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DETERMINANTS OF FOREIGN DIRECT INVESTMENT FLOWS IN ETHIOPIA

BY
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This is to certify that the thesis prepared by Dereje shebu, entitled: Determinates of Foreign Direct Investment flows in Ethiopia and submitted in partial fulfillment of the requirements for the degree of Master of Science in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Statement of Declaration

I, Dereje Shebu, have carried out independently a research work on “Determinates of Foreign Direct Investment flows in Ethiopia " in partial fulfillment of the requirement of the M.Sc. program in Accounting and Finance with the guidance and support of the research advisor.

This study is my own work that has not been submitted for any degree or diploma program in this or any other institution.

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Abstract

This paper attempts to examine the determinants of Foreign Direct Investment flow in Ethiopia. The study applies multivariate ordinary least square regression by using time series data covering over the period 1974 to 2015. In order to point out the main factors that can highly affect the inflow of FDI in Ethiopia and to know how much these factors affect FDI leading to an oscillating trend, the study took the determinant of FDI in Ethiopia such as infrastructure development, the domestic market size and growth potential, macroeconomic stability, human capital development, openness, and external debt and evaluate as to how they affect the inflow of FDI. In the analysis there are findings. Firstly, I found that the explanatory variable such as macroeconomic stability measured by inflation rate, and openness have significant and negatively related to FDI. Second, exchange rate and school enrollment rate proxy of macroeconomic stability and human capital development respectively are found positively related and statistically significant to the inflow of FDI. Thread, gross fixed capital formation and real GDP growth rate proxy of infrastructures and market size respectively have statistically significant and positively related to FDI. Last, foreign debt has negative and insignificant effect on FDI. These findings imply that inflation and trade openness should be controlled and improved by giving special attention.

Key words: FDI, FDI determinants, time series, ordinary least square regression

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Acronyms

ADF Augmented Dickey-Fuller
BITs Bilateral investment treaties
BoP Balance of payment
DTTs Double taxation treaties
ECA Economic Commission for Africa‟s
EIA Environmental impact assessment
EIA Ethiopia investment agency
EIC Ethiopian Investment Commission
EPA Ethiopian Privatization Agency
EPRDF Ethiopian People Republic Democratic Front
EPZs Export processing zones
EXR Exchange rate
FD Foreign debit
FDI Foreign Direct Investment
GFCF Gross fixed capital formation
GTP Growth and Transformation Plan
HO Heckshier and Ohlin
IIAs International investment agreements
INR Inflation rate
MCS_EXR Macroeconomic stability as Exchange rate
MCS_FD Macroeconomic stability as Foreign debit
MCS_INR Macroeconomic stability as Inflation rate
MNC Multinational Corporation
MOFEC Ministry of Finance and Economic Co-operation
MOFED Ministry of Finance and Economic Development
OECD Organization for Economic Cooperation and Development

OLI	Ownership, Location, Internationalization
OPP	Openness
PCI	Per capita income
RGDPGR	Real gross domestic product growth rate
SCER	School enrolment rate
SSA	Sub- Saharan Africa
TIN	Tax identification number
UNCTAD	United Nations Conference on Trade and Development
WB	World Bank
WDI	World Development Indicators

CHAPTER ONE

1. Introduction

1.1. Background of the study

The role of investment for economic growth is pivot and crucial which in turn mainly depend on domestic saving level but developing countries are always constrained by inadequate savings and investment, for instance economic development in Sub-Saharan Africa has been constrained by inadequate savings and investment, (Wollasa. L.Kumo, 2011), this is one of the reasons behind Africa is still known as "the world's poorest continent" (Gimbari, June 2, 2002) (cited by Dhanya Jagadeeh 2015). To fill the gap between domestic saving and the required investment level to track sustainable economic growth countries focus on foreign direct investment inflow from the alternative source of external capital beside capital benefits of FDI for the host country can be significant, including technology spillovers, human capital formation support, enhancement of competitive business environment, contribution to international trade integration and improvement of enterprise development. Moreover, further than economic benefits FDI can help the improvement of environment and social condition in the host country by relocating cleaner technology and guiding to more socially responsible corporate policies. All of these benefits contribute to higher economic growth, which is the main instrument for alleviating poverty in those economies (Selma kurtishi 2013)

The significance of FDI has been given due importance in the development of the economy by boosting up the productivity and efficiency of an economy by many economists, FDI an important and essential component of development strategy in both developed and developing nations since 1990 (Moses M.Ikiara , 2003). There has been a marked shift towards liberalization of the FDI regime, and FDI is regarded more favorably now than a couple of decades ago. Governments have also realized that policies can influence the effects of FDI on development (Dirk Willem 2006)

Many empirical researches conclude about the pivotal role of FDI in enhancing private investments (Douglas et al, 2003) and has strong positive relationship with welfare at the aggregate Africa level (Gaston Gohou October 2009). All these empiricism resulted in increased attention by the developing nations for policy redesign and macro-economic re-orientation of the economy in order to encourage the FDI inflows.

The FDI inflow to developing countries increase over the past fifteen years in average. The inflow of FDI in to Asia countries was increase continuously and consistently whereas FDI in to Africa countries was significantly small and fluctuated as compared Asia and the Caribbean countries. Africa‟s share in FDI flows to developing countries is not greater than 8% since 2005 and According to world investment Africa‟s share in FDI flows to developing countries is not greater than 8% since 2005 and According to world investment report developing economies saw their FDI inflows reach a new high of $765 billion, 9 per cent higher than in 2014

Least developed countries have put in place competitive incentives for FDI attractions. Blomstrom and Kokko (2009) indicate the various incentives that can be put in place such as tax holidays, lower taxes and even market monopolies. This is based on the perception that FDI not only provides capital for domestic investments, but also creates employment opportunities, managerial skills and technology transfers, all of which contribute to economic growth and development.

The same to developing countries the government of Ethiopia have undertaken significant steps to attract FDI issued an investment code in 1992G.C and made consecutive amendments in 1996G.C, 1998G.C, 2002G.C and 2012G.C. and the government has made a broad range of policy reforms, including liberalizing the foreign trade regime, decentralizing of political and economic power, devaluation of the national currency and deregulation of domestic price. (Solomon M, 2008 and Asmelash 2015) At present, the Ethiopian Investment Commission (EIC) is the autonomous government institution that has been restructured itself by proclamation no. 849/2014 with the view of promoting more FDI and improving the service it renders to investors. To investigate the

determinates of FDI flows to Ethiopia this paper has develop and applied multiple linear regression and the findings may be use as input to redesign some reform of polices which may be track sustainable FDI for Ethiopia.

1.2. Statement of problem

One of the economic problems of developing countries is that they do not have enough national savings to finance their investments. They are in constant need of foreign capital so developing countries, emerging economies and countries in transition have come increasingly to see FDI as a source of economic development, modernization, income growth and employment from the available alternative sources. Given the appropriate host-country policies and a basic level of development, a preponderance of studies shows that FDI triggers technology spillovers, assists human capital formation, contributes to international trade integration, helps create a more competitive business environment and enhances enterprise development. All of these contribute to higher economic growth, which is the most potent tool for alleviating poverty in developing countries. Moreover, beyond the strictly economic benefits, FDI may help improve environmental and social conditions in the host country by, for example, transferring "cleaner" technologies and leading to more socially responsible corporate policies (OECD 2002). Most countries in Africa have undertaken significant steps to attract FDI first, countries in the region have adopted FDI-specific regulatory frameworks to support their investment related objectives. As pointed out by UNCTAD [2, 5], by 1998, 45 out of 53 countries in Africa had established FDI specific regulatory framework. The changes included the setting up of investment promotion agencies and facilities, and establishment of specialized schemes to attract investment such as export processing zones (EPZs). Second, countries also took steps at the international level through signing of international investment agreements (IIAs) such as bilateral investment treaties (BITs) and double taxation treaties (DTTs) (Moses Muse Sichei & Godbertha Kinyondo 2012). And, according to the Economic Commission for Africa‟s (ECA) based on a survey of 37 countries estimates that one third of all bilateral investments treaties globally, currently estimated over 3000, are signed by

African countries. The report clearly reveals that investment plays a key role in promoting economic growth, sustainable development and financing development projects (ECA, Addis Ababa, 02 April 2016).

