study tried to associate large government size entailing higher government expenditure with economic intervention, excessive bureaucratic red tape, administrative inefficiencies and corruption and found a negative and significant relation with FDI inflow. Likewise, Aseidu (2002) suggested that small government stimulates FDI, while big government i.e. higher government expenditure deters FDI. As the view of neo-liberals entails, episodes of macroeconomic distortions are temporary and figure out the restorative forces inherent in the market as a mere adjusting mechanisms for these disruptions. Senese (1981) in his article entitled as "Government Intervention Creates Chaos not Jobs" asserts the negative aspect government intervention in his own words as;

> "When the government intervenes in the economy, government bureaucrats take money
> from the taxpayers and direct money to projects without any concern for the best use of
> resources. Because of their mistrust and misunderstanding of the market principles, these
> resources are allocated to a variety of uses like additional governmental jobs,
> controversial experimental programs, and public works. The government through high

taxation, expansion of the money supply, and intervention in the credit markets to finance these projects drive out individuals who seek financing in the private sector".

As to most neo-liberals he agreed the view that, markets typically work well as long as government doesn't mess things up. So, no government action can substitute for the effective operation of the free market economy. However, higher government expenditure entails creation of greater social overhead capital through expenditures on education, health and infrastructure which is in line with the developmental state view. Interestingly, contrary to the aforementioned findings Anyanwu (2011) found a positive and significant relation between government expenditure and FDI inflow for African continent by using a panel of seven five-year non-overlapping windows for the period 1980-2007.

Fiscal Position

The fiscal position i.e. the Ratio of Budget Surplus/Deficit to GDP as a measure of transfer risk also affects the inflow of FDI (see Anyanwu, 2011; Debab and Mansoor, 2011; Khrawish and Siam, 2010; Singh and Jun, 1995). In fact, the way the government handles its deficit indicates how prudent or careless the government is. Good and responsible governments finance budget deficit using a relatively non- distortionary measures. The fiscal position as a good measure of the stance of fiscal policy in the study of Debab and Mansoor (2011) affect FDI inflow positively and significantly. The way that governments especially in developing countries handle their budget deficit have far reaching effect on many variables like inflation, exchange rate as they tend to rely more on seigniorage (monetary/inflationary) financing than industrial countries.

Macroeconomic Stability

It is viewed that macroeconomic stability is the most vital and prominent component in several FDI literatures. In order to capture this in many studies inflation and exchange rate are used as a proxy. However, there exist contradictory views about their effect i.e. positive or negative along different studies. As the study of Rusike (2010) on South Africa FDI reveals exchange rate is significant in explaining the change in FDI during the period 1975 – 2005. In line to this finding the work of Singh and Jun (1995) confirm that a decrease in exchange rate i.e. appreciation of exchange rate may result an increase in FDI inflow in the hosting country. On the contrary, the study of Wafure and Nurudeen (2011) on Nigeria using multiple regression model to estimate the

relationship between FDI and its potential determinants between 1977 – 2006, points out that an increase in the exchange rate i.e. depreciation, would increase FDI inflow as foreign firms would be able to afford means of production cheaply. Inflation can also be considered as one of the indicator of the well - functioning of nation's macroeconomic environment. Since, inflation has the capability of distorting both fiscal and monetary policies; it can be used as a relatively precise indicator to macroeconomic conditions residing in the FDI hosting country. Accordingly, the study on Ethiopia over the period 1974 – 2001 on the determinants of FDI using a time series analysis by Getinet and Hirut (2006) signify a negative and significant effect of inflation on FDI inflow. Correspondingly, Debab and Mansoor (2011) based on the data from 1990 – 2009 on Bahrain economy using Ordinary Least Square (OLS) method and Hussain and Kimuli (2012) in their paper that explore different factors responsible for variation in foreign direct investment to developing countries using macro panel data of 57 low and lower middle income countries for the years 2000 - 2009 using OLS and Two Stage Least Square (TSLS) techniques reached on the same finding as of Getinet and Hirut. However, studies of Khrawish and Siam (2010) and Leitao and Faustino (2009) depict a significantly positive effect of inflation on FDI inflow in Jordan and Portuguese economy respectively.

Human Capital Development

Human capital formation is the basic objective of development; it plays a major role in the ability of a developing country to absorb modern technology and to develop the capacity for self sustaining growth and development. More importantly the level of human capital development which measures the quality of labor force greatly influence the decision of foreign investors to invest in host country or not. Predominantly, the level of human capital development matters in attracting resource and/or efficiency seeking FDI. Empirically, Sakali (2013) in his study to analyze the determinants of FDI in Bulgaria, using panel data for an extended time-span, from 1998 - 2008, used secondary and tertiary educational levels to capture the quality of Bulgarian work force and both of them appears to be positively significant. Consistent to Sakali finding the study of Kornecki and Ekanayake (2012) on the state based determinants of inward FDI flow in the US economy for the period from 1997 to 2007 suggest that the real inflow of FDI in the US is influenced by the state spending on education.

Physical Capital Development (Infrastructure)

It is presumed that a well-developed infrastructural development is a crucial factor in promoting economic growth and development by far. As of Ogunkola and Jerome (2006) provision of reliable and efficient infrastructure is considered as important pre-investment services that may significantly increase foreign investment. Esiyok (2011) in his study that examines the determinants of FDI using a panel of bilateral outward FDI stocks of 19 OECD countries in Turkey between 1982 and 2007 uses a composite index variable for infrastructure consisting of road length per square kilometers, commercial vehicles per 100 people, telephones per 100 people and annual electricity production subcomponents successfully to captures the effect of infrastructural development on FDI. Employing a knowledge-capital model, Esiyok finds a positive relationship between FDI and infrastructure. Using internet and telephone mainline user per 1000 people, Mottaleb (2004) on his paper that demonstrates influential factors that determine FDI inflow and its relationship with economic growth for a panel of 60 low income and lower-middle income countries over a range of three years (2003 – 2005) finds the effect of internet users to be significant. Overall, even though different measures are employed in different FDI literatures to capture the effect of infrastructural development they are not aware that much in addressing the concern of availability and reliability in using these measures.

Financial Stability

Currently, financial stability has a greater tendency in reshuffling the mind of potential investors in their move towards investment decisions. Since financial stability is an insight of economic well-functioning, notoriously it is possible to generalize that a sound financial system is an indispensable factor in attracting FDI in the current globalized world in which financial turmoil is evident. Based on a financial stability aggregate index[2] i.e. financial development index,

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[2] The financial stability aggregate index in the study of Albulescu, Briciu and Coroiu (2010) to substantiate the role of financial stability in attracting FDI uses a total of 16 individual indicators for financial stability analysis in which these individual indicators are posed in to a group of three indexes to analyze the financial system development, vulnerability and soundness levels. In this regard, in order to analyze the financial system development level they took indicators like market capitalization to GDP ratio, total credit to GDP ratio, interest spread (the difference between the average lending rate and the average borrowing rate) and banking reform & interest rate liberalization. In assessing the financial vulnerability level inflation rate, general budget deficit (as percentage of GDP), current account deficit (as percentage of GDP), real effective exchange rate excessive depreciation or appreciation, (Reserves / Deposits) / (Notes & coins / M2), loans as a percentage of deposits and deposit to money supply – M2 ratio are used. In the third category that is related to financial system soundness the study employed Return on assets, Non-performing loans / Total loans, Own capital ratio (Own capital / Total assets), Regulatory capital / Risk weighted assets and Liquidity Ratio (Liquid assets / Total assets) as indicators.

financial vulnerability index and financial soundness index as measure of financial stability using the number of inhabitants, trade openness, labor productivity, and lending rate as control variables the study of Albulescu, Briciu and Coroiu (2010) on Central and Eastern Europe Countries (CEECs) shows that stability of the financial system played a significant role in attracting FDI during the period 1998 – 2008. The works of Anywanu (2011) using financial development (domestic credit to the private sector as percentage of GDP); Khrawish and Siam (2010) using foreign debt as percentage of GDP, foreign debt service as percentage of exported goods and services, current account balance as percentage of exported goods and services and real exchange rate; Botric and Skuflic (2006) using external debt and financial sector development as indicators to financial stability reveal as these indicators significantly matters in determining the level of FDI inflow in each studies.

Institutional Setups, Political Stability and Investment Environment

Using the indexes obtained from the International Country Risk Guide (ICRG) Esiyok (2011) by employing institutional quality measures such as corruption, quality of bureaucracy and military in politics indexes and government stability as a measure of political stability in his knowledge-capital model as control variables gets government stability and corruption indexes significant in affecting FDI. Keeping in mind that high government fitness increase FDI by decreasing instability and thus investment risk, the concept of government fitness measured by economic openness, legal and corruption indexes[3] is used in Wilhelms and Witter (1998). The study traces out global increase in economic openness, improvement in legal framework and administrative impartiality and transparency over time induce a rise in FDI.

Benassy-Quere, Coupet and Mayer (2005) in their paper that re-evaluate the role of institutional quality on FDI for 52 countries using Institutional profiles (IP) database and compare the results

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[3] The explanatory concept of government fitness in the study of Wilhelms and Witter (1998) is measured by economic openness, international country risk guide (ICRG) variables indicating legal and administrative impartiality and transparency (corruption) indexes. In the study an index for economic openness considers variables like parallel market exchange rate premium, socialist, export marketing board and import quotas proxies for currency's true value, degree of government interference, openness of export regime and openness of import regime respectively. Government repudiation of contracts, risk of expropriation, corruption in government, law and order tradition/rule of law and bureaucratic quality variables are taken from ICRG to indicate legal and corruption indexes.

with matched variables from other familiar databases[4], finds out public efficiency[5] in a broad sense as a major determinant of FDI inflow. Their study generalizes; efforts in raising the quality of institutions and making them compatible with those FDI source countries may help developing countries to reap potential FDI which in turn help them to attract more FDI independently of the indirect impact of higher GDP per capita. Also, Anghel (2005), using cross-section data for 78 countries averaged over the period 1996 – 2000 and least-squares and instrumental variables estimation, try to answer the question in which the research title lays - "Do Institutions Affect FDI?" Regardless of control variables like growth rate of GDP, terms of trade, inflation rate and trade openness, the variables political stability, protection of property rights, control of corruption, regulatory quality and government effectiveness used in measuring the level of institutional development are almost always significant in both least-squares and instrumental variables estimations. Anghel conclude that countries with corrupt, less efficient governments tend to be less attractive for foreign investors.

Employing two proxies[6] to capture different aspects of socio political instability Singh and Jun (1995) examined the types of sociopolitical instability that affect FDI flows. Using political risk index and work day lost because of industrial or civil strife, they reach on different outcomes depending on differences in their model specifications and the group as to which the country belongs i.e. low-FDI or high-FDI country. In order to evaluate the effect of these variables on FDI, they use the same model specifications for both of them. The comparative results estimated separately for low-FDI and high-FDI countries indicate that political risk variable is statistically

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[4] In their study, they introduce 75 institution variables from the IP database successively. Since institution variables are often correlated with one another, it is generally not possible to include several institutions in the same equation. Through ranking of institutional characteristics according to their role in attracting FDI i.e. in explaining the variance of bilateral FDI stocks, they report the results for the twenty best fits, ranging from 0.716 to 0.728 in the study. The comparison on results for matched variables is made on Fraser Institute, the Kaufmann, Kraay and Zoidon-Lobatón (KKZL) and World Development Indicators (World Bank) database.

[5] Public efficiency in a broad sense includes tax systems, easiness to create a company, lack of corruption, transparency, contract law, security of property rights, efficiency of justice and prudential standards as of Benassy-Quere, Coupet and Mayer (2005).

[6] First, the political risk index developed by Business Environment Risk Intelligence (BERI) with respect to six internal causes of political risk - fractionalization of the political spectrum; linguistic, ethnic, and religious fractionalization; and coercive political risk (dependence on and/or importance to a hostile power) and two symptoms of political risk (societal conflict involving demonstrations and street violence). Second, works days lost from the annual reports of the International Labor Organization provide aggregate country data about the number of "work days lost" because of industrial or civil strife.

significant for high-FDI countries. Thus, Singh and Jun in their finding they reveal the situation in which where the political risks are higher (in high-FDI countries), political risk index is significantly related to FDI flows. Conversely to political risk index, where regressions are estimated separately for high-FDI and low-FDI countries, work day lost because of industrial or civil strife significantly matters in the low-FDI countries. But, work day lost turned out insignificant when it is introduced with the variable export due to multi-collinearity. When the two variables are introduced in one model as a proxy measures for political stability, both of them are appeared significant even if political risk index, indirectly incorporates work day lost.

Enhancing conducive investment environment play a greater role in commencing the perception of foreign investors towards investment decisions. In Singh and Jun (1995), two proxies – operation risk index which incorporates a wide range of factors, including political continuity, attitude toward foreign investors, balance of payments performance, economic growth, enforceability of contracts, currency convertibility, and infrastructure and local management and taxes on international trade and transactions are used to in analyzing a hospitable business environment. Despite differences in model specifications and the group in which sample countries belongs, the operation risk index becomes statistical significant. However, the size of the coefficients of operation risk index for the high-FDI group are approximately twice that of the corresponding coefficients of the low-FDI group, implying that business operating conditions are more important for attracting FDI flows in the high-FDI group. The separate regressions run for low-and high-FDI groups indicating a positive and significant relationship between taxes on international trade and transactions and FDI in high-FDI groups reveal that "tariff hopping" behavior is prevalent in this FDI group to avoid trade-related taxes and take advantage of the host market. Generally, Coskun (2001) - the legal environment for investment and business can appear as a significant determinant of FDI flows through the way of gauging rewarding investment and export incentives to potential investors such as custom duties and fund exemption, subsidized credit facilities, energy incentive in priority development regions, land allocation and tax holidays.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Data Source and Type

The study employ descriptive and an aggregate econometric analysis with a time series data from 1980 – 2010. Only secondary data that is collected from different sources such as EEA - EEPRI statistical database of 2010 on various issues, Ethiopian Investment Authority (EIA), Central Statistics Authority (CSA), Ministry of Finance and Economic Development (MoFED), National Bank of Ethiopia (NBE), World Investment Report (WIR), United Nation Conference on Trade and Development (UNCTAD), Ethiopian Road Authority (ERA) is employed for analyzing the determinants and trend of FDI in Ethiopia.

3.2. Model Specification

As the existing literatures on the determinants of FDI in developing countries implied, there are many explanatory variables which are capable of determining the inflow of FDI in Ethiopia. But it is not possible to address all the variables that influence FDI inflow because of problem of data availability. This study adopted Multiple Linear Regression Model in line with VAR model to depict the determinants and trend of FDI in Ethiopia over the period 1980 – 2010 by using a group of economic, financial and socio-political variables. The models in this paper are based on the approach used in Khrawish and Siam (2010), Walsh and Ju (2010) and Seim (2009). As such, the model can be jotted down as follows;

MODEL 1: Model for Economic Explanatory Variables:

$$FDI_t = \beta_0 + \beta_1 RGDPG_t + \beta_2 PCI_t + \beta_3 OPEN_t + \beta_4 CONS_t + \beta_5 DOM_t + \beta_6 INF_t + \varepsilon_t \quad .3.1$$

Where, RGDPG = Real Gross Domestic Product Growth Rate as Measure of Market Potential

PCI = Real Gross Domestic Product per Capital as Measure of Real Market Potential

OPEN = Trade Openness (Export plus Import as percentage of GDP)

CONS = Government Size Measured by (Share of Government Consumption

Expenditure as   percentage of GDP)

DOM = Share of Gross Domestic Investment as of GDP

INF = Annual Inflation Rate Based on Consumer Price Index

MODEL 2: Model for Financial Explanatory Variables:

$$FDI_t = \gamma_0 + \gamma_1 DSTO_t + \gamma_2 DSER_t + \gamma_3 CURR_t + \gamma_4 EXR_t + \gamma_5 INTR + \varepsilon_t \dots\dots\dots\dots\dots\dots 3.2$$

Where, DSTO = Foreign Debt Stock as Percentage of GDP

DSER = Foreign Debt Service as Percentage of Exported Goods and Services

CURR = Current Account Balance as Percentage of Exported Goods and Services

EXR = Real Exchange Rate

INTR = Interest Rate

MODEL 3: Model for Socio-Political Explanatory Variables:

$$FDI_t = \alpha_0 + \alpha_1 RDENS_t + \alpha_2 GOV_t + \alpha_3 PRIM_t + \alpha_4 TELE_t + \varepsilon_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.3.3$$

Where, RDENS = Road Density per 1000 people (Asphalt plus Gravel Road Length in

kilometers divided by Country's Total Population) as a Proxy Measure of

Infrastructural Development

GOV = Governance Indicator

PRIM = Primary Education Enrollment Rate

TELE = Telephone Lines per 100 people

Where, β_0, β_1, β_2, β_3, β_4, β_5 and β_6, $\gamma_0, \gamma_1, \gamma_2, \gamma_3, \gamma_4$ and γ_5 and $\alpha_0, \alpha_1, \alpha_2, \alpha_3$, and α_4 are parameter estimates of each model and ε represents the stochastic term in each model.

The inflow of FDI as a share of GDP is used as a dependent variable in the above proposed Multiple Linear Regression Models (MLRM) to dismantle the explanatory power of those independent economic, financial and socio political variables. The first model depicts which economic variables are associated with higher FDI flows, on the basis of the data laid down between the years 1980 - 2010. The variables real GDP per capita and real GDP are used as

proxy measure for country's market size and market growth potential respectively. Trade Openness (Export plus Import as percentage of GDP) measures the level to which the economy is oriented to a more liberalized market system and how the economy is integrated with is global counterpart. In this study the variables that are posited to access domestic market situation and external trade orientation towards global economy are expected to have positive sign.