Ethiopia government planned to achieve lower middle income country in year 2025 and to keep sustainable and fast economic growth for long time, so to attain this goals the domestic savings as proportion of GDP is quite low or inadequacy of the domestic capital, and it is not enough to generate the required level of investment and economic growth so to overcome this problem the Ethiopian government have undertaken significant measures which includes has opened several economic sectors to foreign investors and revised over five times the investment code over the last twenty four years (1992-2014) to make it more transparent, attractive and competitive (EIA, investment guide 2014). In addition to that, according to Ethiopian investment commission (EIC), major positive changes regarding foreign investment have been introduced through investment proclamation number 769/2012(Asmelash Berhane 2015) beside this reform Ethiopian government provides many investment incentives to make favorable foreign investment climate such as tax holidays, tax free imports, low lease cost of land, export tax exemption, DTTs and other policy measures.

However different reporters and researcher reported and concluded that the inflow of the flow of FDI to Ethiopia is not only quite low but also highly characterized with very high volatility even when it is compared to the sub-Saharan countries which are thought to be found largely in similar socioeconomic conditions (Mitiku Geberekidan, May 2013) and as Asmelash Berhane 2015 there is no consistent growth of FDI inflow to Ethiopia but as Daniel 2009 study FDI inflow was unlike Africa still minimum in average however as Ethiopian investment commission report the inflow of foreign direct investment has been increasingly over the last twenty one year but Ethiopia remains an untapped and unexpected market for investors(Ethiopia investment guide 2014) and the incremental inflow of FDI to Ethiopia is unhealthy volatile and unintentional for instance as world

investment report the inflow of FDI in Ethiopia increased by 117.3% from former year but it declined by 55% in year 2012 whereas it increased by 242% in year 2013 but slightly increased by 25% in year 2014. So still there is a problem on in flow of FDI to Ethiopia as a result the study of determinates of FDI inflow to Ethiopia has conducted

However different researcher concluded contradict on the determinant of FDI inflow to Ethiopia as Amanuel Mekonnen, 2014 for the period of 1990-2011 studied trade openness and inflation rate have significant impact on the flow of FDI to Ethiopia and No clear relationship was obtained for market size, infrastructure, and human capital but Dr. Dipti Renjan,2014 deny , market size, and macroeconomic stability found to be non-significant determinants of FDI inflows but trade Openness, Official Exchange Rate, infrastructure, found to be significant determinants of FDI inflows to Ethiopia during the period 1992 to 2012.despiteas studies of Asmelash, 2015 and Mitiku Geberekidan, 2013 infrastructure, domestic market size, openness have positive impact and statistically significant for inflow of FDI but inflation rate is negatively and significant impact on inflow of FDI in addition this according to Asmelash external debt are found positively related and statistically significant while Mitiku conclude lagged FDI and exchange rate have unfavorably effect on the FDI inflow to Ethiopia. This study has analyses the determinants of FDI inflow to Ethiopia as results it may be add knowledge and to narrow the gap of the debating issue.

1.3. Objective of the Study

1.3.1. General objectives of the study

The main objective of this study is to identify and test factors that determine the inflows of FDI in Ethiopia for the period 1974-2015 G.C.

1.3.2. The specific objectives to be achieved are to:

- To identify the impact of economic growth to the flows of FDI to Ethiopia.
- To assess the effect of macroeconomic stability to the inflows of FDI to Ethiopia.

- To evaluate the development of infrastructure to the inflows of FDI to Ethiopia.
- To examine the effect of trade openness on the flows of FDI to Ethiopia.
- To assess the effect of human capital development to the inflows FDI to Ethiopia.
- To assess the trend, distributions of FDI in Ethiopia during the period.

1.4. Research Questions

The general research question for this study was:

- Does Ethiopian economic growth attract FDI?
- How macroeconomic stability of Ethiopia affect the flows of FDI to Ethiopia?
- Does Human capital development affect the inflow FDI to Ethiopia?
- How trade openness of country affect the flows of FDI?
- Does an infrastructure of country affect the inflow of FDI?

1.5. Significance of the study

This study has include various established literature and identify the effect of economic growth, macroeconomic stability, human capital development, infrastructure and trade openness of Ethiopia to flows FDI and the role of FDI on economic growth, technology spillovers, human capital formation support, enhancement of competitive business environment, contribution to international trade integration and improvement of enterprise development.

The significance of conducting this study may be fulfill the contradicted finding of different researcher on the determinants of FDI inflow to Ethiopia and together previous studies may use as tool of police improvement on FDI of Ethiopia.

1.6. Scope and Limitation of the study

The conceptual Scope of the study; is only cove the economic determinates of FDI inflow to Ethiopia and characteristics of FDI in Ethiopia however others issue of FDI such as

effect of FDI on economic growth and on domestic investors is beyond study. The geographical scope of the study has defined to the political boundary of the Federal Democratic Republic of Ethiopia areas and countries other than this boundary are not subject of this study. The duration that covered under this study is enclosed to the time period between1974-2015. The time period for the study was selected based on the principle if the observations number is large enough the result is more reliable.

Concerning to the limitation, since the source of data is secondary data i.e. time series data, variation of data from one institution to another were the basic problems that challenges to tackle this problem the study was take the data which similar more than two institution by comparing it.

1.7. Organization of the study

The rest of the paper is organized as follows. The next section presents an overview of the theoretical and empirical literatures on the determinants of FDI flows to a host country with the aim of coming up with factors behind FDI flows in theoretical and empirical perspective. Section three discusses about over viewing the recent economy and FDI performance and policies of Ethiopia. The fourth section discusses about the data type and its source, and also about the definitions of variables and model specification developed in the study. The fifth section discusses about data analysis and discussion; and finally, the last section discusses about the conclusion that summarizes the main findings, and given recommendation as well.

CHAPTER-TWO

2. REVIEW OF LITERATURE

2.1. Introduction

From theoretical and empirical studies, FDI plays an important role in modernizing the economy and promoting growth in host countries, especially developing countries beside economic growth enhance technology transfer and diffusion, increase productivity, introduction of new processes, managerial skill, and know-how in the host countries, in addition FDI can create international network that can help domestic products move across border.

2.2. Definitions of FDI and Main Concepts

Foreign direct investment (FDI) in its classic form is defined as a company from one country making a physical investment into building a factory in another country. It is the establishment of an enterprise by a foreigner. Its definition can be extended to include investments made to acquire lasting interest in enterprises operating outside of the economy of the investor. The FDI relationship consists of a parent enterprise and a foreign affiliate which together form a multinational corporation (MNC). In order to qualify as FDI the investment must afford the parent enterprise control over its foreign affiliate. According to the IMF (1993) and OECD (1996), the formal definition of FDI is "foreign Direct investment reflects the objective of establishing a lasting interest by a resident enterprise in one economy ("*direct investor*") in an enterprise ("*direct investment enterprise*") that is resident in an economy other than that of the direct investor". The "*lasting interest"* implies the existence of a long-term relationship between the direct investor and a significant degree of influence on the management of the enterprise. "*Significant degree of influence*" and *"long-term relationship"* are the key words to distinguish FDI from portfolio investment, which are short term activities undertaken by the institutional investors through the equity market. A "*lasting interest*" in foreign entity emphasizes the difference to other forms of capital flows and occur in the form of know

how or management-skill transfer (Lipsey, 2003). The Balance of Payment Manual fifth edition defined FDI as Investment made to acquire a lasting interest in an enterprise operating outside of the economy of the investor. It further explains that the investor‟s purpose is to gain an effective voice in the management of the enterprise. Hence the investor must have 10% or more in the management. Based on this definition, the minimum contribution to management and control by the enterprise should be 10% for such to be considered as FDI. According to World investment report 2012 FDI are defined as "the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors."