The role of government policy measures is captured by the size of government in which the Share of Government Consumption Expenditure as percentage of GDP will be used as a proxy. But, it has been known that the size of government (CONS) captures several factors that are relevant to foreign investors. So, accordingly, Ancharaz (2003) associate large government size with economic intervention, excessive bureaucratic red tape, administrative inefficiencies and corruption. First, the extent to which government intervene in the economy erode the confidence of the private sector about policy continuity and may result a further distortion on the economy when the government is rushing to correct macroeconomic distortions. For example, government intervention through increased government expenditure geared towards stimulating the economy can result outcomes that will offset any positive gain. This is because private agents see the resulting budget deficit and anticipates future tax increases and then increases savings and decreases consumptions due to the increased government expenditure. Secondly, big size governments as of Ancharaz are characterized by excessive bureaucratic red tape, administration inefficiencies and chronic corruption. On the contrary, the study by Anywanu (2011) reveals the fact that higher government expenditure may infer creation of greater social overhead capital through expenditure on education, health and infrastructure, which are critical to FDI. Hence, the sign of CONS in model one is quite ambiguous. Considering the expenditure pattern in developing nations and the analysis behind developmental state view the sign of CONS is expected to be positive in this particular paper. But, unlike the factors that CONS captures in the above mentioned studies the variable CONS will be used only to synthesize the degree of government intervention. Since, FDI is considered as a complement to domestic investment; domestic investment as a determinant of FDI inflow will be treated in lieu of the view that greater domestic investment has a greater tendency to instigate greater FDI inflows and a positive sign is expected. The annual inflation rate as a proxy measure for macroeconomic stability implies the strength of an economy and its regulatory framework. Concerning inflation

there are several controversial literatures as to whether inflation instigates FDI inflow or not. Accordingly, studies by Khrawish and Siam (2010) on Jordan during 1997 – 2007 and Leitao and Faustino (2009) on Portuguese economy between the years 1995 – 2007 revealed a positive relationship between inflation and FDI inflow. This is evident during economic boom and expansion. However, low level of inflation signals investors the commitment and credibility of government towards macroeconomic stability (see Hussain and Kimuli, 2012; Debab and Mansoor, 2011; Getinet and Hirut, 2006) which by far develops a sense of certainty in business undertakings by those potential investors.

The second model is devoted to capture financial variables that determine the inflow of FDI. The DSTO (Foreign Debt Stock as Percentage of GDP) and DSER (Foreign Debt Service as Percentage of Exported Goods and Services) are used to measure the level of financial transfer risk. First, servicing of the external debt erodes foreign exchange reserves, which might otherwise be available for purchase of imports - import compression problem. Second, the accumulation of a debt stock results in a "debt overhang" problem, which tends to undermine the confidence of private investors and hence results capital flight. Finally, servicing of debt places an enormous fiscal pressure on FDI hosting country and further reduction in both private and public investment in the near future. So, in the long run the accumulation of debt and inability to service this debt results a foreign exchange constraint problem and austerity measures to be launched on the domestic consumer. The study by Mwega and Ngugi (2006) on Kenyan FDI using a comparative approach which was estimated using half decade panel data for 43 countries over the period 1960–1997 accounted the impact of external debt through three channels. In the first channel, current debt to GDP ratio whose contraction could help to relax budget constraints and hence leverage FDI, poses a positive and significant effect on FDI inflow. The second channel implying debt overhang problem proxy by square of debt, which reflects past debt accumulation and the preceding channel i.e. the debt service ratio, which captures the liquidity and solvency constraints imposed by the debt burden remain insignificant in their study. Like inflation the exchange rate also used as an indicator for economic stability and expected to have a positive sign. On the other, the exchange rate used as a measure of economic stability in order to figure out how the FDI hosting country is managing and keeping the economy on the right track. As per, Aqeel and Nishat (2005) on the determinants of FDI during the period 1961 – 2003

for Pakistan reveals a significantly positive effect of foreign exchange in FDI inflow as investors are considering it as lower cost of capital. But, the study by Ruskie (2007), Singh and Jun (1995) get a negative and significant effect as investors are expecting higher return on their investments. Even though, there is ambiguity in the expected sign of foreign exchange in many studies a positive effect is expected for this study. The current account balance as a percentage of exported goods and services is used as measure to know the financial status and development of the economy and expected to assume a positive sign. Finally, interest rate (INTR) is used as financial variable in measuring the cost of borrowing.

The third model in this study that is handled is the socio-political model which is devoted to picture out the effect of those socio political variables on the inflow of FDI. The study considers some representative variables such as primary education enrollment rate as a measure of Human Capital Development, road density per 1000 people and fixed telephone lines per 100 people as indicators of Infrastructural Development and Governance as a measure of institutional quality. In order to screen the effect of human capital development on FDI inflow, the primary education enrollment rate is used as a proxy measure in the study and it is expected to have a negative sign. On the other, the level of infrastructural development as a variable of interest is proxy by road density per 1000 people (RDENS). Since as Aseidu (2002) noted, a good measure of infrastructure development should take into account both the availability and reliability of infrastructure. Thus, depending on the structure of Ethiopian economy which is predominantly agrarian road density captures both the availability and reliability aspect of infrastructure and a positive sign is projected. In signifying the importance of infrastructural development in attracting inward FDI telephone lines per 100 people is also used. Finally, governance quality effect is captured by freedom ratings from world freedom house data on political rights and civil liberties which are the most used measures of democracy and human right by researchers and policy makers. To generate the seven point political rights and civil liberties scales as well as the freedom status indicators sub-category indicators are used in the data. The political rights indicator addresses political pluralism and participation, electoral process and functioning of government in to account as a sub-category indicators. The other four sub-category indicators i.e. freedom of expression and belief, associational and organizational rights, rule of law and personal autonomy and individual rights in the data are also taken in order to measure the civil

liberties indicator. Political Rights and Civil Liberties are measured on a one-to-seven scale, with one representing the highest degree of Freedom and seven the lowest. But, for convenience, this study uses the freedom status indicator only which was manipulated from the aggregated rating of the two indicators as a measure of governance. As per the data, based on the estimated rating, the freedom status indicator which was given the values ranging between1.0 and 2.5 was designated "Free", between 3.0 and 5.5 "Partly Free" and between 5.5 and 7.0 "Not Free" as implied by world freedom house data. Beginning from the year 2003 onwards the combined average ratings fall between 3.0 and 5.0 is "Partly Free," and between 5.5 and 7.0 "Not Free". So, the freedom status indicator as a measure of governance quality is used for the study to measure the quality of governance which in turn entails quality of institutions. A negative sign is expected in the proposed socio-political model since higher values of freedom status imply worst governance.

3.3. Econometric Analysis

To find out the existing long run relationship between the dependent variable i.e. FDI inflow and its variables of interest i.e. determinants, along its trend analysis, the aforementioned models are adopted in line with VAR model. Before the existing long run relationship is dismantled on the study's variables of interest, the data series on each variable is tested to identify whether they are co-integrated or not. Identifying the co-integration between these variables will help to know the equilibrium relationship between them and further help to jot down trustworthy inferences out of the study. Accordingly, Co-integration refers to the fact that two or more data series share a stochastic trend (Stock and Watson, 2007). So, before estimating the above models it is highly crucial to identify the presence of co-integration between the study's variables of interest to distinguish the short run and long run impacts through the use of Vector Error Correction Models (VECM). On the other, identifying the presence of co-integration between variables of interest help to mitigate the appearance of spurious regression in the above models where the parameter estimates in the regression analysis may not have a justifiable meaning. Therefore, the study employs stationarity and co-integration tests before estimating the models to be handled. STATA 11 will be used to deal with the econometric result.

3.3.1. Unit Root Test

It is a little bit obscure to confine oneself in the analysis of stationary time series. In view of this, the main issue with economic time series is how to model dynamic economic models. As such the testing for unit roots has received a lot more attention than the estimation aspect that the traditional regression analysis diagnostic tests are ignored (Maddala, 2001). So, in order to reach on an amenable long run relationship between variables of our interest, the issue of stationarity should be addressed at first instance if we come across over time series data. Accordingly, a series is said to be stationary if its mean and variance are constant over time and the value of the covariance between the two time periods depends only on the distance or gap or lag between the two time periods and not the actual time at which the covariance is computed (Gujarati, 2004). On the other, according to Cochrane (1997) a series is said to be non-stationary if it has breaks in trends, or if one thinks that the time series process changed over time. If we think that the trend break or structural shift occurs at one point in time, no matter how history comes out, the series is non-stationary as many people view the issue in rough way.

Since the data deployed for this study is time series data, the process of understanding the relationship between our variables of interest using regression analysis need to assume some sort of stability over time. Because if a time series is non-stationary, we can study its behavior only for the time period under consideration. Each set of time series data will therefore be for a particular episode. As a consequence, it is not possible to generalize it to other time periods. Therefore, for the purpose of forecasting, such non-stationary series may be of little practical value (Gujarati, 2004). So, in order to dismantle the relationship between our variables of interest and know the extent to which a change in one variable affects the other, we should not allow them to change arbitrarily over each time period (Wooldridge, 2004).

As we have seen from the above theorizations, relieving out our series from the issue of non-stationarity is highly important. But, it is vital to take the kind of non-stationarity in to account, when we come to the mechanisms of transforming non-stationary series into stationary one i.e. we have to differentiate whether our series contains a deterministic or a stochastic trend. If not so, other statistical problems might appear in the transformed series. If the nature of unit root

process in our variables of interest exhibit a deterministic trend, the simplest way to make such a time series stationary is regressing it on time and the residuals from this regression will then be stationary. However, if our series have a stochastic trend, differencing the series on the basis of the number of unit roots it contain made it stationary i.e. if our series is I(2), it will contain two unit roots, in which case we have to difference it twice. If it is I(d), it has to be differenced d times, where d is any integer (Gujarati, 2004). In this regard with the view that successive differencing can relieve out the data for this study from non stationarity problem, if the autocorrelation coefficients decrease very slowly with increasing in the order of differencing, this is taken as evidence of non-stationarity. As a rule of thumb, Cochrane (1997) stressed on the importance of determining the order of differencing in such a way that the autocorrelation coefficients approach zero quite rapidly and that the variance of the resulting series is smallest compared to variances resulting from other orders of differencing. Accordingly, Cochrane consider this procedure as a means of mitigating the fault of over differencing: over differenced series often have a rather pronounced negative first order autocorrelation coefficient, and the estimated variance of the series is often increased by the transformation which actually leads to over differencing.

On the other, Gujarati (2004) remind caution to be taken in treating the type of unit root process i.e. trend and difference stationary process. He pointed out that if a time series is difference stationary process but if we mistakenly treat it as trend stationary process, this is called under differencing. On the other hand, if a time series is trend stationary process but if we treat it as a difference stationary process, this is called over differencing. The consequences of these types of specification errors can be serious, depending on how one handles the serial correlation properties of the resulting error terms. In passing it may be noted that most macroeconomic time series are difference stationary process rather than trend stationary process.

In addressing the issue of stationarity, firstly, the study undertakes unit root tests for stationarity on all variables of interest. In doing so, the Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) tests were employed. Here, before rushing to the stationarity test the optimal lag length in the variables was determined. Too many lags could increase the error in the forecasts; too few could leave out relevant information. Experience, knowledge and theory are usually the best way

to determine the number of lags needed (see Stock and Watson, 2007; Ivanov and Kilian, 2001). Then, different information criterion procedures, like the Akaike's Information criterion (AIC), and the Hannan and Quinn Information Criterion (HQIC), Schwarz's Bayesian Information Criterion (SBIC) are used to deal with the optimal lag length. Lastly, the Augmented Dickey Fuller (ADF) and Phillip-Perron (PP) tests were employed to test for stationarity.

To discuss the procedure of the ADF test for unit root consider the following AR (1) process;

$$Y_t = \rho Y_{t-1} + U_t \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.4$$

After subtracting Y_{t-1} from both sides of the above equation we get the following three different forms of equations on the basis whether the nature of the unit root process have no intercept, or have intercept or have both intercept and trends. So, the test for unit root is conducted for each form of the equation under three different null hypotheses;

Y_t is a random walk without intercept: $\Delta Y_t = \delta Y_{t-1} + U_t \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots$ 3.5

Y_t is a random walk with intercept: $\Delta Y_t = \alpha + \delta Y_{t-1} + U_t \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots$ 3.6

Y_t is a random walk with intercept and trend: $\Delta Y_t = \alpha + \beta t + \delta Y_{t-1} + U_t \ \dots\dots\dots\dots\dots\dots$ 3.7

Where, $\delta = 1 - \rho$ and t is the time or trend variable. Since, the quality of a unit root test largely depends on whether the test is performed within the appropriate model. To perform the test, consider the following general form of the equation that considers both an intercept and trend;

$$\Delta Y_t = \alpha + \beta t + \delta Y_{t-1} + \sum_{i=1}^{m} \theta_i \Delta Y_{t-i} + \varepsilon_t \ \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3.8$$

Where ε_t is a pure white noise error term and $\Delta Y_{t-1} = (Y_{t-1} - Y_{t-2})$, $\Delta Y_{t-2} = (Y_{t-} - Y_{t-2})$, etc. The test with the null hypothesis H_0: $\delta = 0$ or $\rho = 1$ and the alternative hypothesis that H_1: $\delta < 0$ or $\rho < 1$ or Y_t is trend stationary. F test can also be used in order to test the combined hypothesis H_0: $(\alpha, \beta, \delta) = (\alpha, 0, 0)$ or $(\alpha, \beta, \rho) = (\alpha, 0, 1)$. If this hypothesis is rejected, it

might be assumed that a deterministic trend exists. In addition, this can be tested with the null hypothesis H_0: $\beta = 0$. If the null hypothesis cannot be rejected, the following model,

$$\Delta Y_t = \beta + \delta Y_{t-1} + \sum_{i=1}^{m} \theta_i \Delta Y_{t-i} + \varepsilon_t \;\ldots\ldots\ldots\ldots.\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..\quad 3.9$$

Is used to undertake a t-test for a unit root with the null hypothesis H_0: $\delta = 0 \; or \; \rho = 1$, where the alternative hypothesis is the existence of a stationary AR process. To test whether the intercept is zero, F test with H_0: $(\alpha, \delta) = (0, 0)$ or $(\alpha, \rho) = (0, 1)$ should be tested. If this null hypothesis cannot be rejected, the model,

$$\Delta Y_t = \delta Y_{t-1} + \sum_{i=1}^{m} \theta_i \Delta Y_{t-i} + \varepsilon_t \;\ldots\ldots\ldots\ldots.\ldots\ldots.\ldots\ldots\ldots\ldots\ldots..\ldots..\ldots\quad 3.10$$

Is used in order to test H_0: $\delta = 0 \; or \; \rho = 1$.

As an alternative means to deal with unit root process, the Phillip-Perron (1988) test is used. Phillips and Perron use non-parametric statistical methods to take care of the serial correlation in the error terms without adding lagged difference terms. The test statistic for the hypothesis $\delta = 0$ or $\rho = 1$.is, however, rather adjusted by a non-parametric estimate of the variance of the estimated parameter $\hat{\delta} \; or \; \hat{\rho}$ that takes the autocorrelation of the residuals into account.

3.3.2. Co-integration Analysis and Vector Error Correction Model (VECM)

Co-integration means that although many developments cause permanent changes in the individual elements of y_t, there is some long run equilibrium relation tying the individual components together, represented by linear combination β′Y_t Hamilton (1994). Verbeek (2004) asserted the following details to the analysis of co-integration; If variables of interest are stacked in the k-dimensional vector Y_t, the elements of which are assumed to be I(1), there may be different vectors β such that $Z_t = \beta Y_t$ is I(0). That is, there may be more than one co-integrating vector β. It is clearly possible for several equilibrium relations to govern the long-run behavior of the k variables. In general, there can be r ≤ k − 1 linearly independent co-integrating vectors, which are gathered together into the k×r co-integrating matrix β. By construction, the rank of the matrix β is r, which will be called the co-integrating rank of Y_t. This means that each element in

the r-dimensional vector $Z_t = \beta' Y_t$ is I(0), while each element in the k-dimensional vector Y_t is I(1).