Forms of FDI

The Forms of FDI include:

- Purchase of existing assets in a foreign country.
- New investment in property, plant, equipment.
- Transfer of many types of assets like human resources, systems, technological know-how in exchange and equity in foreign companies.
- Export of goods and equity. They method many not be used in the initial stage of the establishment of a company.
- Through Trading in Equity: Companies also invest in the equity of and foreign companies by purchasing the equity shares of a foreign company

2.2.1. Types of FDI

There are three main types of FDI from investor‟s perspective: *vertical, horizontal and conglomerate FDI* (Caves, 1971). For Caves, *Horizontal FDI* refers to undertaking for the purpose of horizontal expansion to produce goods and services roughly similar to those the firm produces in its home market. This type of FDI is called "horizontal" because the

multinational duplicates the same activities in different countries (Lipsey 2003). Horizontal FDI arises because it is too costly to serve the foreign market by exports due to transportation costs or trade barriers. *Vertical FDI*, on the other hand, refers to those multinationals that fragment production process geographically for the purpose of providing input goods to parent company (backward vertical FDI) or to draw inputs from parent company for own production (forward vertical FDI). It is called "vertical" because MNE separates the production chain vertically by outsourcing some production stages abroad. The third type of FDI, *conglomerate*, involves the former two types of FDIs. From the host country perspective,

FDI can be classified in to three;

Import substituting FDI involves the production of goods previously imported by host country, necessarily implying that imports by the host country and export by the investing country will eventually decline. This kind of FDI is likely to be determined by the size of host country market, trade barriers and transportation costs (Moosa 2002).

Export oriented FDI is the type of investment that reflects a wide range of consideration such as the desire to develop secondary and more diversified sources of supply by way of obtaining lower-cost products to be used either as inputs or for sale elsewhere.

Export increasing FDI is motivated by firms desire to seek raw material and intermediary products. Host countries will increase its export of raw material and intermediary products to investing country or other countries where the firm has other subsidiaries. Examples of this type of investments are found in the raw material sector. Generally, such foreign investors are mainly interested in extracting products from the host country and selling them abroad through established market channels. In making such investments, firms sometimes also create a supporting infrastructure such as housing, hospitals and schools. This investment focuses on the needs of a particular market which is largely or entirely outside the host country (Reuber, 1973:73) (cited by Henok 2014).

Government initiated FDI involves government‟s action to attract more FDI in order to eliminate its balance of payment deficit (Moosa 2002). Government may provide the

necessary investment incentive to attract foreign investment into its economy. These are accepted by investors whereas market as well as cost conditions may have precluded them from investing in the host country under normal or no-incentive conditions. For example, in Ethiopia the incentives take the following forms: 100 per cent exemption from customs duties and import taxes on all capital equipment and up to 15 per cent on spare parts; exemption from export taxes (except for coffee); income tax holidays varying from two to eight years (depending on the sector and region within Ethiopia); tax deductible R&D expenditure; no taxes on the remittance of capital; the carrying forward of initial operating losses; and investor choice in depreciation models, full repatriation of capital and profits encompassing not only profits, dividends and interest payments on foreign loans but also on asset sale proceeds and technology transfer payments (EIA 2012). Finally, FDI may be classified into expansionary and defensive types. Expansionary FDI seeks to exploit firm specific advantage in the host country. This kind of FDI benefited MNCs in increasing sales both in host and investing country. Defensive FDI seeks for cheap labor or materials with the objective of reducing cost of production (Chen and Ku, 2000) (cited by Henok Gebremedhin 2014)

2.3. Theoretical Framework

Nowadays the issue of foreign direct investment has got more attention at global and national levels. Different theoretical literatures have been done to explain the issue of FDI and the motivation underlying FDI. A group of scholars such as J. Dunning, S. Hymer and R. Veron…et al. are among the contributors in developing various theories of FDI. The popular conceptualization of, and theoretical framework for, FDI determinants is the “eclectic paradigm" attributed to Dunning (1977). It provides framework that group micro and macro-level determinants in order to analyze the reason for MNCs investment abroad. The framework posits **OLI framework** that firms invest abroad to look for three types of advantages: Ownership (O), Location (L), and Internalization (I) advantages (discussed below). The Micro level determinants explain the motivation for multi-national companies/MNCs/ to open foreign subsidiaries. It also examines the consequences to

investors, to the country of origin and to host country, of the operations of the MNCs rather than the investment flows and stocks. The Macro level determinants entirely explain FDI inflows from the host countries point of view. It tries to explain FDI as a particular form of capital flows across borders, from the countries of origin to host countries, which are found in the balance of payment/BoP/. The variables of interest are: capital flows and stocks, revenue from investment. (Vinita Denisia, 2010)

The first theoretical explanations of international trade is related with the traditional theories of international trade which is based on the Ricardo‟s model of Comparative advantage and factor proportion or factor endowments theory of Heckshier and Ohlin (HO). Comparative advantage theory which is based on two countries, two products and single factor i.e. labor (2-2-1 model) explain that international trade or export, i.e. an alternative to FDI, takes place if a country has a comparative advantage in producing a particular good (Krugman and Obstfeld 2006). This theory entirely forgot to explain FDI and fails to provide an answer as to why firms choose to operate outside their country of origin. HO model of international trade which involves two countries, two products and two factors of production such as capital and land (2-2-2 model) (*ibid*), also fails to explain FDI than focusing on international trade. Other scholars of international trade such as Robert Mundell 1957, developed a model which involves two countries, two goods, two factors of production and two similar production functions in both countries, where production requires a higher proportion of factor than the other, fails to explain the international production of goods through the flows of investment across countries. Therefore, all this failures of the traditional international trade theories in explaining the motives of MNCs to operate outside their economy led to the development of the following theories;

2.3.1. The Early Neoclassical Investment theory

This is one of the earliest explanations of FDI. According to this theory, Interest rate differentials between countries are the main reasons why MNCs operate outside their country of origin. Capital, under this neoclassical theory, moves from a country where the

rate of return is low to a country with a high return on capital. The theory is based on a perfect competition and risk free capital movements assumptions (Harrison et al, 2000). But in reality capital flow is not always one-way. Especially the existence of risk and barriers to capital movement will erode the legitimacy of the theory, and capital can freely flow in any direction or from both sides (Hosseini 2005).

2.3.2. Production Life-Cycle Theory

This theory was developed by Raymond Vernon in 1966 to explain FDI in manufacturing industry made by U.S. companies in Western Europe after the end of WWII. The theory focuses on four stages of production cycle i.e. *innovation, growth, maturity* and *decline*, and explains FDI as part of this cycle. According to Vernon, transnational companies first produce an innovative product for the local market and it will become advantageous in possessing the new technology. But when the home demand is saturated firms will start to export the surplus to serve foreign market. At the later stages of production cycle, when the new product reaches maturity and loses its uniqueness, the competition from rival firms will become intense. Therefore, at this stage producers will start to look for lower cost foreign destinations. The theory reveals FDI as a defensive mechanism to preserve firm‟s position in the market (Dunning 1993).

2.3.3. Internalization theory of FDI

This theory tries to explain why multinational companies open subsidiaries in foreign countries than selling their technology. The theory was pioneered by Hymer (1976). He asserts that the main driving motive for FDI is firm‟s desire to exercise a full control over operation. Hymer‟s argument relied on the existence of imperfect competition; hence firms should first possess some kind of monopolistic advantage before engaging in cross boarder activity. Those advantages may include ownership of patents, know how, managerial skills…etc. that the local companies do not have. In support of this theory Krugman and Obstfeld (2006) explained the difficulty in selling or licensing some kind of technology. Technology, an economically useful knowledge, may sometimes be embodied in the mind

of a group of individuals and is impossible to write or sale to other parties. This difficulty in marketing and pricing of certain knowhow leads MNCs to open foreign subsidiaries under their supervision. In addition, if each firm enjoys a monopolistic position a conflict may arise as the buyer of the input tries to hold the price down while the producing firm tries to raise it. So this problem can be easily avoided by integrating various activities within a firm rather than subcontracting the activities.

2.3.4. The Eclectic Paradigm

John Dunning‟s eclectic paradigm provides a general explanation for the determinants of FDI.Dunning (1993) has identified three variables: ownership-specific (O), location-specific (L), and internalization (I), all identified in earlier theories of trade and FDI. The paradigm is also called as the **OLI framework**. The key assertion is that all three factors (OLI) are important in determining the extent and pattern of FDI. Ownership-specific variables include tangible assets such as natural endowments, manpower, and capital but also intangible assets such as technology and information, managerial, marketing, and entrepreneurial skills, and organizational systems.