The Granger representation theorem (Engle and Granger, 1987) directly extends to this more general case and claims that if Y_t is co-integrated, there exists a valid error correction representation of the data. While there are different ways to derive and describe such a representation, using the following vector autoregressive model for Y_t :

$$Y_t = \delta + \Theta_1 Y_{t-1} + \ldots \Theta_p Y_{t-p} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. \ldots\ldots\ldots. 3.11$$

Or

$$\Theta(L)Y_t = \delta + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots. .3.12$$

For the case with p = 3 we can write this as

$$\Delta Y_t = \delta + (\Theta_1 + \Theta_2 - I_k) Y_{t-1} - \Theta_2 \Delta Y_{t-1} + \Theta_3 Y_{t-3} + \varepsilon_t$$

$$= \delta + (\Theta_1 + \Theta_2 + \Theta_3 - I_k) Y_{t-1} - \Theta_2 \Delta Y_{t-1} + \Theta_3 (\Delta Y_{t-1} + \Delta Y_{t-2}) + \varepsilon_t$$

Or

$$\Delta Y_t = \delta + \Gamma_1 \Delta Y_{t-1} + \Gamma_2 \Delta Y_{t-2} + (\Theta_1 + \Theta_2 + \Theta_3 - I_k) Y_{t-1} + \varepsilon_t$$

Where, $\Gamma_1 = -\Theta_2 - \Theta_3$ and $\Gamma_2 = -\Theta_3$. Similarly, we can write for general values of p that;

$$\Delta Y_t = \delta + \Gamma_1 \Delta Y_{t-1} + \ldots + \Gamma_{p-1} \Delta Y_{t-p} + \prod Y_{t-1} + \varepsilon_t \ldots\ldots\ldots.\ldots.. \ 3.13$$

where the 'long-run matrix'

$$\prod = -\Theta(1) = -\left(I_k - \Theta_1 - \ldots - \Theta_p\right) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.\ldots \ 3.14$$

determines the long-run dynamic properties of Y_t. This equation is a direct generalization of the regressions used in the augmented Dickey–Fuller test. Because ΔY_t and ε_t are stationary (by assumption), it must be the case that $\prod Y_{t-1}$ in (3.13) is also stationary. This could reflect three different situations. First, if all elements in Y_t are integrated of order one and no cointegrating relationships exist, it must be the case that $\prod = 0$ and (3.13) presents a (stationary) VAR model for ΔY_t . Second, if all elements in Y_t are stationary I(0) variables, the matrix $\prod = -\Theta(1)$ must be of full rank and invertible so that we can write a vector moving average representation as

follows; $Y_t = \Theta^{-1}(L)(\delta + \varepsilon_t)$. Third, if $\prod$ is of rank r $(0 < r < k)$ the elements in $\prod Y_{t-1}$ are linear combinations that are stationary. If the variables in Y_t are I(1), these linear combinations must correspond to cointegrating vectors. This intermediate case is the most interesting one. If $\prod$ has a reduced rank of $r \leq k-1$, this means that there are r independent linear combinations of the k elements in Y_t that are stationary, that is: there exist r cointegrating relationships. Note that the existence of k cointegrating relationships is impossible: if k independent linear combinations produce stationary series, all k variables themselves must be stationary.

Coming to the test for cointegration If it is known that there exists at most one cointegrating vector, a simple approach to test for the existence of cointegration is the Engle-Granger approach. It requires running a regression of Y_{1t} (being the first element of Yt) on the other k − 1 variables $Y_{2t}, \ldots, Y_{kt}$ and testing for a unit root in the residuals. This can be done using the ADF tests on the OLS residuals applying the critical values. If the unit root hypothesis is rejected, the hypothesis of no cointegration is also rejected. In this case, the static regression gives consistent estimates of the cointegrating vector, while in a second stage, the error correction model can be estimated using the estimated cointegrating vector from the first stage.

There are some problems with this Engle-Granger approach. First, the results of the tests are sensitive to the left hand side variable of the regression, that is, to the normalization applied to the cointegrating vector. Second, if the cointegrating vector happens not to involve Y_{1t} but only the test is not appropriate and the co-integrating vector will not be consistently estimated by a regression of Y_{1t} upon $Y_{2t}, \ldots, Y_{kt}$. Third, the residual based test tends to lack power because it does not exploit all the available information about the dynamic interactions of the variables. Fourth, it is possible that more than one co-integrating relationship exists between the variables $Y_{2t}, \ldots, Y_{kt}$. If, for example, two distinct co-integrating relationships exist, OLS typically estimates a linear combination of them. Fortunately, as the null hypothesis for the co-integration tests is that there is no co-integration, the tests are still appropriate for their purpose.

This study used an alternative approach that does not suffer from these drawbacks which was proposed by Johansen (1988), who developed a maximum likelihood estimation procedure, which also allows oneself to test for the number of co-integrating relations. Even if the details of

the Johansen procedure are very complex few aspects are considered. As a starting point of the Johansen procedure the following VAR representation of Y_t is given;

$$\Delta Y_t = \delta + \Gamma_1 \Delta Y_{t-1} + \ldots + \Gamma_{p-1} \Delta Y_{t-p+1} + \prod Y_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots \quad 3.15$$

Where ε_t is normally distributed with zero mean and constant variance. Note that the use of maximum likelihood requires us to impose a particular distribution for the white noise terms. Assuming that Y_t is a vector of I(1) variables, while r linear combinations of Y_t are stationary, we can write

$$\prod = \gamma \beta' \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad 3.16$$

Where, as before, γ and β are of dimension k×r. Again, β denotes the matrix of co-integrating vectors, while γ represents the matrix of weights with which each co-integrating vector enters each of the ΔY_t equations. The approach of Johansen is based on the estimation of the system (3.15) by maximum likelihood, while imposing the restriction in (3.16) for a given value of r.

The first step in the Johansen approach involves testing hypotheses about the rank of the long-run matrix $\prod$, or equivalently the number of columns in β. For a given r, it can be shown that the maximum likelihood estimate for β equals the matrix containing the r eigenvectors corresponding to the r largest (estimated) eigenvalues of a k×k matrix that can be estimated fairly easily using an OLS package. Let us denote the (theoretical) eigenvalues of this matrix in decreasing order as $\lambda_1 \geq \lambda_2 \geq \ldots \geq \lambda_k$. If there are r co-integrating relationships (and $\prod$ has rank r) it must be the case that log $(1 - \lambda_j) = 0$ for the smallest k – r eigenvalues, that is, for j = r+1, r+2, ..., k. We can use the (estimated) eigenvalues, say $\widetilde{\lambda_1} > \widetilde{\lambda_2} > \ldots > \widetilde{\lambda_k}$, to test hypotheses about the rank of $\prod$. The hypothesis H_0: $r \leq r_0$ versus the alternative H_1: $r_0 < r \leq k$, can be tested using the statistic

$$\lambda_{trace}(r_0) = -T \sum_{j=r_0+1}^{k} \log(1 - \widetilde{\lambda_j}) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad 3.17$$

This test is the so called trace test. It checks whether the smallest $k - r_0$ eigenvalues are significantly different from zero. Furthermore, we can test H_0: $r \leq r_0$ versus the more restrictive alternative H_1: $r = r_0 + 1$ using

$$\lambda_{max}\,(r_0) = -T\,\textstyle\sum_{j=r_0+1}^{k} \log(1 - \widetilde{\lambda_{r_{0+1}}})\ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ 3.18$$

This alternative test is called the maximum eigenvalue test, as it's based on the estimated $(r_0+1)^{th}$ largest eigenvalue.

The error correction model allows a representation which differentiates between long run equilibrium relations and short run adjustment processes. Nevertheless, if the variables are stationary, the short-run dynamic has to be correctly specified in order to estimate the long-run relations consistently (Kirchgassner and Wolters, 2007). In line to its analysis the concept of co-integration enriches a dynamic model analysis (Vector Error correction Model). If y_t and x_t are I(1) process and are not co-integrated, considering the following equation Wooldridge (2004) try to estimate a dynamic model in first difference as follows;

$$\Delta y_t = \alpha_0 + \alpha_1\,\Delta y_{t-1} + \alpha_0\,\Delta x_t + \alpha_1\,\Delta x_{t-1} + u_t\ \ldots\ldots\ldots\ldots\ldots\ldots\ldots.\ 3.19$$

Where, u_t has zero mean given Δx_t, Δy_{t-1}, Δx_{t-1}, and further lags. This is essentially equation (3.19), but in first differences rather than in levels. If we view this as a rational distributed lag model, we can find the impact propensity, long run propensity, and lag distribution for Δy as a distributed lag in Δx.

If y_t and x_t are co-integrated with parameter ß, then we have additional I(0) variables which we can include in (3.19). Let $s_t = y_t - ßx_t$, so that s_t is I(0), and assume for the sake of simplicity that s_t has zero mean. Now, we can include lags of s_t in the equation. In the simplest case, we include one lag of s_t

$$\Delta y_t = \alpha_0 + \alpha_1\,\Delta y_{t-1} + \alpha_0\,\Delta x_t + \alpha_1\,\Delta x_{t-1} + \delta s_{t-1} + u_t$$
$$= \alpha_0 + \alpha_1\,\Delta y_{t-1} + \alpha_0\,\Delta x_t + \alpha_1\,\Delta x_{t-1} + \delta(y_{t-1} - \beta x_{t-1}) + u_t\ \ldots\ldots.3.20$$

Where, E $(u_t|I_{t-1}) = 0$, and I_{t-1} contains information on Δx_t and all past values of x and y. The term δ $(y_{t-1} - \beta x_{t-1})$ is called the error correction term, and (3.20) is an example of an error correction model. (In some error correction models, the contemporaneous change in x, Δx_t, is omitted. Whether it is included or not depends partly on the purpose of the equation. In forecasting, Δx_t is rarely included). An error correction model allows us to study the short-run dynamics in the relationship between y and x. For simplicity, consider the model without lags of Δy_t and Δx_t :

$$\Delta y_t = \propto_0 + \propto_0 \Delta x_t + \delta(y_{t-1} - \beta x_{t-1}) + u_t \ \dots\dots\dots\dots\dots\dots\dots\dots\dots. \ 3.21$$

Where, $\delta < 0$. If $y_{t-1} > \beta x_{t-1}$, then y in the previous period has overshot the equilibrium; because $\delta < 0$, the error correction term works to push y back towards the equilibrium. Similarly, if $y_{t-1} < \beta x_{t-1}$, the error correction term induces a positive change in y back towards the equilibrium.

To pick out the relationship between variables i.e. co-integration, Engle and Granger (1987) suggested a two-step process to test for co-integration (an OLS regression and a unit root test), the EG-ADF test. But, due to the aforementioned weaknesses in the EG-ADF test the Johansen co-integration test is used in this study.

In order to deal with the short run adjustment pattern of the variables of interest an impulse or shock will be introduced on the basis of historical account that prevail during the study period i.e. from 1980 – 2010 under examination. So the study will be in a position to employ a Vector Error Correction Model (VECM) to capture the change in FDI inflow that is emanating due to the unprecedented shocks by that time. For this study to deal with the effect of the introduced impulses happening during the study period, besides the normal economic, financial and socio political models which are formulated at first glance another three VECMs will be formulated. These VECMs will be specified by introducing two dummies to capture the change in government investment policy and political atmosphere of the country due to the war with Eritrea.

The first dummy that is intended to capture effect of change in government investment policy uses the year 1996 in which investment proclamation No. 37/1996 was launched. The

proclamation was issued to widen the scope of participation of private investment. The year of the proclamation is used since the then proclamation solved the shortcomings and introduced corrections to the different directives issued under the previous investment proclamation i.e. No. 15/1992. For instance, the minimum capital requirement for foreign investors was reduced by the new proclamation from the previous $500,000 to as low as $100,000. Under the same proclamation, the provision that required foreign investors to deposit 25% of their investment capital also lifted off. Domestic investors were also allowed to benefit, for selected projects, from custom duty exemptions and this duty free exemption was extended to eligible areas like educational and health services, hotel and tourism, etc. So, DUM1 takes the value of 1 for 1996 and onwards and DUM2 that addresses the political atmosphere of the country during the boundary conflict with Eritrea the value 1 for 1997 onwards. The finalized short run dynamic equation is estimated through a step wise elimination of insignificant regressors from the VECMs until a parsimonious result is obtained. This can be done by using the Zellner approach to estimate seemingly unrelated regressions, which is highly helpful to eliminate successively the least significant variables from the error correction model (Kirchgassner and Wolters, 2007).

CHAPTER FOUR

OVERVIEW ON THE TREND, PERFORMANCE AND REGULATORY FRAMEWORKS OF FDI IN THE ETHIOPIAN ECONOMY

4.1. Overview of Ethiopia's Economy

According to the available records, Ethiopian economy is highly dominated by agriculture, which accounts around 42% of the economy's Gross Domestic Product (GDP), 80 to 85% of employment and 75% of the foreign exchange earnings[7] in 2010. The industry and the service sectors which constitute 13% and 46% of the country's GDP respectively show a growing importance in recent years[8]. As the history of developed nations reveals, economic development requires this dynamic and leading sector in the process of building a more industrialized economy. For this, there is no doubt that the performance of the agriculture sector plays the paramount role in determining the overall performance of the economy as well.

A look at on the Ethiopian economy and the performance of FDI over the study period (1980 – 2010) can be viewed on the basis of policy regimes. Since policy regimes are one of the factors affecting the performance of FDI in particular and private investment in general the various developments in policy frame works, strategies regarding FDI will be reviewed for the two regimes under the study period. The first period (1980 – 1991) signifies the period in which the country deemed to follow a command economic system and the tempo of the private sector participation in the economy and insurgent of FDI are at their incipient levels. The second period (1992 – 2010) relates the period with different policy reforms concerning exchange rate, trade, taxes, tariffs, price deregulation, institutional issues, financial market, state economic intervention, privatization and the like that are made to lift the economy from its low level of

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[7] The foreign exchange earnings constitute only the earning that is generated from coffee, oil seeds, hides and skins, pulses, meat products, fruits and vegetables, sugar, flower, live animals, chat and bee's wax.

[8] MoFED, computation on the percentage distribution of GDP by major industrial classification at constant basic prices for the years ranging between 2000 – 2010

development. In this regard, the next part of the paper is devoted itself in accessing the performance, determinants and trend of FDI and those substantial policy reforms regarding FDI made along the two policy regimes, namely Derg and FDRE.

4.1.1. The Period from 1980 - 1991

Following the uprising of 1974 the imperial regime came to an end thereby discarding the mixed market ideological thinking with more socialist principles of command economic system. This period marked overall shift in the economic principles of the country with an overextended state intervention in the economy. During this period the Ethiopian economy had undergone through different radical changes like change in the structure of land ownership, private sector participation in the economic activity, public sector property ownership, tax system, interest rate and the like. Even though the then new policy paradigm is manifested in the different sectors of the economy it could not bring the expected outcome. In spite of the fundamental social and institutional changes that the socialist system had brought, there were no pronounced concomitant changes in the level of investment, living standard of people, employment opportunities, export capabilities, balance of payment and economic growth. Since there are no circumstances that encourage and guarantee private sector participation in the economic activity of the country an erratic and low level of investment is also recorded during this period.

[9]During the period under review (1980 – 1991); real GDP grew at a rate of 2.1% per annum on average implying deterioration in the living standard of people as compared to the prevailing average population growth rate of 3% during the period. The average negative 3.3% growth rate of real GDP per capital also substantiate the fact that how living standard of the people was at stake. In an attempt to manage the economy in a coherent and comprehensive manner different development campaigns were formulated and implemented. Among these, the ten year perspective plan covering the period 1984 – 1994 is the known one. The plan with the general objective of bringing a structural change in the socio-economic atmosphere of the country, used as a guide line in the implementation of different projects and programs within the plan period. With specific objectives of raising the living standard of people; enhancing the productive

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[9] The computation on real GDP, real GDP per capital and population growth rates during the period (1980 – 1991) are made based on the data from NBE and CSA.

capacity and effecting structural changes within the economy by raising the levels and rates of saving and investment; expanding employment opportunities and mitigating social problems; and conserving, exploring, developing and rationally utilizing the national natural resources, the plan include the targets of increasing GDP growth rate to 6.5%, contribution of the agricultural, industrial, and that of service sectors to GDP to 4.5% , 10.2% and 7.5% respectively. In keeping the ten year perspective plan alive, major strategies like expansion of agricultural services, cooperativization, establishment of state farms, improving the quality of livestock resources and conservation of soil and forest resources are included. However, the ten year perspective plan failed to materialize the expected rates of growth as targeted due to low level of investment, wrong priorities and choice of projects, lack of incentive among the majority of the people for cooperativization, intensified urban unemployment etc.

Using a bird eye view the above evidences indicates that the macroeconomic performance of the country was not satisfactory during the period 1980 – 1991. During the period, due to too much government intervention and limited participation of the private sector in the economic activity of the country, a significant change was not witnessed in the pace of FDI inflow. The annual growth rate of FDI stock and the share of FDI out of the national GDP averaged to be less than 2% during the period. With the hope of cushioning this low performance, the 1983 joint venture proclamation was sought by the government to promote the surge of FDI in the country. A number of incentives were offered such as a five-year period tax holiday, duty relief on import and export, tariff protection and repatriation of profits and capital. Since the 1983 proclamation failed to attract foreign investors, this called another revised proclamation in 1989 that allow majority foreign ownership in many sectors. However, like the cultural saying "The barking of dog after the hyena is gone", because the proclamation was revised at the time where the political instability and civil war were at their apex the inflow of FDI was further discouraged. Later on, the intensified political instability coupled with the civil strife led the Derg regime to an end in 1991 (Getinet and Hirut, 2006).

4.1.2. The Period from 1991 - 2010

After the overthrow of the Derg regime, the transitional government adopted new socio-political and economic policies in 1991, with the intension of discarding the command economic system with a more liberalized market economic system. With the essence that the agricultural sector can serve as the driving force in rest of the economy, the transitional government adopted the agricultural development led industrialization (ADLI) strategy that fit the Ethiopian context. In order to revitalize the economy, the government introduces different policy reform measures in the 1990s. Among the policy reform measures the then transitional government of Ethiopia adopted that are used to immune the protracted economic crisis emanate during the command economic system, the structural adjustment program (SAP) advocated by the International Monetary Fund (IMF) and World Bank (WB) considered as one of the significant policy reforms. The program with concrete objectives of securing economic growth, reducing macroeconomic distortions, improving efficiency in resource utilization and productive capacity of the economy, focuses on stabilization and adjustment policies. The main structural adjustment policy measures undertaken in Ethiopia are policies related to exchange rate, monetary system, interest rate, government fiscal position, trade liberalization, privatization, transport deregulation and investment.

After major liberalization measures were taken in the post 1992, be that as it may, the inflow of FDI in the country have encouraged. However, even if Ethiopia is the second most populous country in Africa – with great potential in resource endowment and geographical position, the level of FDI in surge in the economy was disappointing as compared to other countries in the region for the period 1994 – 1997 where economic growth with rapid private sector development were initiated. The cumulative FDI inflow during this period was equivalent to 0.2 per cent of total inflow to Sub-Saharan Africa. Compared to other countries in the region, the amount of FDI in Ethiopia during this period was equivalent to only 5.3 percent of FDI inflow to Uganda, 5.4 percent to United Republic of Tanzania, 34 percent to Kenya, 0.9 percent to Egypt and 1.8 percent to Morocco. In comparison with other countries in the region, therefore, the total FDI inflow into Ethiopia during the first decade of FDRE (1992 – 2000) where the seeds determining the destiny of the country were planted has been insignificant (UNCTAD, 2002).

4.2. FDI Regulatory Framework

Immediately, after the fall of the military government, investment proclamation No. 15/1992 gave birth for the establishment of the Ethiopian Investment Agency (EIA). The proclamation was designed to eliminate discriminations against the private sector and create conducive environment for the private sector to participate in the economic activities of the country through investment. As the first policy measure by the Transitional Government of Ethiopia (TGE), the proclamation was envisaged to encourage FDI to participate in the rehabilitation and reconstruction of the country's economy which was formerly disrupted by the socialist regime.

The proclamation mentioned areas eligible for investment incentives. This includes areas such as agricultural development and agro-processing; manufacturing; large scale capital-intensive road and building construction; the development, protection and preservation of natural resources; rural transportation; as well as support machinery and services. The proclamation provide incentives like exemption from import and export related taxes and duties, income tax holiday and some other benefits depending on the type and location of investment. For instance, the duty exemption for imported capital goods and equipment including spare-parts worth up to 15% of the value of the capital goods imported was 100%. Income tax was also exempted from payment for periods ranging from 3 - 8 years under this proclamation. After four years enforcement proclamation No. 15/1992 was revised in to proclamation No. 37/1996 in order to overcome the different short comings identified in the previous investment proclamation.

The minimum capital required from the private investor to invest in the country was reduced by proclamation No. 37/1996 from $500,000 to $100,000. The precondition that force foreign investors to deposit 25% of their capital in blocked account was lifted off. The proclamation also asserts an income tax holiday for 2 to 5 years depending on the amount of capital and proximity of investment for infrastructural facilities. Since policy does not fail rather it goes through amendment, with the view of introducing new issues that were not addressed under proclamation No. 37/1996 a newly amended proclamation which was designated as proclamation No. 116/1998 came in to effect. The amended proclamation allowed the participation of the private sector in some investment areas that were reserved only for government in the previous proclamations. Accordingly, telecommunication and defense industries were eligible areas that

are allowed for private investors to invest jointly with the government. Hydroelectric power generation was also made up as eligible area for private participation. Further the amended proclamation No. 116/1998 was also forwarded to enable the Federal Investment Board to grant additional incentives other than what is provided under the investment incentive regulations i.e. Regulation No. 7/1996 and Regulation No. 36/1998 with the approval of the council of ministers. Later on a further amendment was also made on as proclamation No. 168/1999.

Mean while with the intension of suiting the process of attracting FDI investment proclamation No. 280/2002 came to picture as amended in to proclamation No. 84/2003 and No.375/2003. The investment proclamation exclusively noted the areas of investment reserved for the government or joint investment with the government, domestic investors and other domestic investors and foreign investors (see Appendix 2). For instance, transmission and supply of electrical energy through the integrated national grid system and Postal services with the exception of courier services are exclusively given to government and manufacturing of weapons and ammunition and telecom services were allowed as a joint investment with government. Regarding capital requirement, in pursuant of the proclamation any foreign investor is required to allocate a minimum capital of 100, 000 US dollars for a single investment project. Notwithstanding the above capital requirement, the minimum capital required of a foreign investor investing jointly with domestic investors was deemed to be 60,000 US dollars. On the other the minimum capital required from foreign investors investing in areas of engineering, architectural, accounting and audit services, project studies or business and management consultancy services or publishing was allotted to be 50,000 US dollars if the investment is made wholly on his own; 25, 000 US dollars if the investment is made jointly with domestic investors. Besides some of the fringe incentives that will be granted by the ministries of Councils a foreign investor re-investing his profits or dividends; or exporting at least 75% of his outputs was not required to allocate a minimum capital in the proclamation (Federal Negarit Gazeta of the FDRE, 2002). Later in 2008 and 2012 amendment No. 146/2008 and investment proclamation No. 769/2012 with certain modifications were enacted.

Besides the above investment proclamations and their respective amendments there are other laws whose contribution in the campaign of attracting FDI is significant. FAO (2011) listed out

some of the relevant laws in its document of foreign agricultural investment profile of Ethiopia for the purpose of investment policy support. This includes;

- Civil Code, 1960
- Maritime Code, 1960
- Commercial Code, 1960
- Customs Proclamation 622/2009
- Immigration Proclamation No. 354/2003
- Commercial Registration and Business Licensing Proclamation No. 67/1997
- Income Tax Proclamation No. 286/2002 and its Amendment No. 608/2008
- Commercial Registration and Business Licensing Proclamation No. 686/2010
- Value Added Tax Proclamation No. 285/2002 and its Amendment No. 609/2008
- Revised Export Trade Duty Incentive Scheme Establishing Proclamation No.543/2007
- Labor Proclamation No. 377/2003 and its Amendments No. 466/2005 and No. 494/2006
- Excise Tax Proclamation No. 20/2002 and its Amendments No. 570/2008 and 610/2008.

In line with the aforementioned FDI policy frameworks, Ethiopia have undertaken a number of investment and trade agreements with the rest of the world in creating an enabling environment for foreign trade and investment. Through membership of different regional and global organizations like COMESA, AGOA, NEPAD Ethiopia is benefitted a lot. For instance, under the US African Growth and Opportunity Act (AGOA), a variety of Ethiopia's manufactured export products are entitled to duty-free and quota-free access to the United States market (FAO, 2011). With the motto of strengthening global competitiveness Ethiopia's World Trade Organization (WTO) accession process also has been underway since 2003. Besides, membership in different organizations, Ethiopia signed a number of Bilateral Investment Treaties (BIT)[10] and Double Taxation Treaties (DTT)[11] with different countries.

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[10] **Bilateral Investment Treaties (BIT):** Equatorial Guinea 2009; Spain 2009; United Kingdom 2009; South Africa 2008; India 2007; Belgium 2006; Egypt 2006; Finland 2006; Luxembourg 2006; Austria 2004; Germany 2004; Libya 2004; Nigeria 2004; Sweden 2004; France 2003; Iran 2003; Israel 2003; Netherlands 2003; Algeria 2002; Denmark 2001; Russia 2000; Sudan 2000; Tunisia 2000; Turkey 2000; Yemen 1999; China 1998; Malaysia 1998; Switzerland 1998; Kuwait 1996; Italy 1994.

[11] **Double Taxation Treaties (DTT)**: China 2009; Czech Republic 2007; Iran 2005; Turkey 2005; Israel 2004; South Africa 2004; Tunisia 2003; Algeria 2002; United Kingdom 1977.

4.3. FDI Institutional Framework

The structure of institutional set up have an important role in the process of attracting FDI. In AfDB (2011) FDRE country strategy paper, Ethiopia ranked 118 out of 133 countries surveyed in the global competitiveness index. The strategy paper asserts institutional set up as a basic requirement for global competitiveness in attracting FDI. This is because since the competitiveness of the country in attracting FDI may lies in its strong institutions, restructuring of institutions that suit the desires of investors is vital. In doing so, the Ethiopian Investment Agency (EIA) is the key government institution in promoting FDI. EIA as one of the key institution responsible for promoting, coordinating and facilitating foreign investment, serve as a one stop-shop for all investors in Ethiopia. Accordingly, EIA renders the following services:

- ➤ Provides the necessary information required by investors;
- ➤ Approves and issues investment permits to foreign investors;
- ➤ Provides trade registration services to foreign investors;
- ➤ Issues operating licenses to approved foreign investments;
- ➤ Notarizes Memorandum of Association and Articles of Association;
- ➤ Grades construction contractors;
- ➤ Approves and registers technology transfer agreements;
- ➤ Registers export-oriented non-equity based foreign enterprise collaborations;
- ➤ Provides advisory and aftercare services to investors;
- ➤ Issuance of domestic status certificates to foreign nationals permanently residing in Ethiopia taken for domestic investors;
- ➤ Approves expatriate posts and issues work permits to foreign employees; and
- ➤ Facilitates the acquisition of land and utilities by foreign investors

It is evident that the act of attracting FDI or the subsequent expansion of FDI businesses once established should not be left for EIA alone, it requires the compiled effort of a range of government ministries, federal and regional agencies (UNCTAD, 2002). Accordingly, UNCTAD find out the investment promotion processes in Ethiopia are self-standing and uncoordinated and synthesize the importance of coordination among different ministries and agencies like the Ethiopian Privatization Agency (EPA), Ethiopian Tourism Commission (ETC),

Ministry of Foreign Affairs (MFA), Ministry of Trade & Industry (MOTI), The Development Bank of Ethiopia (DBE), The Ethiopian Media Agencies (EMA), Ethiopian Airlines (EA), Regional Investment Offices (RIO) and private sectors such as the Addis Ababa Chamber of Commerce (AACC) and existing foreign investors in Ethiopia to raise the effectiveness of the present national effort to attract FDI.

Accordingly, the above regulatory and institutional frameworks owing to the investment climate of Ethiopia show the ease of doing business status. The EIA as a principal government organ in promoting and coordinating investment justify why it is worthwhile to invest in Ethiopia. Ten reasons are accounted by the agency as to why the country is preferential for investment. These are; stable economic environment, liberalized economy, security of investment, significant tax incentives, conducive tax environment, various investment opportunities, strong market with excellent market access, strong natural resource base, trainable labor and good infrastructure standards. As a support, in 2011 the study of World Bank on the overall ease of doing business for 183 economies across the globe places Ethiopia 154th in its rankings. The table below shows the rankings of the country in each of the topics that are used to measure the state of doing business as reported in FAO (2011).

Table 4.1: Doing Business Rankings by Topics for Ethiopia

Topic Rankings	Doing Business Rankings		Change in Rank
	2010 Rank	2011 Rank	
Starting a Business	94	89	↑ 5
Dealing with Construction Permits	57	53	↑ 4
Registering Property	111	109	↑ 2
Getting Credit	125	128	↑ -3
Protecting Investors	119	120	↓ -1
Paying taxes	41	47	↓ -6
Trading Across Borders	159	157	↑ 2
Enforcing Contracts	57	57	No change
Closing a Business	78	82	↓ -4

Source: World Bank, Doing Business: http://www.doingbusiness.org

As the overall ranking of the country in ease of doing business indicates, in relative sense the issue of institutional quality is not addressed very well. The study of AfDB (2011) also signifies the importance of strengthening institutional quality to adhere competitiveness in the recently globalized economic system. Accordingly, beside infrastructure, macroeconomic stability and health and primary education, the study places institutional quality as a basic requirement to strengthen the overall competitiveness of the country. In this regard Ethiopia ranked 118 out of 130 countries surveyed in the global competitiveness index (see Appendix 3).

4.4.   Trend and Performance of FDI in Ethiopia (1980 – 2010)

Recently, Ethiopia is marked as one of the countries among the group of Sub-Saharan African countries on the track to meet most of the Millennium Development Goal (MDG) targets (AfDB, 2011). Despite the 11% economic growth on average in recent years, the inflow of FDI shows an erratic trend. Over the study period i.e. 1980 – 2010, FDI in the country fluctuated between a net inflow of 545 million dollars in 2006 and outflow of 2.6 million dollars in 1983. Since, the study is confined within two regimes a remarkable inconsistency is found in the trend of FDI inflow. During the Derg regime i.e. for the period 1980 – 1991 in which Ethiopia was under various economic, social and political problems the inflow of FDI grew by 1.5% on average. Surprisingly, the regime was also characterized by capital flight in some years i.e. 1983, 1986, 1987 and 1989. This situation was resulted due to low level of infrastructure, private sector suppressing policies, loss of public confidence in policy continuity, internal and external political turmoil and so on. The change in the available stock of FDI during the period also signifies the low performance of the regime in attracting FDI. Within the eleven year span the stock of FDI changes only with 1.08 million US $ per year. As the available evidences indicate that the performance of the Ethiopian economy had shown a downward trend. Important macroeconomic variables, for instance real GDP, export trade, gross domestic saving, gross capital formation and the like did not show a pronounced improvements due to absence of enabling environment, especially for the development of the private sector and hence the mobilization of the available resources. So, from the resulting figures on average it is evidential to infer the low and less than satisfactory performance of FDI during the regime i.e. for the year 1980 – 1991. The comparison that is made on the net inflow and stock of FDI eleven years before and after the fall of the

regime supports the low performance of FDI. Accordingly, in comparison the inflow of FDI grow by 1.5% on average and the stock of FDI change by 20.8 million US $ within the eleven years before the collapse of the regime. While, the record on the FDI net inflow for the same time span implied an annual growth rate of 30% and a 1414.74 million US $ change in its stock after the overthrow of the regime.

Regarding, the period 1992 – 2010, the investment policy of the country did not seem successful in attracting FDI. Various factors accounted to the low performance of FDI such as absence of efficient marketing system for privately produced goods, political instability that existed in the previous regime and the war with Eritrea. These factors coupled with other problems had negatively affected the act of attracting FDI. In order to dismantle the performance of FDI in the two regimes it is better to consider the following graphical plot.

Figure 4.1: Trend in the Inflow and Stock of FDI
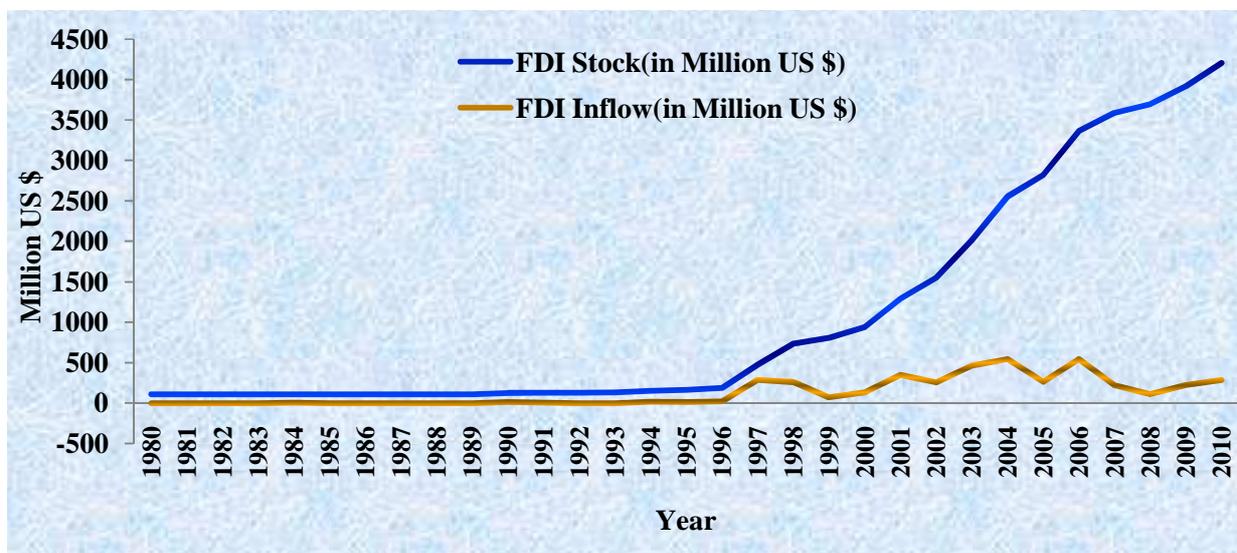
Sources: Own Computation Based on the Data of International Monetary Fund, United Nations
Conference on Trade and Development and National Bank of Ethiopia.

The above graphical plot signifies the fact that Ethiopia attracts a negligible amount of FDI from 1980 – 1996. During this span of period both the stock and net inflow of FDI fluctuated below

21.96 and 187.36 million US $ respectively. Since, there exists capital flight during the period merely under the rule of Derg regime, due to unfavorable economic policies in addition to the internal and external political problems, Ethiopia lost the benefits that should be gained from FDI. The current government instituted in 1991, after the end of civil war. In the first few years, there was likely a fear on and from foreign investors to invest in Ethiopia. Ethiopia was not the signatory of Multilateral Investment Guarantee Agency that keeps foreign investors in safe haven from unprecedented expropriation and war related problems. Government tried to show its commitment by enacting investment proclamation No. 15/1992 that was aimed at attracting more FDI. However, it was not as such successful, especially in the first decade. The distortions of the military government were to. Until this was done; the low performance of FDI inflow continued until 1996.