Location-specific (or country-specific) variables refer to factor endowments as well as market structure, government legislation and policies, and the political, legal, and cultural environments in which FDI is undertaken. Finally, internalization refers to the firm‟s inherent flexibility and capacity to produce and market through its own internal subsidiaries. It is the inability of the market to produce a satisfactory deal between potential buyers and sellers of intermediate products that explains why MNEs often choose internalization over the market route for exploiting differences in comparative advantages between countries. From these three advantages if only one is met, then firms will rely on exports, licensing or the sale of patent, to service foreign markets. Thus, the generalized predictions of the eclectic theory are that a firm can only capture a foreign market through FDI if it has the capacity to exploit simultaneously all the three advantages.

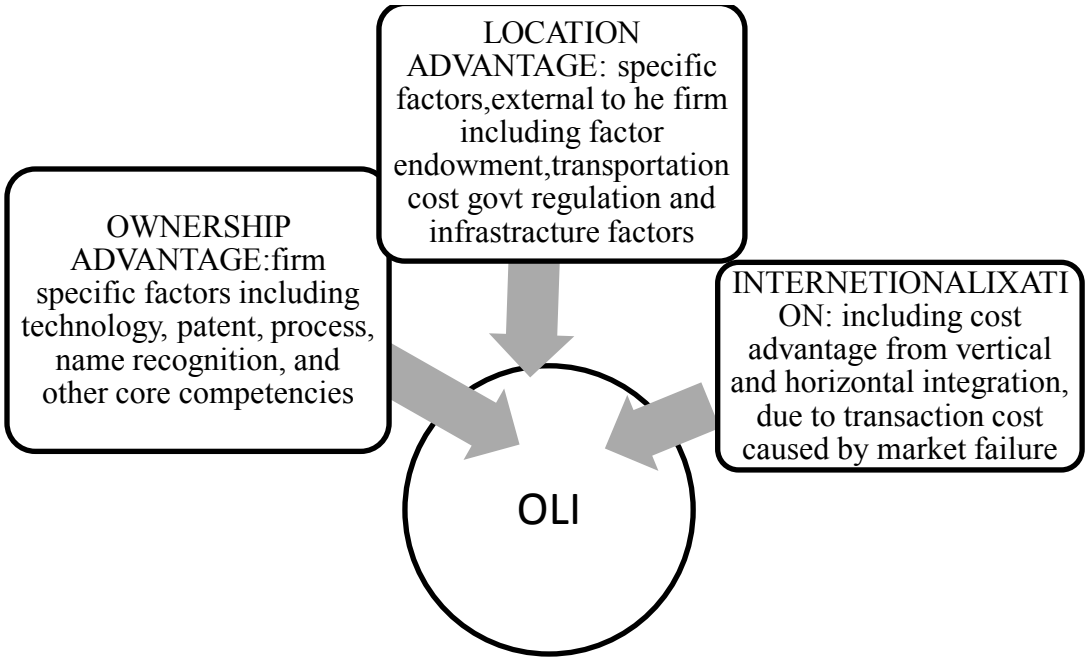


Fig 2.1 Dunning‟s Eclectic Theory

In Dunning‟s eclectic theory, the ownership and internalization advantages are firm specific features whilst the location advantages are country specific characteristics which the host country can influence directly. In general, countries that have location advantages can attract more FDI. But firms do not undertake FDI only for the presence of location specific advantages in the host country. Their location choice decisions consider the profitability with which the ownership and internalization advantage can be combined with the location ones. The eclectic paradigm, like other theories of FDI, has some limitations, however. First, it does not adequately address how an MNE‟s ownership specific advantages such as distinctive resources and capabilities should be deployed and exploited in international production. Possessing these resources is indeed important, but it will not yield high returns for the MNE unless they are efficiently deployed, allocated, and utilized in foreign production and operations. Second, the paradigm does not explicitly delineate the ongoing, evolving process of international production. FDI itself is a dynamic process in which resource commitment, production scale, and investment approaches are changing over time. The product life-cycle theory also falls short on explaining the dynamics of the FDI process.

Third, the conventional wisdom seems in adequate in illuminating how geographically dispersed international production should be appropriately coordinated and integrated. The internalization perspective addresses how an MNE could circumvent or exploit market failure for intermediate products and services but does not discuss how a firm could integrate a multitude of sophisticated international production and balance global integration with local adaptation. Dunning (1993) explained that the principal objective of firms in undertaking foreign production is to advance their long-term profitability. However, FDI is also MNC"s strategic logic underlying FDI than a prime profitability motive. For example, some firms may try to diversify or reduce risks, and to match competitors" actions. The following strategic logics were identified by Dunning (1993) as the possible motives for FDI:

Resource seeking FDI: is Investments which seek to acquire factors of production that are more efficient than those obtainable in the home economy of the firm. In some cases, these resources may not be available in the home economy at all (e.g. natural resources, an over words naturally occurring materials such as coal, fertile land, etc., that can be used by man, and cheap labor).

Market-seeking FDI: MNCs attempt to secure market share and sales growth in the target foreign market. Apart from market size and the prospects for market growth, the reasons for market-seeking FDI include situations in which (a) the firm"s main suppliers or customers have set up foreign producing facilities abroad and the firm needs to follow them overseas; (b) the firm"s products need to be adapted to local tastes or needs, and to indigenous resources and capabilities; and (c) the firm considers it necessary, as part of its global production and marketing strategy, to maintain a physical presence in the leading markets served by its competitors.

Efficiency-seeking FDI: attempts to rationalize the structure of established resource-based or marketing-seeking investment in such a way that the firm can gain from the common governance of geographically dispersed activities. MNEs with this motive generally aim to take advantage of different factor endowments, cultures, economic systems and policies, and

market structures by concentrating production in a limited number of locations to supply multiple markets.

Strategic asset-seeking FDI: MNCs use this strategy to acquire the assets of foreign firms so as to promote their long-term strategic objectives, especially advancing their international competitiveness. MNEs with this intention often establish global strategic alliances or acquire local firms. Many MNEs today pursue pluralistic goals and engage in FDI that combines characteristics of several of the preceding categories.

2.4. Determinants of FDI

Determinants of FDI are those factors that can make the flow of FDI in the host country to increase or decrease. Countries try to improve these elements in order to enhance the amount of inflow in order to reap higher amount of FDI. These elements are discussed in detail as follows:

Natural Resources: Natural resources, historically, are the most important determinants of FDI. From the 19th century up to the eve of the Second World War about 60% of the world stock of FDI was in natural resources. The need to secure economic and reliable sources of mineral and primary products for the (then) industrializing nations of Europe and North America, natural resources were the major reason for the expansion of FDI (Dunning, 1993).

Macroeconomic Conditions: Low inflation rates and stable exchange rates are important determinants of FDI for more reasons than one. First they attest to the stability and the underlying strength of the economy. Second, they provide a degree of certainty relating to the future course of the economy and impart confidence in the ability of firms to repatriate profits and dividends. Weak economies with high levels of domestic borrowing and debt, measured by the ratio of budget deficits to GDP and total volume of borrowing to GDP, are often compelled to institute exchange controls and controls on the capital account of the balance of payments Third, more often than not a stable macroeconomic environment also

implies stable political environment(V.N.Balasubramanyam2001) The exchange rate has a direct impact on FDI given a favorable movement in exchange rates; has positive on FDI (Husni A & Walid Z., 2010).

The size of Domestic Market: The size of the domestic market is a fundamental determinant of FDI. The wealth and development of a country can be used as proxy to measure the size of the domestic market. Most commonly, per capita income (PCI), which is an indicator of effective demand, is used to measure the size of local market. In addition to PCI, the GDP of a country and the population size are also used as an indicator to measure the size of local market. However, if a firm is export-oriented and not market seeking, the size of domestic market will not be an important determinant of FDI (Root and Ahmed, 1979). A large market can help firms producing tangible products to achieve scale and scope economies. The domestic market growth rate which is measured in terms of population and GDP growth rate also determines the inflow of FDI into a country (UNCTAD, 1998). It is believed to be one of the significance determinants that have been used in empirical studies to explicate the inflow of FDI to a host country. Because if the host countries have large market size it will have investment opportunities that will in turn to generate high profit for the foreign firms. Besides, the market size hypothesis states that multinational firms are attracted to a larger market in order to utilize resources efficiently and exploit economies of scale (Chakrabarti, 2001). Usually the proxies to measure market size are Real GDP per capital and Real GDP growth rate, but in order to maintain consistency with Chakrabarti, (2001) this study use Real GDP growth rate. The nominal values of GDP where taken and then converted in to real value using GDP deflator. FDI is expected to have positive relationship with Real GDP growth rate.