Mean while, after the seed of proclamation No. 15/1992 was replaced by the more improved one i.e. investment proclamation No. 37/1996 the germination shows a tremendous improvement both in the performance of FDI stock and its net inflow. The stock of FDI that was 187.36 million US $ in 1996 was increased to 475.85 million US $ in 1997 which implied a net inflow of 288.49 million US $. This can be due to the measures that had been undertaken within the 1996 investment proclamation that allow private sector participation in the different sectors of the economy; lower the financial requirement for FDI; provide investment incentives. The large FDI inflow in 1997 which accounted a 157% increment can be considered as a corner stone for the recent development in the policy frameworks of the country regarding FDI.

However, the 288.49 million US $ increase in the inflow of FDI following the political stabilization did not sustain for a while. It was declined to 260.67, 69.98 and 134.64 million US $ in the years 1998, 1999 and 2000 respectively as a result of the Ethio - Eritrean war. Following the end of the conflict and policy improvements in the economy in general and in the private investment arena in particular, a marked increase in the inflow of FDI was registered in the years 2004 and 2006 (545 million US $).

What is more interesting that the down ward trend in FDI inflow during the restrictive economic policy regime i.e. in the 1980s had reversed and a significant increase had been accounted in the

1990s despite the then policy reforms and external politics. So, likewise the Derg regime, the performance of FDI during the EPRDF i.e. for the year 1992 – 2010 does not follow a sustained pattern. Accordingly, net FDI inflow for the past 19 years grow on average by 23% as compared to the 1.5% growth of Derg regime it seems better. On average 214.5 million US $ addition on the stock of FDI is made in each year which is accounted a change of 4075.87 million US $ on the stock of FDI after the fall of Derg regime. It would appear that FDI has increased over time since the overthrow of the Derg regime as the image of the country captures center of attention in the economic and socio-political atmosphere. But, observing the resource base of the country, the performance of FDI is disappointing. Recently a budding like improvements are observed as the country image in the international community is changed in different dimensions.

When we observe the size of net FDI inflow as a share of GDP shows that net FDI inflow was very low during the Derg regime which accounts around 0.01% of the national GDP on average. But, the share has shown improvement on average after the overthrow of the Derg regime and assumed a share of 1.95% from the GDP of the nation for the period 1992 – 2010. The figure below illustrates the percentage share of FDI inflow and stock from GDP;

Figure 4.2: Percentage Share of FDI Inflow and Stock from GDP
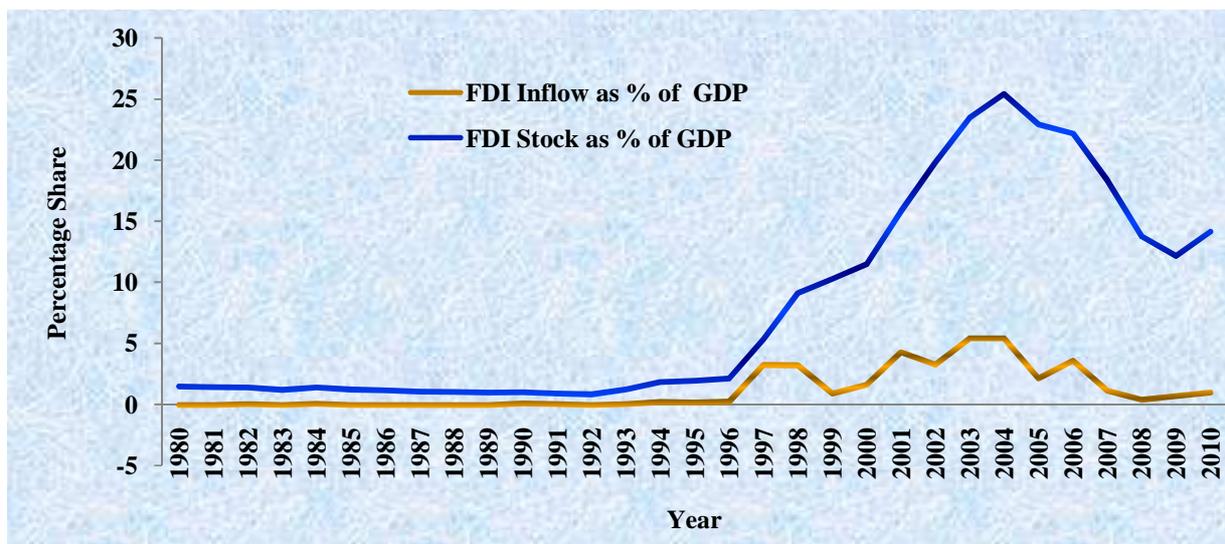
Sources: Own Computation Based on the Data of International Monetary Fund, United Nations Conference on Trade and Development and National Bank of Ethiopia.

As the above figure demonstrates, the percentage shares of both net FDI inflow and FDI stock from GDP of the country show a smooth trend until the year1996 where investment proclamation No. 37/1996 was enacted. The share of net FDI from GDP oscillates between 0.25% in 1996 and – 0.03% in 1983, where the negative figure implies capital flight by the time. The growth trend of net FDI inflow for this time period i.e. 1980 – 1996 in Figure 4.1 in comparison with the above figure also asserts how the in surge of FDI was imminent to be materialized. This can give an insight on how the protracted political situation during the period curb the inflow of FDI in the country from performing well. Perhaps, it is not appropriate to account the low performance in the trend of FDI inflow and its share out of GDP merely for the then political situation. The more restrictive policy frameworks on the private sector, under developed financial sector, poor infrastructure, external political problem, intense government economic intervention and presence of retail auction markets can be also considered as exacerbating factors for this low performance during the period especially under the military occupation. The trend in the stock of FDI and its share of GDP also strengthen the existence of blemished FDI performance until the year 1996.

After the immunization of the 1996 investment proclamation noticeable changes happen both in the share of net FDI inflow and its stock as a percentage of GDP. The percentage share of net FDI inflow as of GDP for the years 1997 and onwards accounts more than 1% for most of the years. The same is true also for the stock of FDI as a percentage of GDP. The years 2003 and 2004 marked as a distinction points in the percentage share of net FDI inflow and its stock as of GDP for the study period. Inward FDI as a share of GDP accounted 5.43 % and 5.42% respectively for these peculiar years. The respective share of FDI stock is also figured as 23.49% and 25.42% for these years. As the above descriptive inference entails, the performance of FDI in Ethiopia shows a budding like improvements after the fall of Derg regime especially beginning from the year 1996 onwards. This can be seen from Figure 4.1 that represents the growth trend of net FDI inflow and its stock. So, observing the smoothness of the lines along the time periods 1980 – 1996 from Figures 4.1 and 4.2, for the trend and percentage share of FDI as of GDP, there are no critical changes to be noted as a big deal. The notable changes for years 1997 and onwards show relative improvements both in the performance of FDI and its trend.

CHAPTER FIVE

ECONOMETRIC RESULTS AND DISCUSSION

The thesis focused on the determinants and trends of FDI in Ethiopia for the years 1980 – 2010. This chapter of the study thus interprets and discusses the empirical outcomes of the data results. First of all, to proceed with the standard estimation or testing procedures in a dynamic time series model, one is required to check whether the variables to be employed in the respective study are stationary or not. This is because econometric theory is framed with the assumption of stationarity and, the way estimation is handled and the testing procedure might disrupt our finding. This chapter thus undertakes unit root test on the variables, and this test is followed by co-integration test. The procedures of analysis enquired the existence of long run relationship between these variables. If the existence of such long run relationship is known to exist, the next step will be assessing the mechanism through which these variables are driven to their long run equilibrium relationship. Finally, error correction mechanism will be seen since it will have implication on the short run behavior of the study variables and to handle the long run model adjustment issues.

5.1. Unit Root Test

Unit root test imply the existence or not of spurious regression having high R^2; the t-statistics that appear to be significant, might have no meaning. Also the customary tests of statistical inferences may not hold (Granger and Newbold, 1974). As noted by Maddala (1992), in the process of unit root test the issue of whether a time series is trend or difference stationary has both statistical and economic implication. For this study, two popular unit root test methods; namely the Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) were employed. In the two tests, the existence of unit root in the series is consistently shown the null hypothesis. Since, the nature of the unit root process may have no constant, or not, or both constant and trend, the process of testing unit root in both test methods involves estimating three different forms of the stationarity processes of the series. Table 5.1 presents the grant of test and removal of unit root processes in the variables of interest.

Table 5.1: Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) Unit Root Test Results for Variables in the Economic, Financial and Socio-Political Equations of Foreign Direct Investment

Variables	Include in Test Equation	Augmented Dickey-Fuller Unit Root Test				Phillips-Perron Unit Root Test				Order of Integration
		Level		First Difference		Level		First Difference		
		ADF	P-Value	ADF	P-Value	PP	P-Value	PP	P-Value	
FDI	Intercept	-2.150	0.277	-6.584	0.000*	-2.118	0.239	-6.797	0.000*	
	Trend & Intercept	-2.499	0.348	-5.152	0.001*	-2.541	0.308	-6.739	0.000*	I(1)
	None	-1.649	0.092	-6.699	0.000*	-1.544	0.111	-6.926	0.000*	
RGDPG	Intercept	-4.523	0.001	-8.867	0.000*	-4.544	0.001	-16.644	0.000*	
	Trend & Intercept	-6.153	0.000	-8.691	0.000*	-8.195	0.000	-20.523	0.000*	I(0)
	None	-0.964	0.290	-8.993	0.000*	3.508	0.000	-20.573	0.000*	
PCI	Intercept	1.305	0.998	-3.321	0.023**	0.903	0.994	-3.293	0.024**	
	Trend & Intercept	-0.682	0.965	-4.881	0.002*	0.485	0.998	-7.836	0.000*	I(1)
	None	1.404	0.957	-3.233	0.002*	1.039	0.917	-3.223	0.002*	
OPEN	Intercept	-0.376	0.901	-5.795	0.000*	-0.262	0.919	-5.792	0.000*	
	Trend & Intercept	-2.361	0.390	-5.809	0.000*	-2.209	0.467	-5.821	0.000*	I(1)
	None	0.854	0.889	-5.605	0.000*	1.134	0.929	-5.605	0.000*	
CONS	Intercept	-2.278	0.185	-4.348	0.002*	-1.606	0.467	-5.082	0.000*	
	Trend & Intercept	-3.265	0.095	-4.281	0.011**	-2.237	0.453	-5.357	0.000*	I(1)
	None	-0.758	0.379	-4.127	0.000*	-0.792	0.364	-4.390	0.000*	
DOM	Intercept	-1.732	0.406	-8.641	0.000*	-1.571	0.485	-8.950	0.000*	
	Trend & Intercept	-2.591	0.287	-8.481	0.000*	-2.904	0.175	-8.744	0.000*	I(1)
	None	0.612	0.842	-8.617	0.000*	0.888	0.895	-8.504	0.000*	
INF	Intercept	-3.217	0.052	-6.177	0.000*	-3.213	0.062	-6.852	0.000*	
	Trend & Intercept	-3.439	0.065	-6.143	0.000*	-3.408	0.069	-6.586	0.000*	I(1)
	None	-2.479	0.150	-6.284	0.000*	-2.057	0.114	-6.949	0.000*	
DSTO	Intercept	-2.679	0.089	-4.037	0.004*	-2.264	0.189	-3.958	0.005*	
	Trend & Intercept	-2.526	0.314	-4.100	0.016**	-2.049	0.552	-4.553	0.005*	I(1)
	None	-0.713	0.399	-4.111	0.000*	-0.787	0.366	-4.074	0.000*	

DSER	Intercept	-1.491	0.525	-6.533	0.000*	-1.477	0.531	-6.524	0.000*	
	Trend & Intercept	-2.049	0.552	-6.893	0.000*	-2.049	0.552	-6.996	0.000*	I(1)
	None	-0.951	0.298	-6.649	0.000*	-0.857	0.337	-6.639	0.000*	
CURR	Intercept	-3.070	0.057	-5.351	0.000*	-3.904	0.059	-10.574	0.000*	
	Trend & Intercept	-3.383	0.073	-5.251	0.001*	-3.359	0.076	-10.247	0.000*	I(1)
	None	-0.791	0.366	-5.417	0.000*	-.0439	0.516	-8.409	0.000*	
EXR	Intercept	-0.595	0.857	-3.883	0.006*	-0.682	0.836	-3.876	0.006*	
	Trend & Intercept	-1.485	0.812	-3.812	0.030**	-1.796	0.681	-3.803	0.031**	I(1)
	None	-1.894	0.057	-3.614	0.000*	-1.743	0.077	-3.614	0.000*	
INTR	Intercept	-1.891	0.322	-4.991	0.000*	-1.778	0.384	-6.281	0.000*	
	Trend & Intercept	-2.501	0.326	-4.889	0.002*	-2.358	0.392	-6.209	0.000*	I(1)
	None	-0.078	0.649	-5.064	0.000*	0.368	0.785	-5.849	0.000*	
RDENS	Intercept	3.144	1.000	-3.911	0.005*	3.144	1.000	-4.023	0.004*	
	Trend & Intercept	-0.241	0.988	-5.044	0.001*	-0.259	0.988	-5.044	0.001*	I(1)
	None	8.905	1.000	-0.319	0.561	8.905	1.000	-1.597	0.103	
GOV	Intercept	-0.768	0.813	-6.556	0.000*	-0.685	0.836	-6.366	0.000*	
	Trend & Intercept	-1.321	0.862	-6.457	0.000*	-2.606	0.280	-6.280	0.000*	I(1)
	None	-2.201	0.074	-3.751	0.025**	-2.579	0.011	-5.185	0.000*	
PRIM	Intercept	-0.012	0.949	-2.787	0.043**	0.712	0.990	-2.799	0.044**	
	Trend & Intercept	-3.059	0.139	-3.573	0.029**	-0.792	0.955	-3.210	0.031**	I(1)
	None	0.974	0.908	-2.572	0.012**	2.251	0.993	-2.545	0.012**	
TELE	Intercept	-0.900	0.769	-3.211	0.032**	0.899	0.994	-2.801	0.047**	
	Trend & Intercept	-2.966	0.163	-3.865	0.031**	-0.880	0.945	-1.979	0.050**	I(1)
	None	1.281	0.944	-2.796	0.007*	2.573	0.997	-1.747	0.008*	

Note: (*) and (**) denotes the rejection of the null hypothesis of unit root at 1% and 5% level of significances respectively.

Results in Table 5.1 indicate the unit root test results of the variables that are used in the three models. Both the Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) tests for unit root under the three cases reveal all variables included in the study are non-stationary at level. This implies that the null hypothesis of a unit root or non-stationarity in each series under examination cannot be rejected. Differencing the available series is the conventional approach used as means to revert the series that fluctuates around the long run to its mean. With the realization of generating a white noise process the test made on the first difference of each variable using both tests clearly rejects the null hypothesis of the non-stationarity except for the variables RGDPG and RDENS. The RGDPG has become stationary at level in both ADF and PP tests. The variable RDENS becomes non-stationary at its first difference when the estimation is made without intercept for both tests. But, RDENS has become stationary at second difference for the respective cases in which it appears to be non-stationary at its first difference.

As pointed out by Kirchgassner and Wolters (2007), one problem with the ADF test as well as with the PP test is that their power is low if, under the alternative hypothesis, the first order autocorrelation coefficient is close to one. If, for example, $0.95 \leq \rho < 1$ or $0 \leq \delta < 0.05$ holds for an AR(1) process. In such situations, i.e. if the mean reverting behavior is only very weakly pronounced, very large sample sizes are necessarily required to reject the null hypothesis. With economic data, however, such a sample size is rare, at least as long as only monthly, quarterly or even annual data are available. As we observe from Table 5.1, the first order autocorrelation coefficient of RDENS is merely close to one owing the rejection of the null hypothesis of non-stationarity at its first difference.

Due to the above reason the variable i.e. RDENS may face the problem of rejecting the null hypothesis of non-stationarity at its first difference when it is true. However, the stationarity of the variable at its second difference does not inhibit the study from undertaking a co-integration test in the socio-political equation of FDI even if the test on the stationarity process of the study variables is unbalanced. Harris (1995), pointed out the presence of co-integration in a situation where there exists a mixture of variables with different order of integration i.e. if we have a mix of variables with I(0), I(1), I(2) and I(3) order of integration. As a result, the stationarity of RGDPG at level and RDENS at second difference for the aforementioned forms of unit root tests

do not bind the study from using the Johansen Maximum Likelihood estimation mechanism of testing for co-integration in the FDI equations.

5.2. Co-integration Analysis

In the study, the co-integrating vectors in each FDI equations are estimated by the eigen vectors. The number of positively significant eigen values determines the rank (r) of the co-integration space where the number of existing co-integration equation is going to be determined (Kirchgassner and Wolters, 2007). Then, the two likelihood ratio test procedures namely the trace and maximum eigen value tests are used in the study. The trace test having the null hypothesis that assures the existence of at most r positive eigen values is compared against the alternative hypothesis that supports the existence of more than r positive eigen vectors. On the other the maximum eigen value test compare the null hypothesis of exactly r positive eigen vectors with the alternative hypothesis of exactly r + 1 positive eigen vectors.