Low Labor Cost: Country's factor endowment is commonly understood as the amount of land, labor, capital, and entrepreneurship that a country possesses and can exploit for different sectors. The Rybczynski theorem (1955) (as cited by Ali & Guo) explained that increasing the level of the labor supply will lead to raise production of the good which uses that factor intensively. In China, foreign investors try to benefit from cheap labor especially

where production is labor intensive (Ali & Guo 2005). In addition to cheap labor, the out-put labor ratio (labor productivity) also determines the inflow of FDI.

Infrastructure development: Infrastructure development is one of the well-recognized factors for economic growth as well as attracting FDI. It is generally accepted that modern and efficient infrastructure is important in attracting investment. Transport and communications facilities, and reliable public utilities are obvious elements in an infrastructure an investor will seek (Wallace 1990). The main argument is a well-established infrastructure such as roads, airport, electricity, water supply, telephones, and internet access will reduce the cost of doing business and help maximize the rate of return. It is suggested that the availability of a good quality infrastructure subsidizes the cost of total investment and increasing efficiency of production and marketing. According to Birhanu (1999), availability and reliability of telecommunication services, developed and adequate road and air transport services, reliable water and electricity supply facilities have paramount importance for the profitability of foreign companies and in attracting FDI. (Solomon M. 2008)

Human Capital: In order to achieve higher economic growth and also to attract huge FDI, it is necessary to have Large, efficient, and educated population. Evidence gathered from the literature reviews has shown that the presence of skilled human capital as a pull factor for foreign MNCs. It is often said that countries with a large supply of cheap but skilled human capital attract more FDI and

Thus progress economically. The conventional wisdom has it that a more educated labor force can learn and adapt to new technology faster, and is generally more productive. Especially in this age of high t ech, it is suggested countries that try to attract FDI should have the required human capita to run the high-tech industries. (Getinet and Hirut,2006).

Trade Openness: according to UNCTAD (2015) should Openness to investment In line with each country‟s development strategy, investment policy should establish open, stable and predictable entry conditions for investment. The ease of capital movement to and out of the country and the trade openness of the country affect the flow of FDI. The standard way

of thinking is that countries with capital control and restrictive trade policies discourage business, compared with countries with liberal policies.

Political Stability: Intuitively political stability is necessary for attracting investment. Political instability is expected to decrease FDI because it increases uncertainty (Agarwal 1980 p.761) as cited by(Manya M Mooya 2003). It is often said that investors are generally less interested in investing in a country with high political instability. The economic process of a country and in particular the inflow of FDI into a country can be disrupted by unsettled, implicit or explicit, internal or external political disputes and crises. Without stable political conditions, whatever the economic environment may be, a county‟s effort to create a more hospitable environment for oversea investors cannot be fruitful. Political instabilities can delay FDI until the storm weathers away or diverts away for good.

2.5. FDI reviewing developing counters

2.5.1. Regional Distribution of FDI in Africa and Asia

The FDI inflow to developing countries increase over the past fifteen years in average. The inflow of FDI in to Asia countries was increase continuously and consistently whereas FDI in to Africa countries was significantly small and fluctuated as compared Asia and the Caribbean countries. As we can see from Table 2.1, Africa‟s share in FDI flows to developing countries is not greater than 8% since 2005 and According to world investment report developing economies saw their FDI inflows reach a new high of $765 billion, 9 per cent higher than in 2014. Developing Asia, with FDI inflows surpassing half a trillion dollars, remained the largest FDI recipient region in the world. Flows to Africa and Latin America and the Caribbean faltered. Developing economies continue to comprise half of the top 10 host economies for FDI flows. FDI flows to Africa fell to $54 billion in 2015, a decrease of 7 per cent over the previous year. An upturn in FDI into North Africa was more than offset by decreasing flows into Sub- Saharan Africa, especially to West and Central Africa. Low commodity prices depressed FDI inflows in natural resource-based economies. Developing Asia saw FDI inflows increase by 16 per cent to $541 billion – a new record.

The significant growth was driven by the strong performance of East and South Asian economies. (World investment report 2016).

Table 2:1 FDI flows to developing countries, overview selected years (in millions of dollars and percent of FDI)

Region/economy	2005-2007(pre-crisis annual average)		2012		2013		2014		2015	
	$	%	$	%	$	%	$	%	$	%
Africa	38,169	9.2	55,155.7	8.4	52,154.2	7.9	58,299.8	8.3	54,079.5	7
Latin America and the Caribbean	88,963	21.1	190,508.6	28.9	176,002.4	26.6	170,284.9	24.4	167,582.1	22
Asia	291,793	69.4	409,553.5	62.2	431,412.2	65.1	467,935.1	67	540,722.3	70.7
Oceania	1,161.5	0.3	3,556	0.5	2,836.7	0.4	1,973.9	0.3	2,286.6	0.3
Developing economies	420,086.5	100	658,773.8	100	662,405.5	100	698,493.7	100	764,670.5	100

Source: world investment report personal computation

The inflows of FDI are spread unevenly over the five sub-regions (Central Africa, North Africa, West Africa, East Africa and Southern Africa sub-regions). Table 2.2 shows the regional distribution of the inflows of FDI into Africa

Table 2.2: Regional distribution of FDI inflows into Africa in millions of dollars

Sub-region	2005-2007 (annual Av.)	2012	2013	2014	2015
North Africa	18,768	15,759	11,961	11,625	12,677

West Africa	7,920	16,873	14,493	12,115	9,894
Central Africa	2,779	8,948	7,874	9,091	5,830
East Africa	2,749	5,474	6,790	7,928	7,808
South Africa	5,952	8,101	11,036	17,540	17,900

Source: world investment report personal computation

2.5.2. Empirical evidence on the determinants of FDI of Africa

There have been a number of studies that examine the various determinants of FDI in Africa specifically. In most of the studies carried out a limited number of African countries are included in the analysis. However, there are a few of these studies that are concentrated on the determinants of FDI in Africa. Apart from the annual overviews in UNCTAD‟s World Investment Reports, the empirical studies

The more recent and most significant studies and their results are those by Moses Muse Sichei & Godbertha Kinyondo(2012)Morisset (2000), Asiedu (2003), Naudé and Krugell (2003), , Erdal D. & Mahmut M (2008), Rojid, Seetanah, Ramessur-Seenarain and Sannassee (2009) and Hailu (2010). Empirical literatures on the determinants of FDI in Africa are summarized below by the authors and then further analyses on the determinants are presented as follows:

Moses Muse Sichei & Godbertha Kinyondo(2012) from panel data evidence of 45 African countries for 1980-2009 their findings was, agglomeration economies are the most significant determinant of FDI inflows to Africa. This result is robust throughout alternative specifications. Second, real GDP growth positively influences the location of FDI. Third, the existence of natural resources tends to attract resource-seeking FDI. Finally, DTTs are FDI-enhancing in most countries. Finally, the environment across all African countries has become conducive to FDI since 2000. This is not surprising given reforms to attract FDI within their respective countries

Asiedu (2003) explored whether factors that affect FDI in developing countries affect countries in Sub- Saharan Africa (SSA) differently. Using data for 32 African countries for the period 1970 to 1999, she found that factors that drive FDI to developing countries have a different impact on FDI in SSA. Specifically, infrastructure development and higher return on capital promote FDI to non-SSA countries and not SSA countries. Openness to trade promotes FDI to both SSA and non-SSA countries.

Onyeiwu and Shrestha(2004) use a dataset for 29 African countries over the period 1975 to 1999 and identified economic growth, openness of the economy, international reserves and natural resource availability as the key FDI determinants. Additionally, contrary to other studies, political rights and infrastructure were found to be unimportant for FDI flows to Africa.

Erdal D. & Mahmut M (2008) examined on 38 developing countries over the period of 2000-2004, and he concluded that market size, infrastructure and openness have been positively affected FDI, and being significant whereas inflation and tax has negative coefficient and significant. But labor cost has positive sign but is not significant.

Neumayer and Spess focused on the signaling effect of BITs and found positive effect of BITs on FDI inflow across various model specifications. On the role of BITs operating as substitutes to institutional quality they found limited evidence. They argue that by concluding BITs with developed countries, particularly those that are major FDI exporters, developing countries give up some of their domestic policy autonomy by binding themselves to foreign investment protection, but could expect to receive more FDI in exchange. Their conclusion was that the effect is possibly more evident in countries with weak domestic institutions, especially in countries for which the confidence and credibility inspiring signal to foreign investors following the signing of BITs was most important.

Naudé and Krugell (2003) covered the period 1970-1990 in their cross-country analysis on whether institutions and geography matter as determinants of FDI in Africa. They concluded that geography does not have a direct influence on FDI flows to Africa. They used a number of specifications on policy instruments to demonstrate that neither market

seeking nor re-exporting motives for FDI seem to dominate. In critically reviewing the claims of earlier studies on the dominance of economic policies, they concluded that good policies are only significant if they are made by good institutions. As an institutional measure, political stability proved to be a significant determinant of FDI.

Rojid et al. (2009) analyzed potential determinants of FDI for a sample of 20 African countries, covering the period 1990-2005. By applying a panel data fixed effects model, they conclude that abundance of natural resources, openness to trade, the size of the domestic market and the stock of human capital are positive in attracting FDI. They further conclude that political instability and labor costs have an inverse relationship with FDI.

Hailu (2010) applied a cross section fixed effect Least Squares Dummy Variable estimation technique to determine possible demand side effects of FDI inflows to 45 African countries. Covering the period 1980-2007, he concludes that natural resource endowment, labor quality, trade openness, market access and quality infrastructure have positive and significant effects on FDI inflows. He further concludes that when government expenditure and private domestic expenditure are added, the effects still remain positive, with an ultimate conclusion that African governments have a large pool of demand side policy instruments at their disposal to attract FDI.

2.5.3. Empirical evidence on the determinants of FDI of Ethiopia

There have been a few numbers of studies that examine the economic variables that determines of FDI in Ethiopia, from studied a small numbers are published. This study summarized both published and unpublished studies.

Mitiku Geberekidan(2013 unpublished) by analyzing the time sires data for 1992-2012 with ordinary least square regression estimation, concluded that in the short run the macroeconomic variables which include lagged FDI, domestic investment, the available stock and cost of the human capital, the road transport network side of the infrastructure, the growth of the economy, the exchange rate side of the macroeconomic stability, the openness side of the trade liberalization measured by the import and export as a percentage of GDP, are found to have a strong positive effect in attracting FDI in Ethiopia. However the market

size, the skill level of the human capital, the telecom and electric power of sides of the infrastructure, the inflation and foreign currency reserve sides of the macroeconomic stability, trade liberalization measured by the import and export procedures and the restrictive policies, political instabilities affect FDIs unfavorably. In the long run the domestic investment, market size, the economic image, the telecom and road transportation network sides of the infrastructure, the growth rate of the economy, the openness side of the trade liberalization measured by the import and export as a percentage of GDP, the political stability of the nation have a favorable effect to FDIs. Whereas the lagged FDI, the inflation, exchange rate and foreign exchange reserve sides of the macroeconomic stability, trade liberalization measured by the import and export procedures and the restrictive policies, affects FDI unfavorably.

Amanuel Mekonnen**(**2014) examined the determinants of foreign direct investment in Ethiopia.by time-series data covering a 21-year period (1990-2011). Concluded that level of trade openness and inflation rate of Ethiopia have had a significant impact on the flow of foreign direct investments to Ethiopia. No clear relationship was obtained for market size, infrastructure, and human capital.

Dr. Dipti Ranjan Mohapatra**(**2014**)** tested the determinates of FDI in flows for the period 1992 to 2012 with ecnometeric model used by UNCTAD and concluded Trade, Imports, Exports, Trade Openness, Official Exchange Rate, Gross Capital Formation, Gross National Expenditure and Transport Services found to be significant determinants of FDI inflows to Ethiopia during the period 1992 to 2012. However, GDP Growth, Cost of Starting Business, Gross Savings, Inflation, External Debt and GDP Per Capita found to be non-significant determinants of FDI inflows to Ethiopia during the above-mentioned period.

Daniel Tolesa (2009 unpublished) examined that the most significant determinate of FDI in Ethiopia are financial health of the country, which was measured ratio of external debt to export and another determinate is inflation.

Asmelash Berhane(2015unpublshed) from study of a time series of 1974/5-2013/4 he concluded in the long run except inflation rate all other variables such as Openness , Gross

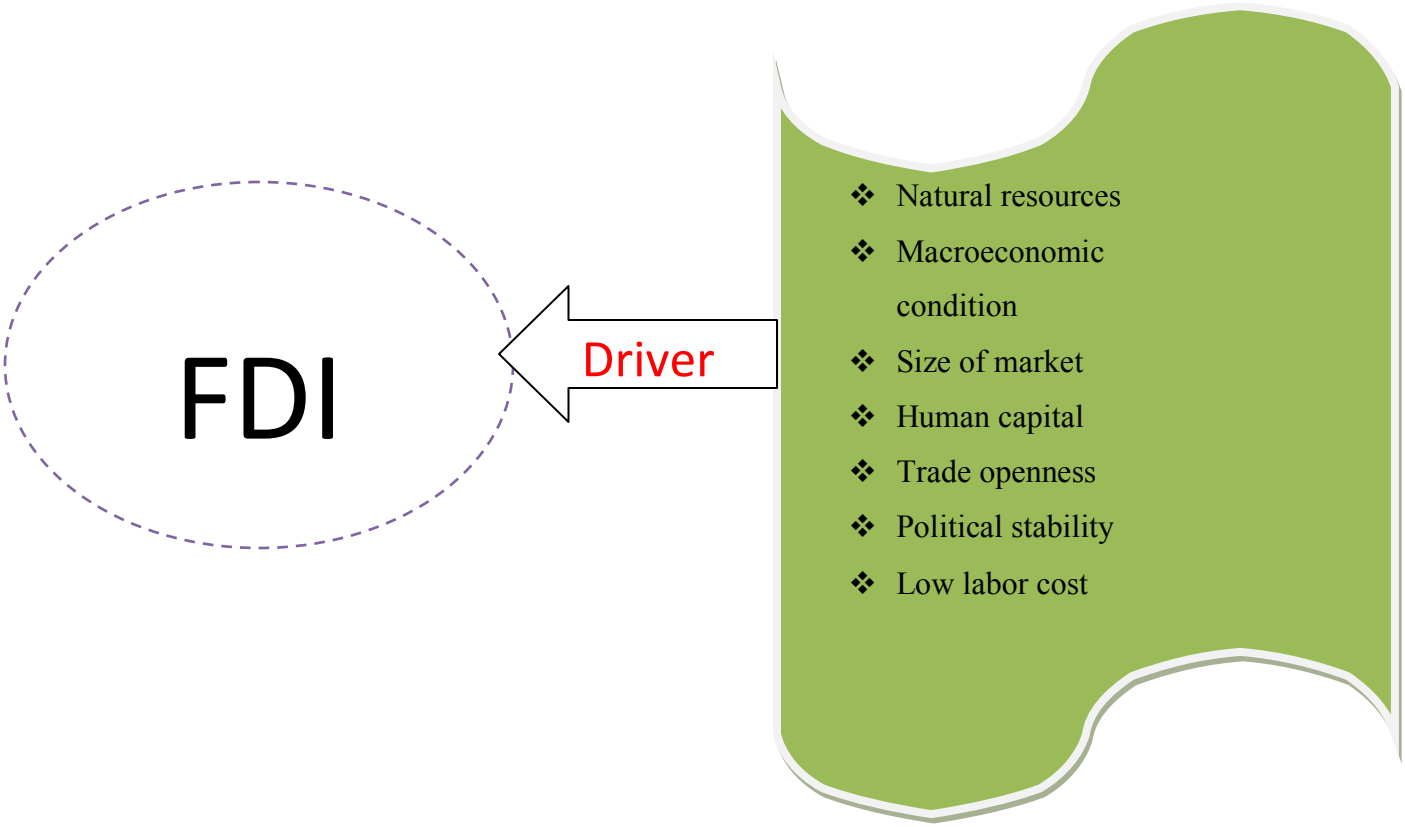
Domestic Product , Human Capital , Gross Fixed Capital Formation, and Debt servicing have positive coefficient and are statically significant. However, in the short run Gross Fixed Capital Formation and inflation are significant with negative coefficients and Gross Domestic Product is positively related with FDI and it is significant while openness is significant only at 10% with positive coefficient. However, human capital is non-significant with negative coefficient. Results of impulse response indicate that trade openness and FDI exhibit negative relation in the short run.