The overall test procedure of co-integration begins with the null hypothesis of r = 0. The testing procedure continues until the null hypothesis cannot be rejected. Observing the maximum rank that is presented in the Johansen co-integration test, the co-integrating rank of FDI equations is determined where the null hypothesis is rejected as the value of the test statistic is greater than the 5% critical value. Here, five possibilities of parameterizations of deterministic trends are provided in the Johansen Maximum likelihood test for co-integration. Keeping in mind that, both the trace and the maximum eigen value test statistics reject the null hypotheses of no co-integration (r = 0) at a 5% significance level, when tested against the alternative hypothesis of one co-integration (r = 1), because both the trace and maximum eigen value statistics exceeds the 5% critical value for each equations of FDI. As such, the rejection of the null hypotheses for large values of the test statistics indicates the existence of a single equilibrium relation that governs the long run behavior of variables in the economic, financial, socio-political equations of FDI. Table 5.2 depicts the result of the test statistics for co-integration.

Table 5.2: Johansen Co-integration Test

H_0:(Null Hyp.)	H_1:(Alt. Hyp.)	LL	Eigen value	Trace Statistic	5% Critical Value	H_0:(Null Hyp.)	H_1:(Alt. Hyp.)	Max Statistic	5% Critical Value
Model 1: Economic Equation for Foreign Direct Investment									
Series: FDI CONS DOM PCI OPEN INF RGDP									
r =0	r ≥0	-605.6934		154.3596*	136.61	r =0	r = 1	52.9862*	48.45
r≤1	r ≥1	-579.20031	0.82902	101.3734	104.94	r≤1	r = 2	40.5368	42.48
r ≤2	r ≥2	-558.93191	0.74108	60.8366	77.74	r ≤2	r = 3	23.7258	36.41
r ≤3	r ≥3	-547.06902	0.54655	37.1108	54.64	r ≤3	r = 4	17.6241	30.33
r ≤4	r ≥4	-538.25698	0.44427	19.4867	34.55	r ≤4	r = 5	11.7052	23.78
r ≤5	r ≥5	-532.40441	0.32306	7.7816	18.17	r ≤5	r = 6	7.7766	16.87
r ≤6	r ≥6	-528.51611	0.22835	0.0050	3.74	r ≤6	r = 7	0.0050	3.74
r ≤7	r ≥7	-528.51362	0.00017			r ≤7	r = 8		
Model 2: Financial Equation for Foreign Direct Investment									
Series: FDI STO SER EXR CURR INTR									
r =0	r ≥0	-509.65014	.	111.0283*	104.94	r = 0	r = 1	51.4574*	42.48
r≤1	r ≥1	-483.92143	0.82008	59.5709	77.74	r = 1	r = 2	23.1258	36.41
r ≤2	r ≥2	-472.35855	0.53738	36.4451	54.64	r = 2	r = 3	15.6524	30.33
r ≤3	r ≥3	-464.53236	0.40652	20.7927	34.55	r = 3	r = 4	12.2384	23.78
r ≤4	r ≥4	-458.41315	0.33499	8.5543	18.17	r = 4	r = 5	7.8146	16.87
r ≤5	r ≥5	-454.50585	0.22932	0.7397	3.74	r = 5	r = 6	0.7397	3.74
r ≤6	r ≥6	-454.136	0.02436	.	.	r = 6	r = 7	.	.
Model 3: Socio-Political Equation for Foreign Direct Investment									
Series: FDI RDENS GOV PRIM TELE									
r =0	r ≥0	30.42832	.	77.0547*	59.46	r = 0	r = 1	41.0819*	30.04
r≤1	r ≥1	50.969253	0.74574	35.9729	39.89	r = 1	r = 2	24.7342	24.80
r ≤2	r ≥2	63.336337	0.56153	11.2387	24.31	r = 2	r = 3	8.2809	17.89
r ≤3	r ≥3	67.476805	0.24121	2.9578	12.53	r = 3	r = 4	2.6157	11.44
r ≤4	r ≥4	68.784674	0.08350	0.3420	3.84	r = 4	r = 5	0.3420	3.84
r ≤5	r ≥5	68.955683	0.01134	.	.	r = 5	r = 6	.	.

Note: (*) denotes rejection of the null hypothesis at 5% levels of significance. Using Schwarz's Bayesian Information Criteria (SBIC) a lag length of one is selected to test the availability and level of Co-integration in each equations of FDI.

Once we get the rank of the co-integrating vector in each of the FDI equations, estimating the long run economic, financial and socio-political equations takes the next step. For the purpose of further analysis Table 5.3 is used to present the resulting long run normalized β coefficients and α adjustment parameters for the economic, financial and socio-political equations of FDI.

Table 5.3: Normalized Long Run β and α Adjustment Coefficients of FDI Equations

Economic Equation of Foreign Direct Investment							
Variables	FDI	CONS	DOM	PCI	OPEN	INF	RGDPG
Estimated β Coefficients	1	0.05786	-0.73307	-0.00545	0.02496	0.02998	0.12996
α Adjustment Coefficients	-0.05586	-0.31728	1.23000	-4.90835	0.98098	-0.54241	-0.38731
Financial Equation of Foreign Direct Investment							
Variables		FDI	DSTO	DSER	EXR	CURR	INTR
Estimated β Coefficients		1	-0.00476	0.05561	-1.40361	0.01021	0.02253
Adjustment α Coefficients		-0.57210	-2.83141	1.04639	-0.23486	-20.39145	0.00326
Financial Equation of Foreign Direct Investment							
Variables		FDI	RDENS	GOV	PRIM	TELE	
Estimated β Coefficients		1	2.35377	0.10001	- 0.03637	3.05064	
Adjustment α Coefficients		- 0.19027	0.00028	- 0.00343	1.55623	0.02416	

It has to be noted that the above result may be useful as it might represent the linear combinations of equilibrium conditions in the respective FDI equations. However, coming to the structural part of the econometric aspect the usual identification problem is evident to happen. In other words, since the co-integration vectors are not exactly identified in estimating the long run equations of FDI, the above figures simply shows the stationary linear combinations of variables that do not necessarily have meaningful economic interpretations. Even though, statistically, there is no problem, economically, this does not make sense.

As a result, the co-integration vectors of each FDI equations describing the long run equilibrium can only be estimated if meaningful economic restrictions are imposed. So, in order to relieve out from the confronted identification problem, the priori co-integrating vectors of the FDI equations are tested using likelihood ratio (LR) tests. In this regard, the LR tests demand the re-estimation of the original co-integrating vectors of FDI equations by imposing some additional restrictions. This implies that the LR test makes the comparison between the unrestricted and restricted models of FDI with the same rank of co-integration. The mathematical form of the asymptotically x^2 distributed likelihood ratio statistic is given as;

$$\textbf{Likelihood Ratio} = \textbf{T} \sum_{i=1}^{r} \frac{(1 - \lambda_i^*)}{(1 - \hat{\lambda}_i)}$$

Where, T = Sample size, r = rank of co-integrating vectors, $\hat{\lambda}_i$ and λ_i^* are the unrestricted and restricted positive eigen values of the co-integrating vectors of FDI equations respectively.

In fact, to mitigate the identification or over parameterization problem in the vector auto regressive (VAR) models of FDI, FDI is arbitrarily selected as an endogenous variable for the purpose of true identification. As Table 5.3 depicts in each long run FDI equations the variable FDI has a β coefficient of one. This is done through normalization process which is equivalently putting the variable FDI in the left hand side of the regressions. But, neither the arbitrary selection of FDI as endogenous variable nor the normalization process truly identifies FDI to be the true dependent variable since they are not substantive restrictions. In doing so, the restriction that is posed on the adjustment parameters (adjustment α coefficients) for the purpose of weak exogeneity test helps to know the true dependent variable that explains the long run relation is presented in Table 5.4 as follows;

Table 5.4: Result of Weak Exogeneity Test on Adjustment α Coefficients

Economic Equation of Foreign Direct Investment							
Variables	FDI	CONS	DOM	PCI	OPEN	INF	RGDPG
α Coefficient	-0.05586	-.31728	1.2300	-4.90835	0.98098	-0.54241	-0.38731
chi^2(1)	7.775	6.954	.5428	4.775	.2993	1.288	3.183
(Prob>chi^2)	[0.005]**	[0.008]**	[0.461]	[0.029]*	[0.584]	[0.256]	[0.074]
Financial Equation of Foreign Direct Investment							
Variables	FDI	DSTO	DSER	EXR		CURR	INTR
α Coefficient	-0.57210	-2.83141	1.04639	-0.23486		-20.39145	0.00326
chi^2(1)	6.484	0.6413	0.9792	0.1322		0.1899	2.178
(Prob>chi^2)	[0.011]*	[0.423]	[0.322]	[0.716]		[0.663]	[0.140]
Socio-Political Equation of Foreign Direct Investment							
Variables	FDI	RDENS		GOV	PRIM		TELE
α Coefficient	- 0.19027	0.00028		- 0.00343	1.55623		0.02416
chi^2(1)	5.241	1.788		0.004	0.758		3.24
(Prob>chi^2)	[0.022]*	[0.181]		[0.953]	[0.384]		[0.072]

Note: (**) and (*) denotes the rejection of the null hypothesis of weak exogeneity at 1% and

5% level of significances respectively

As indicated in Table 5.4 above, with the exception of the variables FDI, CONS and PCI the likelihood ratio test on the study variables of interest reveals almost all of the variables are weakly exogenous since they do not reject the null hypotheses of weak exogeneity. If FDI is the only endogenous variable in the long run FDI equations and if all explanatory variables are weakly exogenous, the parameters of the long run relation can be estimated efficiently by using

OLS, and the usual test statistics can be applied. However, the explanatory variables CONS and PCI in the economic equation of FDI are not weakly exogenous. Since, co-integrating relation is already identified; OLS can still be applied to get super consistent estimates (Kirchgassner and Wolters, 2007). However, the asymptotic efficiency is lost and the applicability of the usual test statistics somehow may be disrupted. As a result, we can treat CONS and PCI as regressors in the long run economic equation of FDI.

After each FDI models are statistically identified through LR tests, in order to know the long run relations existing in each models of FDI, estimation of ß coefficients is demanded. So, these long run relations are going to be determined using LR tests by imposing identifying restrictions on ß coefficients of each explanatory variable. The resulting outcome is presented in Table 5.5 below;

Table 5.5: Result of Zero Restriction on the Long Run β Coefficients (Significance Test)

Economic Equation of Foreign Direct Investment						
Variables	CONS	DOM	PCI	OPEN	INF	RGDPG
ß Coefficient	0.05786	-0.73307	-0.00545	0.02496	0.02998	0.12996
chi^2(1)	8.104	12.09	22.44	9.375	5.859	11.81
(Prob>chi^2)	[0.004]**	[0.001]**	[0.000]**	[0.002]**	[0.015]*	[0.001]**
Financial Equation of Foreign Direct Investment						
Variables	DSTO	DSER	EXR		CURR	INTR
ß Coefficient	-0.00476	0.05561	-1.40361		0.01021	0.02253
chi^2(1)	0.4785	8.282	10.19		2.817	5.658
(Prob>chi^2)	[0.489]	[0.004]**	[0.001]**		[0.093]	[0.017]*
Socio-Political Equation of Foreign Direct Investment						
Variables	RDENS		GOV		PRIM	TELE
ß Coefficient	2.353761		0.1000087		- 0.0363743	3.050644
chi^2(1)	7.125		5.937		1.955	0.01446
(Prob>chi^2)	[0.008]**		[0.015]*		[0.162]	[0.904]

Note: (***) and (**) denotes the rejection of the null hypotheses at 1% and 5% levels of significances respectively.

Results in Table 5.5 indicate the test of significance on β coefficients that correspond to an economically interpretable long run relationship between FDI and its determinants. Accordingly, with the exception of DSTO, CURR, PRIM and TELE most of the explanatory variables of FDI are statistically different from zero as the likelihood ratio tests infer. From this

now on, it is possible to estimate the long run economic, financial and socio-political equations of FDI that is helpful to conduct economic interpretation on these long run equilibrium relations. These relations with their respective diagnostic tests are presented in the following equations.

Long run economic equation of FDI;

$$FDI = -0.058CONS + 0.733DOM + 0.005PCI - 0.025OPEN - 0.029INF - 0.129RGDPG$$

$$\quad(8.104)\qquad(12.09)\qquad(22.44)\qquad(9.375)\qquad(5.859)\qquad(11.81)$$

$$[0.004]^{***}\quad[0.001]^{***}\quad[0.000]^{***}\quad[0.002]^{***}\quad[0.015]^{**}\quad[0.001]^{***}$$

$$\dotfill \textbf{5.1}$$

(***) and (**) denotes significances at 1% and 5% respectively.

Model Diagnostic Tests

Vector AR 1 – 2 Test: $F(1, 23) = 0.575\ [0.4559]$

Vector Normality Test: $Chi^2(2) = 1.162\ [0.5594]$

Vector Hetro Test: $F(6, 24) = 1.99\ \ [0.1066]$

RESET Test: $F(18, 6) = 0.98\ \ [0.5576]$

The diagnostic tests conducted on the model reveal its convenience to depict the long run equilibrium relation of the explanatory variables with FDI. So, the prior fear of the diagnostic tests disruption due to endogeneity in some variables is relieved. The Ramsey RSET test of model specification confirmed the absence of functional misspecification in the model used. The model is capable of reflecting the appropriate relationship between the regressed and its regressors. Coming to the test of serial correlation using Durbin's alternative test on the regression residuals, the null hypothesis of no serial correlation is not rejected. The normality test also confirms that the error terms in the above model are normally distributed. Finally, the hypothesis of constant variance/equality of variances is not rejected at the conventional levels of significance. These diagnostic tests all together confirmed that model used for the study is soundly well to be used for the purpose of prediction.

From the above economic equation of FDI that generates the long run relations, all the economic determinants of FDI, significantly affects FDI at 1% level of significance with the exception of INF, which affects FDI at 5% level of significance. However, the expected sign of the variables CONS, OPEN and RGDPG in the above long run economic equation of FDI are found contrary to their hypothesized sign at glance. This is a surprising result.

Government consumption expenditure as percentage of GDP (CONS) as a means of evaluating its policy measures and synthesizing its degree of intervention is found to have a negative and significant effect on the inflow of FDI. As the coefficient of CONS implied in Equation 5.1, a one percent increase in the level of government consumption expenditure leads to an approximately six percent decrease in the inflow of FDI. This result substantiate that government consumption expenditure suppress the level of FDI inflow in the sense that forward looking investors may look the resulting increase in government expenditure as future policy change in the country fiscal policy. This is because an increase in government expenditure leads to a budget/fiscal deficit; this in turn may be perceived as a future tax increase by foreign investors on their business undertakings so, they prefer remaining silent from undertaking new investment in the future i.e. higher government consumption expenditure crowd-out private investment.

On the other, an increase in government expenditure may also give an insight on the degree of government intervention in the economic activity of the country by imposing different measures. This in turn implants fear on the private sector on policy continuity when government is rushing to amend its deficit through policy changes. The investors with fear could also anticipate on the possible public consumption behavior at large. The anticipation on a down size in aggregate consumption, if the policy is posed through an increase in tax, may affect domestic market demand.

Finally, the increase in government consumption expenditure may directly and indirectly lead to a decrease in the inflow of FDI. Sometimes, the size of government consumption expenditure may also infer the administrative inefficiencies and the corrupt nature of the government if there is no pronounced change in the areas where the expenditure is made. This is because higher government consumption expenditure coupled with inefficiency in expenditure management may

set the grounds for corruption, misuse of public resources, and rent seeking. Rampantly, this also shows a questionable institutional quality in the country. As a result, appropriateness and efficiency in government expenditure is demanded in general if government expenditure is expected to pose positive effect in attracting FDI inflow. Similarly, the finding by Ancharaz (2003) that testify whether there is a bias on the part of foreign investors against Sub-Saharan Africa in their investment decision, using comparative perspective, confirmed a significantly negative effect of government consumption expenditure on FDI inflow. Surprisingly, the comparison result on this variable i.e. CONS for non- Sub-Saharan Africa countries on the same paper also supported the negative effect of government consumption expenditure on FDI inflow. Hasen and Gianluigi (2008) also found a negative and significant government expenditure effect on the inflow of FDI for Arab Maghreb Union (AMU) Countries.

The estimation on the variable domestic investment as percentage of GDP showed its positive and significant effect on FDI inflow. According to the synopsis made on the complementarity of domestic and foreign investment, a 1% increase in domestic investment leads to a 73% increase in the level of FDI inflow. This finding confirms that an increase in the size of domestic investment has a greater tendency to instigate a greater increase in FDI flow. So, those actions that favor domestic investment in concrete sense can have a positive impact on FDI.

The real GDP per capita (PCI) that is indulged to capture the real market potential of the economy showed a positive and significant effect on FDI. Since, per capita income of the population can give insight about the purchasing power of the people; investors will be in a position to invest in the country on the basis of this signal. However, looking the positive and significant effect of real GDP per capita on the inflow of FDI, it is hard to say per capita income is attractive in Ethiopia. For this reason, a sensible reasoning is needed in order to escape from the counter argument that one can pose on the result looking the size and trend of per capita income in the country. The population size in the country can be apprehended as a reason to the questioning on the attractiveness of per capita income. Since, Ethiopia is known to have sizable population, per capital income computation based on real GDP for each people results a bias on the computed figure of per capita income. Observing this bias on the computation of per capita income, it might be possible to assert the attractiveness of per capita income in Ethiopia to attract

FDI. So, the sizable population in the country can be considered as cover up for foreign investors and the one that questions the attractiveness of per capita income in Ethiopia. On the other, the size of per capita income coupled with size of population may infer the nature of the wage in the country. As a conventional wisdom, in economies where their per capita income is lower and population is large, wage is also assumed to be lower. As a result, in a situation where wage differential is taken as a dominant concern to invest, this biased per capita income is taken in to account by the one who wants to involve in FDI activity. Also, in developing economies like Ethiopia where there exist ample growth opportunities and large population for investors looking market seeking FDI, future prospects in per capita income in relation to future market growth potential might be sought as a fruits by foreign investors. So, the undeniable residing growth potentials in general and per capita income in particular, can be set as a justification on the argument regarding the attractiveness of per capita income in Ethiopia to attract FDI inflow. Similarly, positive and significant effect of per capita income on the flow of FDI is found in the studies of Hussain and Kimuli (2012); Debab and Mansoor (2011); Getinet and Hirut (2006) and Khan and Bamou (2006).