Haile & Assefa (2006) analyzed determinants of FDI in Ethiopia using a time series data (1974-2001) and concluded that growth of real GDP, export orientation and liberalization promote the inflow of FDI while macroeconomic instability and poor infrastructure deter the inflow of FDI.

2.5.4. Conceptual Frame Work

As a result of the literature and empirical reviewed above; the study has developed the following schematic representation of the conceptual framework.

Figure2.2. Conceptual frame work of FDI



Source: own construction (by taking the theoretical and empirical review)

CHAPTER THREE

3. Foreign Direct Investment in Ethiopia

3.1. Overview of Ethiopia's recent economic and FDI performance

Ethiopia is the second-most populous country in Sub-Saharan Africa with a population of 99.4 million, and population growth rate of 2.5% in 2015. One of the world‟s oldest civilizations, Ethiopia is also one of the world‟s poorest countries. The country‟s per capita income of $590 is substantially lower than the regional average (Gross National Income, Atlas Method). The government aspires to reach lower-middle income status over the next decade. (World investment report)

The Ethiopian economy continued to register a notable growth. In FY 2014/15, the real GDP grew by 10.2 percent relative to 11.2 percent growth target set in the first GTP for the fiscal year. The growth of the economy has also been remarkable compared to the 4.4 percent growth estimated for Sub - Saharan Africa in 2015 (World Economic Outlook Update, July 2015). Nominal GDP per capita went up to USD 691 from USD 639.6 and real per capita GDP to USD 418 against the preceding year. Generally, the Ethiopian economy recorded 10.1 percent average growth rate per annum during the GTP period (2010/11-2014/15). The government is currently implementing the second phase of its Growth and Transformation Plan (GTP II). GTP II, which will run from 2015/16 to 2019/20, aims to continue improvements in physical infrastructure through public investment projects and transform the country into a manufacturing hub. The overarching goal is to turn Ethiopia into a lower-middle-income country by 2025. Growth targets are comparable to those under the previous plan with annual average GDP growth of 11%; in line with the manufacturing strategy, the industrial sector is slated to grow by 20% on average (annual report of National Bank of Ethiopia 2014/15)

The history of endeavors to industrialize Ethiopia dates back to the beginning of the 20th century, when foreign nationals who had settled in urban areas realized Ethiopia‟s demand

for manufactured goods, and began to establish manufacturing firms in Ethiopia (Yohannes,1999:305). However, Befikadu (1983:100) noted that until 1957 there had been no documented strategy for industrialization of Ethiopia except the declaration of the ten-year industrial development programme of 1945, which consisted of only the general guidelines(cited by Asmelas berhane 2015).

Immediately after the over thrown of Emperor Hailesilase in September 1974, a military junta called derg was establish from several division of the Ethiopian armed forces. The government installed a socialist command economic system where market system was deliberately repressed and socialization of the production and distribution process followed. This led Ethiopia into the Socialism system where discriminatory market economy and private property. At this time land, private large and medium scale enterprises were nationalized. The land reform measure that was undertaken in 1975 was one of the major policy reforms that took place immediately. Land was nationalized and private ownership of land ceased. The government also nationalized and subsequently reorganized private banks, insurance companies, transport companies, and medium and large scale manufacturing enterprises. In this period, average GDP growth was about 2% and average per capital GDP was negative. The derg did not give any opening for privatization to domestic and foreign investors, so the gap between domestic investments and saving remained wide in the pre-1991 period (Geda and Degefe,2002) cited by (Getinet H.& Hirute A.2006)

The economic performance of the pre 1991 period was characterized in three phases.

- During the first phase of the regime 1974-78, economic performance was poor due to the emerging new policies and the nationalisation measures. Average annual growth rate of GDP was 0.3 percent while per capita growth was negative.
- During the second phase of the regime, 1978-80, the economy began to recover and the growth rate increased to 4.6 percent. This period was characterized by stability and it also benefited from good weather. Agricultural production increased at an average annual rate of 3.6 percent

- The third phase of the regime, 1980-1985, the economy performed badly again. Agricultural and manufacturing sectors were decline because of severe drought that affected almost all regions of the country in between 1984-1985. The Economy continued stagnates.

The investment climate in general and FDI in particular was not encouraging during this period. The problems of political instability, insecurity, and the nationalization of major industries severely discouraged foreign private investment. Realising the importance of FDI, the government then attempted to revive FDI through the 1983 Joint Venture Proclamation. The proclamation offered incentives such as a five-year period of income tax relief, import and export duty relief, tariff protection and repatriation of profits and capital. However, the proclamation failed to attract foreign investors. In 1989, the government revised the 1983 proclamation by allowing majority foreign ownership in many sectors. It also attempted to provide more protection to investors. However, the political instability and the prolonged civil war at the time further discouraged FDI. The political instability got worse and it consequently led to the overthrow of the regime in 1991.

The post-1991 period began with the coming to power of TPLF/EPRDF in 1991 and the adoption of the WB/IMF sponsored Structural Adjustment Programme soon after. Among the stated objectives of the new government were/are: reducing macroeconomic imbalances, eliminating structural distortion, improving the country‟s human capital and infrastructure as well as poverty reduction. The government implemented a series of reform measures in order to change the command economic system that had been in place to a free market economy, to speed up the integration of the economy into the world economy and to encourage the wider participation of the private sector in the development process of the national economy (FDRE-MOFED, 2002). The specific measures taken to promote the export sector and participation of the private sector include the following:

- Deregulation of domestic prices
- Devaluation of the national currency by 141.55 percent, from 2.07 birr per dollar to 5 birr per dollar;

- Liberalisation of the foreign exchange market
- Elimination of Export taxes except for coffee;
- Lowering of Maximum import duties from 230 percent to 60 percent;
- Simplification of Export licensing regulation and procedure;
- Provision of adequate incentives, strengthening and enhancing institutional support for the export sector.

The main objectives of the government were increasing the role of the private sector in the economy and the privatization program was started in February in 1994. Since then, Ethiopian Privatization Agency (EPA) has become the lead agency in carrying out the process of privatization of public enterprises. On the other hand, In recognition of the role of private sector in the economy, the government has revised the investment code five times in the last twenty four year (1992-2014) to make the investment climate attractive. As a result of the implementation of the above mentioned reforms, policies and strategy, agricultural and industrial production, investment and export trade has improved.

3.2. Regulatory and institutional framework of FDI in Ethiopia

To make the investment regulation more transparent and to improve the investment climate to attract more FDI inflow the current government has made different legislative and procedural reforms. The government has revised the investment proclamation code five times from1992 until 2015 and the recent proclamation no. 849/2014 which replace Ethiopian investment Agency (EIA) in to Ethiopian investment commission (EIC) with a view of promoting more FDI and improving the service it renders to investors in one place.

Due to the investment-friendly environment created in the country, the inflow of FDI has been increasing over the last twenty four years. China, India, Sudan, Germany, Italy, Turkey, Saudi Arabia, Yemen, the United Kingdom Israel, Canada and the United States are the major sources of FDI.

3.2.1. The FDI regulatory framework

The government of Ethiopia has undertaken significant steps to attract FDI by introducing regulatory frameworks and investment proclamation with consecutive amendments from the year 1992 to 2015.

The first investment proclamation is no. 15/1992 in May 1992. This is the first investment code in the country and led to the establishment of Ethiopian investment office. The limitation of this proclamation was incentives were restricted to a few sectoral categories mainly agriculture and manufacturing, foreign investors are obliged to deposit 125,000USD in a blocked account.

The second investment proclamation is proclamation no. 37/1996. The changes introduced in hear is inclusion of additional sectors such as health, education, tourism, consultancy services in the incentive scheme. The other change is removal of the requirement for foreign investors to deposit 125,000 USD, specification of areas eligible for incentives based on the international standard industrial classification (ISIC) Code. As a result of this foreign investment projects approved increased (more than 300 projects approved).