The real GDP growth rate (RGDPG) as another potential candidate variable to measure the economy's market potential showed a negatively significant effect on FDI inflow. This may be considered as counter finding given the positive and significant effect of real GDP per capita (PCI) on the inflow of FDI. However, this result does not mean that economic growth inhibit FDI inflow, rather the rate at which the economy grows show the developmental stage of the economy as well. For this reason, investors may consider the infancy of the economy to up hold their products if they managed to produce durable products for domestic markets. So, the investors weighted the affording capacity of the domestic market in which they managed to invest based on this signal. As such, the tendency of the investors to produce high value products in the economy targeting domestic market is imminent to happen.

On the other, the negative and significant effect of real GDP growth on the inflow of FDI also may be due to compensating effect i.e. market size Vs production cost, which may be accounted for opposite directional movement between them. For developing economies like Ethiopia where there are tremendous opportunities for FDI and cheap labor force the above justification may not

seem plausible at a glimpse. But, if a thorough justification is needed, the issue of human capital development and the sector in which the inflow of FDI is biased should be addressed. In Ethiopia, since the sectoral disbursement of FDI is biased towards the manufacturing sector (see Getinet and Hirut, 2006), the cost related to certain production activities requiring high level of expertise and imported raw materials is too high given the country is at a lower level of human capital development, faster economic growth and relatively higher inflation rate. As a result, market size effect born by faster economic growth and large population size presses a balancing effect on cost of production given the level of human capital development, inflation rate, and the stage of development the country exhibiting. In concomitant to this balancing effect, indirectly, FDI and economic growth are negatively related as the above result entails. For that, in order to assure real GDP growth to contribute positively to FDI inflow, a sustained level of economic growth in addition to a matured and stabilized economy is needed. So, some relevant country conditions have to be met to see how important economic growth is in attracting FDI flows in Ethiopia. Comparatively, a negative significant effect of per capita income on the inflow of FDI is found in the studies of Anyanwu (2011) and Alsan, Bloom and Canning (2006).

Trade openness as another variable of interest is found negatively significant in the economic equation of FDI. The result confirm that the countries degree of orientation to international trade have a tendency of inhibiting inward FDI. This can be attributed to the type of FDI in one country. In economies like Ethiopia, where market seeking FDI is evident to happen, as argued by protection jump hypothesis, this type of FDI is favored by trade barriers. Looking the positive and significant effect of per capita income on FDI, the above reasoning seems plausible. So, liberalization geared towards FDI has to get more concern in the country - keeping in mind the type of investment i.e. horizontal FDI that foreign investors are currently immersed in and the level of development in which the country is found at. Similarly Wheeler and Mody (1992) find a negative significant effect of openness on FDI. On the other using trade barriers (tariffs) as a measure of openness Blonigen, (2002) and Lunn (1980) found a positive and significant relationship with FDI inflow. But, using export as percentage of GDP as a measure of trade openness, Getnet and Hirut (2006) found a positive effect on FDI inflow for Ethiopia. This contrary finding may be attributed by difference in measuring openness.

Inflation measuring macroeconomic instability is negatively significant and confirms that such macroeconomic stability can be valued as less investment risk by foreign investors. This adhere that the issue of inflation can be the prominent aspect that fiscal, monetary and exchange rate policies should consider in their respective promulgation to stabilize an economy. So, keeping up inflation at a sustainable level can help to mitigate its deterring effect on FDI inflow. A coincided result showing negative effect of inflation on FDI flow is found in many studies such as, Hussain and Kimuli (2012), Getinet and Hirut (2006) and Anghel (2005).

Long run financial equation of FDI;

$$FDI = 0.005DSTO - 0.056DSER + 1.404EXR - 0.010CURR - 0.022INTR \dots .5.2$$

    (0.478)   (8.282)   (10.19)   (2.817)   (5.658)

    [0.489]   [0.004]***   [0.001]***   [0.093]   [0.017]**

(***) and (**) denotes significances at 1% and 5% respectively.

Model Diagnostic Tests

Vector AR 1 – 2 Test: $F (1, 24) = 1.955 [0.1749]$

Vector Normality Test: $Chi^2(2) = 0.812 [0.6662]$

Vector Hetro Test: $F (5, 25) = 1.92 \ [0.0931]$

RESET Test: $F (15, 10) = 1.19 \ [0.4021]$

The stock of debt measured as percentage of GDP found as an insignificant variable in explaining the inflow of FDI. The other measure of financial development in the financial equation of FDI i.e. debt service as a percentage of exported goods and services showed a negative and significant effect on the FDI inflow of the country. This result infer that high debt servicing burden suppress the confidence of foreign investors on the financial soundness of the economy to apprehend short fall in foreign exchange reserves. Since, this foreign debt is denominated in foreign currency, the servicing of the debt run down the available foreign exchange reserve in the Central Bank. This in turn diminishes the available foreign currency demanded to import raw materials, intermediate and capital goods for production purpose.

Fearing the loss of this, foreign investors may not decide to invest in a situation where there is high debt servicing burden. Also high debt servicing burden may entail volatile exchange rate which in turn signals the deteriorating capacity of the nation's economy to defend itself from financial crisis. In general, all the cases of debt service burden band to the issue of financial transfer risk. As a result, an arm stretched policy initiative may be required to cool down the debt servicing burden at its sustainable level. The finding of Ancharaz (2003) also confirms the deterring effect of debt on FDI flows.

The other set of financial variable affecting FDI is exchange rate. The result in Equation 5.2 shows that, exchange rate presses a positive and significant effect on FDI. Exchange rate representing macroeconomic stability in one nation plays a significant role in small economies like Ethiopia where the prices of fuel, raw materials and imported goods are the key components that constitute aggregate price level. A sustainable and moderate exchange rate favoring both imports and exports increases investors' confidence since this can be accounted as a guarantee of financial stability. If exchange rate is too volatile, it can make investment riskier or require investors to acquire special insurance against foreign currency losses. According to the finding, increase in exchange rate i.e. depreciation of domestic currency contributes positively to the flow of FDI. This finding entails that where export-oriented or vertical investment is evident, export becomes cheap and this further increases the volume of export. On the other, the depreciation of domestic currency may lead import to rise in price.

But, in accordance with the negative and significant effect of trade liberalization on FDI inflow as can be seen from Equation 5.1 that favors horizontal FDI, depreciation of domestic currency i.e. birr also favors horizontal FDI inflow via expenditure switching from imported to domestic goods. On the other, depreciation of birr increases the relative wealth of foreign investors and decreases the relative production costs in the domestic economy. Thus, comparatively, an increase in the wealth of foreign investors to afford domestic assets coupled with cheap production costs taken as a favorable condition for foreign investors to invest in seeking these advantages. This result is consistent with the recent finding of Wafure and Nurudeen (2011). In line with the conventional wisdom, Elbadawi and Mwenga (1997, 1998) also found that depreciation of real effective foreign exchange rate has a positive impact on FDI inflow in Sub-

Saharan Africa. Generally, since there is no mere policy solution, stabilizing exchange rate can be viewed as a general way out in order to keep up with a sustained pattern in the level of FDI inflow in the country. For this, Blonigen (2005)[12] on his empirical literature review on the determinants of FDI asserts the need of further investigation into appropriate measures and sensitivity of results to alternative measures in this variable.

The lending interest rate representing the cost of getting loanable fund for undertaking investment showed a negatively significant effect on the inflow of FDI. Sometimes, an increase in interest rate can be viewed as a presence of financial instability in the economy since this is the measure that credit institutions undertake against potential risks. In this regard, an increase in the cost of borrowing can be treated as an impediment for FDI. With this intension the government of Ethiopia opened financial institutions like Development Bank (DBE) and Construction and Business Bank (CBBE) of Ethiopia to support investment undertaking through the provision of low interest rate.

Long run socio-political equation of FDI;

$$FDI = -2.354 RDENS - 0.100 GOV + 0.036 PRIM - 3.051 TELE \ldots\ldots\ldots\ldots\ldots .5.3$$

<div align="center">

(7.125) (5.937) (1.955) (0.014)

[0.008]*** [0.015]** [0.162] [0.904]

</div>

(***) and (**) denotes significances at 1% and 5% respectively.

Model Diagnostic Tests

Vector AR $1 - 2$ Test: $F(1, 25) = 3.922$ [0.0588]

Vector Normality Test: Chi^2(2) = 4.678 [0.0964]

Vector Hetro Test: $F(4, 26) = 2.04$ [0.1108]

RESET Test: $F(12, 14) = 2.37$ [0.4021]

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[12] Blonigen (2005) reviewed a number of studies on the determinants of FDI. His empirical literature review on exchange rate effects on the studies of Desai, Foley and Forbes (2004); Lipsey (2001); Tomlin (2000); Stevens (1998); Blonigen (1997); Kogut and Chang (1996); Goldberg and Kolstad (1995); Klein and Rosengren (1994); Swenson (1994); Campa (1993); Froot and Stein (1991); Grubert and Mutti (1991); Dixit (1989) and Cushman (1985) reports a mixed effect of exchange rate on FDI.

Like the economic and financial long run equations the socio-political equation of FDI is also same free from statistical artifacts as the diagnostic tests on the model depicts. As the result on the variables measuring the level of infrastructural development i.e. road density per 1000 people and telephone lines per 100 people reveal, only RDENS is negatively significant in affecting FDI inflow in the long run. Here, since investment undertaking requires a great deal of time and complicated decisions, investors may not be in a position only to focus on single infrastructural development as a decision point to invest. Since most of the time in Ethiopia the investment undertaking is biased towards manufacturing sector which is located around urban centers, there is a big deal of focusing on this aspect development. On the other, negative effect of RDENS can be an implication for the government to invest more on infrastructural development to upgrade the productive capacity of the economy. Getinet and Hiruit (2006) also got telephone lines per 100 people as a negatively significant determinant of FDI in Ethiopia. They put forward the low performance of infrastructural development as a deterrent factor on the inflow of FDI.

The other variable measuring quality of institution using political freedom indexes i.e. GOV signifies the importance of governance quality in attracting FDI. In the study, according to the measure used, higher values of governance imply a questionable freedom status. The result on this variable also asserts the negative effect of freedom status that equates with the decline in FDI inflow. This result can be seen in conformity with the case of capital flight Ethiopia experienced during the Derg regime. During that regime the governance measure was found at the most worst level of "not free" freedom status as compared to the current level of "partly free' freedom status. This finding in broad sense adheres to the importance of improvement in governance quality as prudent weapon in attracting FDI. Findings of Esiyok (2011); Benassy-Quere, Coupet and Mayer (2005); Anghel (2005); Wilhelms and Witter (1998) and Singh and Jun (1995) showed that institutional quality is important in determining the investment decisions of foreign investors towards investment decision.

5.3.   Vector Error Correction Models for FDI

Although the existence of a long run relationship between variables is of interest, it may be even more relevant to analyze the short run properties of the series. This can be done using the result that the presence of a co-integrating relationship implies that there exists an error correction model that describes the short run dynamics consistently with the long run relationship.

It is usually argued that we only observe short run deviations from the equilibrium, which is compatible with the long run validity of these relations. The error correction models going to be introduced for equations of FDI can be used to differentiate between long run equilibrium relations and short run adjustment processes. So, the use of vector error correction models lead to better forecasts since a spot effect removed from the long run equation can be captured through it. The reason for this is that, in the long run, even very small deviations in the constant term of the co-integrating relation might produce large deviations of the predicted from the realized values. As a possible alternative to forecasts with error correction models, forecasts with a VAR in first differences are used. As the first differences eliminate the long run relations, the implied long run forecasts for the levels more or less show the condition that currently exists. Since, the knowledge of the long run equilibrium relations given by the vector error correction representation is necessary for conditional long run forecasts the next part of the analysis is devoted to this purpose.

Table 5.6: Short Run Dynamic Equations for FDI

Short Run Dynamics for Economic Equation of FDI (Dependent Variable: D.FDI)				
Variables	Coefficient	Standard Error	t-value	P – Value
D.FDI_1	-0.0754128	0.1753752	-0.43	[0.672]
D.CONS	-0.3801845	0.0825682	-4.60	[0.000]***
D.DOM	0.1939553	0.0586093	3.31	[0.004]***
D.PCI	-0.0127794	0.0059265	-2.03	[0.057]
D.INF	-0.0290088	0.017061	-1.70	[0.105]
D.RGDPG_1	-0.0099821	0.017482	-0.57	[0.574]
DUM1	2.637628	0.9400647	2.81	[0.011]**
DUM2	-3.258508	0.9939966	-3.28	[0.004]***
ECT_1	-0.9723264	0.2235316	-4.35	[0.000]***
$F(9, 20) = 5.71$ [0.0006] ***		R-squared = 0.7199		DW(10, 29) = 1.673808
Diagnostic Tests				
AR 1-1 test:	$F(1,18) = 1.232$ [0.2817]			
ARCH 1-1 test:	$Chi^2(1) = 0.142$[0.7062]			
Normality test:	$Chi^2(2) = 0.625$[0.7317]			
Hetero test:	$F(9,19) = 0.90$ [0.5440]			
RESET test:	$F(3,16) = 2.51$[0.0955]			
Short Run Dynamics for Financial Equation of FDI (Dependent Variable: D.FDI)				
Variables	Coefficient	Standard Error	t-value	P – Value
D.DSTO	-0.0473148	.0113471	-4.17	[0.000] ***
D.DSER_1	-0.0283449	.0130843	-2.17	[0.041] **
D.INTR	-0.3315712	.0949914	-3.49	[0.002] ***
DUM1	0.8936935	.3583805	2.49	[0.020] **
ECT_1	-0.8494761	.1929537	-4.40	[0.000] ***
Constant	-0.341324	.2378581	-1.43	[0.165]
$F(5, 23) = 9.50$ [0.0001] ***		R-squared = 0.6737		DW(6, 29) = 1.801148
Diagnostic Tests				
AR 1-1 test:	$F(1,22) = 0.092$ [0.7647]			
ARCH 1-1 test:	$Chi^2(1) = 0.311$ [0.5769]			
Normality test:	$Chi^2(2) = 0.96$ [0.6188]			
Hetero test:	$F(5,23) = 1.32$ [0.2890]			
RESET test:	$F(3,20) = 3.06$ [0.0518]			
Short Run Dynamics for Socio-Political Equation of FDI (Dependent Variable: D.FDI)				
Variables	Coefficient	Standard Error	t-value	P – Value
ECT_1	-0.7426486	0.1618267	-4.59	[0.000]***
Constant	0.0589399	0.1790459	0.33	[0.744]
$F(1, 28) = 21.06$ [0.0001] ***		R-squared = 0.4293		DW(2, 30) = 1.957388
Diagnostic Tests				
AR 1-1 test:	$F(1,27) = 0.012$ [0.9132]			
ARCH 1-1 test:	$Chi^2(1) = 0.860$ [0.3536]			
Normality test:	$Chi^2(2) = 0.451$ [0.105]			
Hetero test:	$F(1,28) = 0.84$ [0.3666]			
RESET test:	$F(3,25) = 1.64$ [0.2064]			

Note: (***) and (**) denotes significances at 1% and 5% levels respectively.

The above result shows the estimated parsimoniously parameterized vector error correction model for each equation of FDI. In order to reach on the parsimoniously parameterized VECMs of FDI, Zellner's approach is used to estimate seemingly unrelated regressions; then the least significant variables are successively eliminated from the general over parameterized model using the result of this regression. Two dummies are introduced in the above short run dynamic models in order to capture the effects of change in policy (DUM1) particularly regarding investment and political unrest (DUM2) during the Ethio - Eritrean boundary conflict.

The diagnostic tests performed on the three vector error correction models assure the adequacy of the models. Accordingly, all the tests performed on the above models fails to reject the null hypothesis. The Breusch-Pagan/Cook-Weisberg test for heteroskedasticity, the Durbin's alternative test for serial autocorrelation, LM test for autoregressive conditional heteroskedasticity (ARCH), Ramsey RESET test for model specification and normality test on the error terms does not reject their respective null hypothesis at the conventional significance levels. So, the diagnostic tests assert the adequacy of each VECM hence, they can be used in explaining the short run dynamic models of FDI.

As indicated in the above three models, the respective error correction terms having important implication in linking the short run with the long run periods are found significant with an expected sign and having fairly large speed of adjustment. On the basis of the estimated coefficients, deviations in the economic, financial and socio-political equations of FDI from the long run equilibrium is adjusted when 97.23%, 84.94% and 74.26% of the disequilibrium in the previous year is removed in this year on the economic, financial and socio-political equations of FDI respectively. Thus, the model of FDI in line with economic variables has a quicker speed of adjustment to resort the disequilibrium emerging in the long run equilibrium as compared to the models of FDI with financial and socio-political variables. Almost, the distortion in the long run equilibriums of FDI are adjusted within one year i.e. it takes on averages 1.03, 1.18 and 1.35 years to adjust the disequilibrium to the long run path of the economic, financial and socio-political models of FDI respectively. Coming to the policy and war dummy variables, the coefficients are appeared significant with expected sign in the VECM where economic variables are posed. A positive and significant coefficient of policy dummy (DUM1) is also found in the financial VECM of FDI. This result indicates that good policy favoring investment coupled with

peace in the political atmosphere of the country can affect FDI inflow positively. This may be the reason as to why different investment policy reform measures are undertaken by the current government in order to boost a greater FDI inflow. As a result, proposing a suitable policy that address both the interest of the government and the investors create an enabling environment for attracting FDI.

In the economic short run dynamics model of FDI most of the variables that determine the long run model are found insignificant as can be seen from the above result. Only the variables domestic investment (DOM) and government consumption expenditure (CONS) as a percentage share of GDP are found significant. The result indicates that other variables determining the long run equilibrium FDI have no as such pronounced effects on FDI in the short run. The results on the financial dynamic model indicate that those variables in line with the debt burden of the country have a greater and significant effect in determining FDI in the short run. the variable debt stock as a percentage of GDP which is found insignificant in determining the long run financial equation of FDI appear as significant determinant in the short run. This can be due to volatility in the country debt stock since different debt relief programs are undertaken beginning from the HIPC initiative. The other variable of interest determining the short run dynamic of the financial equation is interest rate. In accordance, a one percentage increase/decrease in interest rate in the short run leads to a 33% decrease/increase in FDI flow. Surprisingly, no variable appear significant in the socio-political dynamic model of FDI.

As could be seen from the results presented above, cautions are needed in the short run regarding those significant variables when policy measures are undertaken. This is because policy prescriptions designed to influence certain variables might have a tendency to influence those variables which perform well in relative sense. For instance, policies designed in favor of domestic investment should take FDI in to account to maintain the complementarity between them. Since, FDI plays an important role in developing competitive domestic enterprises via skill transfer, technological diffusion and production and marketing link. This means policies towards domestic investment have to be interactive to FDI rather than competitive. Biased policies might set the link between domestic and foreign investment apart. Then, this in turn might inhibit future growth prospects in the two types of investments.

On the other, caution is also needed when a given policy measure is undertaken in the short run using those significant variables as an instrument to execute the policy. For instance, an expansionary government fiscal policy that is going to be adopted through an increase in government consumption expenditure in a situation where there is no sufficient fund to realize the policy in the short run, might reduce the available loanable funds for the private sector if government rely on domestic financial sources as immediate remedy to put the policy in to effect. The cost of borrowing rises as interest rate increases, hence cost of production also increases. This in turn slows down private investment as the rise in cost of production negatively affects aggregate consumption via a rise in price of the final output. On the other, it is also possible to relate the effect of the above perceived policy measure on government consumption expenditure on those significant variables namely debt stock, debt service and interest rate in the financial VECM of FDI. Since, domestic borrowing is supposed as a means to execute the policy in the short run, this will leads to a rise in debt stock, debt service and interest rate which are found negatively significant in affecting FDI inflow in the short run from the very beginning. The above two ways used to analyze the negative effect of a rise in government consumption expenditure on the inflow of FDI in the short run with a short run perceived expansionary fiscal policy measure and supposed fund deficiency that is assumed to be financed through domestic borrowing, shows how the above short run policy option poses a multiplicative negative effect on the inflow of FDI in the short run.

In general, as noted from the above two examples on the short run significance of domestic investment and government consumption expenditure and perceived policy measures on them, policy options and the means to address them should be multi-dimensional to compromise the resulting outcomes. This means, before a given policy option is going to be adopted, the desired changes on those variables for which the policy is designed must be examined carefully against the expected degree of changes on other variables in which the policy option is not needed to confront with. So, even if there is no a mere policy option that suit the determinants of FDI in the study and FDI itself in aggregate basis, the study forward certain policy implications based on the profound results and analyses after summarizing the overall study in next part of the study.

CHAPTER SIX

CONCLUSION AND POLICY IMPLICATIONS

6.1.   Conclusion

This paper analyses the determinants and trend of FDI in Ethiopia for the periods 1980 – 2010. FDI which plays an important role in transferring and diffusing technologies, assisting capital formation, fostering international trade integration and establishing marketing and procuring networks for efficient production and sales internationally, shows a weak growth trend between the periods 1980 – 1996. After the promulgation of the 1996 investment proclamation i.e. No. 37/1996, the trend of FDI shows a budding like improvements that cannot be pronounced as a big deal. In an attempt to reach a verdict on the determinants of FDI in Ethiopia, in this paper a number of economic, financial and socio-political variables are used.

FDI exhibited a very dismal trend during the Derg regime i.e. for the years 1980 - 1991 where there were protracted economic and socio-political situations along the command economic ideology. After, the over throw of the military regime, some improvements are accounted in the trend of FDI even though the trend does not exhibit a sustained pattern. Cumulatively, FDI inflow in Ethiopia for the study period does not show paramount changes in its trend that fascinate once attention.

The performance on the inflow of FDI indicates that, during the Derg regime i.e. for the period 1980 – 1991 in which Ethiopia was under various economic, social and political problems, the inflow of FDI grew by 1.5% on average with a 1.08 million US $ change in its stock per year. The regime was also characterized by capital flight in some years i.e. 1983, 1986, 1987 and 1989. As a result, the performance of FDI during the period was disappointing. In comparison, during the period 1992 – 2010, FDI inflow grew by 23% on average with an average 214.5 million US $ addition on the stock of FDI in each year. The size of net FDI inflow as a share of GDP as another measure of performance in the inflow of FDI shows that net FDI inflow only accounts 0.01% of the national GDP on average during the Derg regime. But, this share is

increased to 1.95% for the period 1992 – 2010. Likewise in its trend, the inflow of FDI in Ethiopia performs a little bit well during EPRDF.

The study employed stationarity and co-integration tests before estimating the models to be handled. And in order to assure the validity of the long run and short run models diagnostic tests are made with the intention of defending economic interpretation resulted due to statistical artifacts. In examining the determinants of FDI a three set of variable category is allotted in order to capture many variable affecting FDI as possible with a mere objective of mitigating variable risk agglutination. As a result, the empirical result on each equations FDI shows that the economy's market size and potential related variables i.e. growth rate of real gross domestic product and per capital income are appeared significant in determining FDI. The result further show that other variables such as government consumption expenditure, domestic investment, inflation and trade openness are equally important in explaining the flow of FDI. In the second model addressing the issue of financial risk in determining FDI inflow debt servicing burden, nominal exchange rate and interest rate are found significant in the financial equation of FDI. On the other, the result on the socio-political model shows that only road density per 1000 people measuring infrastructural development and governance measuring institutional quality appeared significant. In the short run variables such government consumption expenditure, domestic investment, debt stock burden of the country with its servicing and interest rate are found significant in explaining the nature of the dynamic models of FDI. The coefficients of the error correction terms in each VECMs also shows a large magnitude that entails a faster speed of adjustment in the long run equilibrium equations of FDI once disequilibrium is evident due to certain distortions. The policy and political dummies appear as important factors in explaining the short run dynamic economic equation of FDI with an expected sign. However, only the policy dummy is significant in affecting the financial dynamic equation of FDI and in the socio-political short run dynamic model of FDI both dummies are insignificant.

6.2. Policy Implications

On the basis of the findings in the study it is highly important for the study to show some policy implications regarding FDI to achieve the objectives promised from the very beginning of the study. First, a priori policy options that have compromising nature should be designed, since there are no a mere policy options in macroeconomic environment, the validation of policy effect must be observed from different dimensions before its implementation. As noted from the trend of FDI inflow, only designing policies that encourage FDI cannot be a way to overcome problems disrupting the inflow of FDI. Efforts to improve the economic, financial and socio-political environment of the country should go hand in hand with those efforts geared towards securing peculiar and sustained trend in the inflow of FDI.

Second, aside from designing policies that attract FDI and contribute towards its well performance, an enabling environment that can up hold these policies should be granted before implementation. Since, the performance of FDI inflow is relatively dismal in the study period, a collaborative effort is demanded from different institutions in order to realize an overwhelming performance in the flow of FDI in the near future.

Third, based on the finding on the economic variables those determine FDI inflow, which indicates that the issue of economic risk in general is highly important in attracting FDI inflow in Ethiopia. In this regard, domestic investment, policies must be designed with the intension of securing an intense complementarily between domestic investment and FDI because investment policies favoring or biased towards domestic investment at the expense of FDI will curtail the inflow of FDI. The issue of trade openness also must get a great attention in designing policies regarding it since the type of investment that the country suited with may be affected. Where horizontal FDI is evident, protection jump up to certain level is needed whereas in case of vertical FDI i.e. export-oriented FDI improving regulatory frameworks is needed. In order for FDI inflow growth to be percolated in the developmental effort of the country, efficiency in government consumption expenditure in addition to stabilizing the economy on the right track via non distortionary policy measures has to be addressed with cautions.

Fourth, financial issues must also get a great deal of attention in the policy framework of the country. It has been known that foreign borrowing is highly important in meeting the financial need of the country where the domestic economy is not capable in doing so. Sometimes this borrowing may benefit the country to invest in areas where the private sector is reluctant and consume beyond the domestic production capacity. However, this inappropriate use of excessive borrowing will lead to higher debt burden accumulation which in turn constrains future economic policy and growth potential of the country. So there should be an effective way of managing debt from the side of the government since this phenomenon poses fear of financial crisis on foreign investors. On the other, incentive issues regarding investment must be publicized in concrete way in order to capture the attention of foreign investors. Regarding exchange and interest rate there should be policies that contribute a lot towards these variables in assuring their sustainability. Policies regarding financial institutions must also consider FDI. In general, building a strong financial system with prudent financial institutions must be a priori concern, to get the good will of foreign investors to invest in the country.

Fifth, socio-political factors must be also reviewed as a policy concern in one country. Investors do not look for investment where there exist protracted socio-political issues. To maintain high FDI inflow, the government must work on image building, since the overall political perception of the outside world is not good as some historical incidences tell. The issue of both physical and human capital development should not be put also aside in policy formulation process. To do so, education and health facilities must be improved with other infrastructural facilities like road, communication, power since these issues also valued by foreign investors when we come to the cases of production costs and efficiency. The government should also keep working on improving institutional qualities by discarding some bureaucratic ways of working, fighting corruption, improving the legal system and licensing investment.

Sixth, lifting some of the restrictions on the private sector investment capital requirement and the venture in which the private sector is not allowed to participate is needed in line with limiting government economic intervention in some areas where the private sector do not have an intension to participate. Generally, in the move towards attracting FDI an arm stretched efforts are needed from different bodies of the government to put in effect those policy measures suiting the inflow of FDI.

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APPENDIX

Appendix 1: Performance of FDI (1980 – 2010)

Year	FDI Stock (in Mill US $)	FDI Inflow (in Mill US $)	Growth Rate of FDI Stock in (%)	Growth Rate of FDI Inflow in (%)	GDP (in Mill US $)	FDI Stock as % of GDP	FDI Inflow as % of GDP
1980	109.61		0		7420.7	1.477084	
1981	109.67	0.06	0.05474	0.05474	7571.3	1.448496	0.00079247
1982	111.71	2.04	1.860126	1.860126	7852.9	1.422532	0.02597766
1983	109.12	-2.59	-2.3185	-2.3185	8986.0	1.214333	-0.02882261
1984	114.18	5.06	4.637097	4.637097	8054.2	1.417645	0.06282436
1985	114.35	0.17	0.148888	0.148888	9288.7	1.231066	0.00183018
1986	113.78	-0.57	-0.49847	-0.49847	9786.2	1.162658	-0.00582453
1987	111.21	-2.57	-2.25874	-2.25874	10564.7	1.052656	-0.02432629
1988	112.91	1.7	1.52864	1.52864	10962.9	1.029928	0.01550685
1989	112.41	-0.5	-0.44283	-0.44283	11617.5	0.967592	-0.00430385
1990	124.41	12	10.67521	10.67521	12457.7	0.998659	0.09632597
1991	130.41	6	4.822763	4.822763	14414.4	0.90472	0.04162504
1992	130.58	0.17	0.130358	0.130358	15532.8	0.840673	0.00109446
1993	134.08	3.5	2.680349	2.680349	10953.8	1.22405	0.03195238
1994	151.29	17.21	12.83562	12.83562	8182.9	1.848856	0.21031664
1995	165.43	14.14	9.346289	9.346289	8471.7	1.952737	0.16690865
1996	187.36	21.93	13.25636	13.25636	8751.3	2.140939	0.25059134
1997	475.85	288.49	153.9763	153.9763	8894.6	5.349875	3.2434286
1998	736.52	260.67	54.77987	54.77987	8071.3	9.125172	3.22959127
1999	806.5	69.98	9.501439	9.501439	7837.6	10.29014	0.89287537
2000	941.14	134.64	16.69436	16.69436	8179.7	11.5058	1.64602614
2001	1290.54	349.4	37.12519	37.12519	8168.6	15.79879	4.27735475
2002	1545.54	255	19.75917	19.75917	7791.2	19.837	3.2729233
2003	2010.54	465	30.08657	30.08657	8557.6	23.4942	5.43376648
2004	2555.64	545.1	27.11212	27.11212	10053.8	25.41964	5.42183055
2005	2820.752	265.112	10.37361	10.37361	12306.4	22.92102	2.1542612
2006	3366.009	545.257	19.3302	19.3302	15164.3	22.19693	3.59566218
2007	3588.01	222.001	6.595377	6.595377	19556.9	18.34652	1.13515434
2008	3696.548	108.538	3.025019	3.025019	26860.7	13.76192	0.40407733
2009	3918.008	221.46	5.990995	5.990995	32184.6	12.17355	0.68809306
2010	4206.28	288.272	7.357616	7.357616	29741.2	14.14294	0.96926822

Sources: Own Computation Based on the Data of International Monetary Fund, United Nations

Conference on Trade and Development and National Bank of Ethiopia.

Appendix 2: Areas of Investment Exclusively Reserved for Domestic & Ethiopian Nationals

A. **Areas of Investment Exclusively Reserved for Domestic Investors:**

1. Retail trade and brokerage;

2. Wholesale trade (excluding supply of petroleum and its by-products as well as wholesale by foreign investors of their products locally produced);

3. Import trade (excluding LPG, bitumen and upon approval from the Council of Ministers, material inputs for export products);

4. Export trade of raw coffee, chat, oil seeds, pulses, hides and skins bought from the market and live sheep, goats and cattle not raised or fattened by the investor;

5. Construction companies excluding those designated as grade 1;

6. Tanning of hides and skins up to crust level;

7. Hotels (excluding star-designated hotels), motels, pensions, tea rooms, coffee shops, bars, night clubs and restaurants excluding international and specialized restaurants;

8. Travel agency, trade auxiliary and ticket selling services;

9. Car-hire and taxi-cabs transport services;

10. Commercial road transport and inland water transport services;

11. Bakery products and pastries for the domestic market;

12. Grinding mills;

13. Barber shops, beauty salons, and provision of smith workshops and tailoring services except by garment factories;

14. Building maintenance and repair and maintenance of vehicles;

15. Saw milling and timber making;

16. Customs clearance services;

17. Museums, theaters and cinema hall operations; and

18. Printing industries.

B. **Areas of Investment Exclusively Reserved for Ethiopian Nationals:**

1. Banking, insurance and micro credit and saving services;

2. Forwarding and shipping agency services;

3. Broadcasting services; and

4. Air transport services using aircraft with a seating capacity of up to 20 passengers.

Appendix 3: Global Competitiveness Index 2009 – 2010 (Out of 133 Countries)

Pillars	Ethiopia		Africa
	Overall Rank	Score (1 – 7)	Score (1 – 7)
Global Competitiveness Index	118	3.43	3.52
Basic Requirements	**-**	**3.57**	**3.70**
Institutions	75	3.78	3.71
Infrastructure	96	2.94	2.74
Macroeconomic Stability	116	3.76	4.30
Health and Primary Education	120	3.78	4.07
Efficiency Enhancers	**-**	**3.26**	**3.32**
Higher education and Training	125	2.67	2.98
Goods Market Efficiency	106	3.77	3.77
Labor Market Efficiency	69	4.34	3.91
Financial Market Sophistication	127	3.05	3.68
Technological Readiness	131	2.29	2.63
Market size	76	3.44	2.87
Innovation Enhancers	**-**	**1.35**	**3.17**
Business Sophistication	118	-	3.47
Innovation	112	2.69	2.87

Source: AfDB Statistics Department

DECLARATION

I, undersigned hereby, declare that this thesis is prepared with my own effort that it has not been presented for a diploma or a degree requirement in this or any other University; and all sources of materials used for this thesis work have been duly acknowledged. I have submitted this Thesis to Jimma University as of May 31st, 2013 and I agree to accept any responsibility for the scientific and ethical mischief pertaining to this research work as per terms and conditions of Jimma University.

Student's Name: SOLOMON ESTIFANOS

Signature
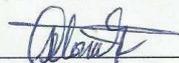
Name of the institution: JIMMA UNIVERSITY

Date of Submission   05/06/2013

Advisors' Approval

This Thesis has been completed and submitted for examination with our approval as Advisors to Jimma University.

Dr. Filmon H.
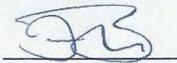
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