The third investment proclamation is no.116/1998, in hear there is an improvement in the redefinition of domestic investor to include foreign nationals, Ethiopian by birth. In addition, private-government joint investment in defense and telecommunications is allowed and hydro-electric power generation become to open for domestic and foreign investors.

The fourth investment proclamation no.280/2002, take an amendment in reducing the minimum investment capital required for foreign investors from 500,000 USD to 100,000 USD for wholly foreign investor, from 300,000 USD to 60,000 USD for jointly investment with domestic investors and from 100,000 USD to 50,000 USD in the area of consultancy. Other changes include avoiding minimum investment capital requirement for foreign investor re-investing his profits or dividends or exporting at least 75% of his output, allowing foreign investor or foreign national treated as domestic investor the right to own a dwelling house and other immovable property required for his investment, allowing

investors to employ duly qualified expatriate experts required for the operation of their business, and more than 400 foreign investment projects approved.

The fifth investment proclamation in 2012, introduced provision for establishment of industrial Zones, both state run and private, with favorable investment tax and infrastructure incentives. The amendment also raised the minimum capital requirement to US$200,000 per project for wholly owned foreign investments and US$150,000 for joint investments with domestic investors (or US$100,000/ US$50,000 respectively in the area of engineering, architectural, accounting and auditing services, business and management consultancy services, and publishing) (Ethiopian investment guide 2015)

3.2.2. Institutional framework

The investment proclamation of 2012 and the regulations on investment incentives and investment areas reserved for domestic investors of 2012 are the main legal framework for both foreign and domestic investment in Ethiopia. (Refer appendix I and II)

As of July 2014 Ethiopian Investment Agency (EIA) was changed to the Ethiopian investment commission (EIC), EIC is an autonomous government institution accountable to the investment board. The prime minister chairs the board. A commissioner who is also member of the board heads the EIC.

The EIC has restructured itself by proclamation No 849/2014 with a view to promoting more FDI and improving the services it renders to investors.

- Promoting the country‟s investment opportunities and conditions to foreign and domestic investors;
- Issuing investment permits, business licenses and construction permits;
- Notarizing memorandum and articles of association and amendment;
- Issuing commercial registration certificates and effecting renewal, amendment, replacement or cancellation;

- Effecting registration of trade or firm name and amendment, replacement or cancellation;
- Essuing work permit, renewal, replacement, suspension or cancellation;
- Grading first grade construction contractors;
- Registering technology transfer agreements and export-oriented non-equity-based foreign enterprise collaborations with domestic investors;
- Negotiating and, upon government approval, signing bilateral investment promotion and protection treaties with other countries; and
- Advising the Government on policy measures needed to create an attractive investment climate for investors.

The EIC also provides additional services on behalf of investors‟ request to facilitate the acquisition of land and utilities (water, electrical power and telecom services), to process loan and residence permit applications, to get approval of environmental impact assessment (EIA) studies for their investment projects as well as for the issuance of tax identification number (TIN) (Ethiopian investment guide 2015)

3.3. Performance of FDI in Ethiopia

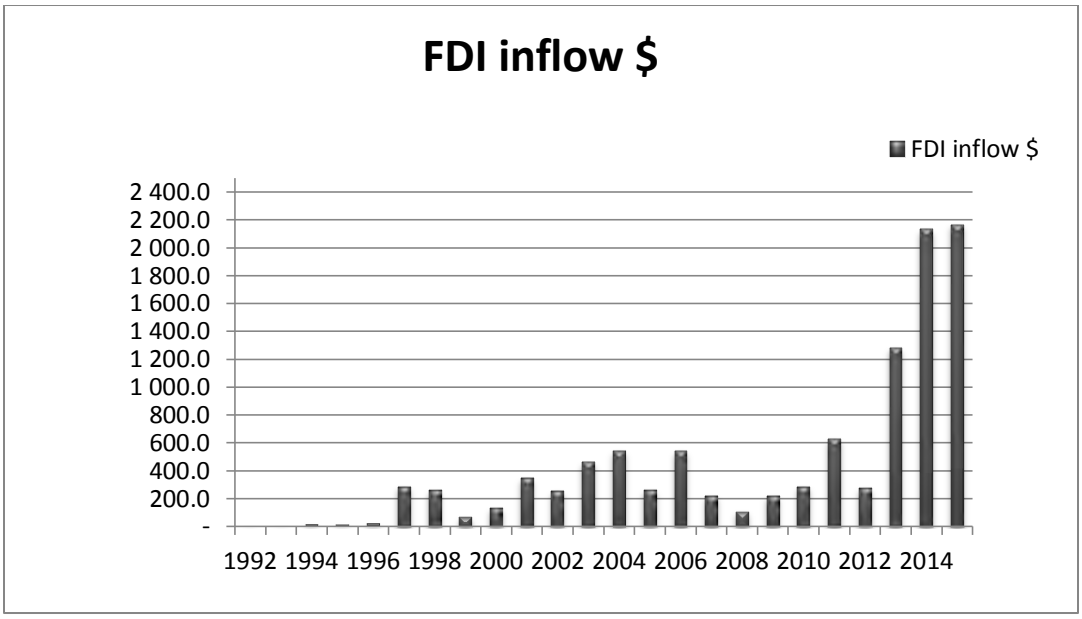
After the overthrow of the Derg regime and the establishment of investment beauro in 1992 until December 2015 a total of 5,034,110 foreign investors established a project in Ethiopia with a capital birr 93,386,008,000 and among these 67.6% of the project is in the manufacturing sector with a capital of 63,130,395,000 birr, 10.6% in the service sector with a capital of 9,817,691,000 birr ,12%in the construction contracting and water well drilling with a capital of 11,282,976,000 and 9.8% in agriculture and mining sector with capital of 9,154,946,000 birr. In terms of employment creation from the period 22 August 1992 – 31 December 2015 (G.C) a total of 290,402 peoples are employed among them 286,238 are permanent and 4164 are temporarily employed. The agricultural sector share of employment

is higher which is a total of 124,548 permanent and 331 temporary (43.5% of the total permanent employment), the manufacturing sector follows with a total of 118,454 permanent and 2867 temporary (41.4% of the total permanent employment) and the service and construction contracting sector 45,168 permanent and 966 temporary (15.1% of the total permanent employment).

According to World Bank (2012), FDI is reported on an annual bases i.e., how much new investment was received in the country. In 2012, it typically runs at about 2.3% of the size of the economy measured by its GDP. If a country routinely receives FDI that exceeds 5-6% of GDP each year, then this is a significant source. In addition to that, FDI is expected to facilitate technology transfer in the industry sector, bring in huge capital and machineries, crates employ opportunities and increase global market share.

According to the Foreign Agricultural Investment report (2011) Ethiopia is among the fastest growing non oil dependent countries in Africa. Though, not consistent, foreign direct investment (FDI) flows into Ethiopia have gradually increased in the last two decades (World Bank, 2012). FDI inflows to Ethiopia showed an increase in absolute terms from an annual average of $131.6 million between 1995 and 2000 to $404.1 million in the year between 2001 and 2006 (figure3.1). And also, the percentage share of FDI inflow to GDP rose from the 1995-2000 average of 1.57 to 4. As shown in Figure 3.1, during the Ethio-Eritrea war (1998-2000) the inflow of FDI had fallen to a large extent to $70 during 1999. Besides, in 2005, during the country‟s election crisis time, the FDI flows declined to $265 million from $545 million in the preceding year of 2004 and the year 2006 reached $550 million due to the global financial crisis hammered the world economy in 2008 the FDI inflow to Ethiopia decreased to $222 million and $109 million in the year 2007 and 2008 to respectively (Asmelash B. 2015). but since then it has again been increasing and exceeded$600 million in the year 2011but again it has dropped to 278 in the year 2012, then after increased for the three years continually and it has reached to $2,167.6 million in the year 2015 and also the percentage share of FDI to GDP increased 3.8% and 3.5% in the year 2014 and 2015 respectively (world investment report 2015)

Figure 3.1: FDI inflows (in million of USD)



Source: Own Computation from the data of world Investment Report

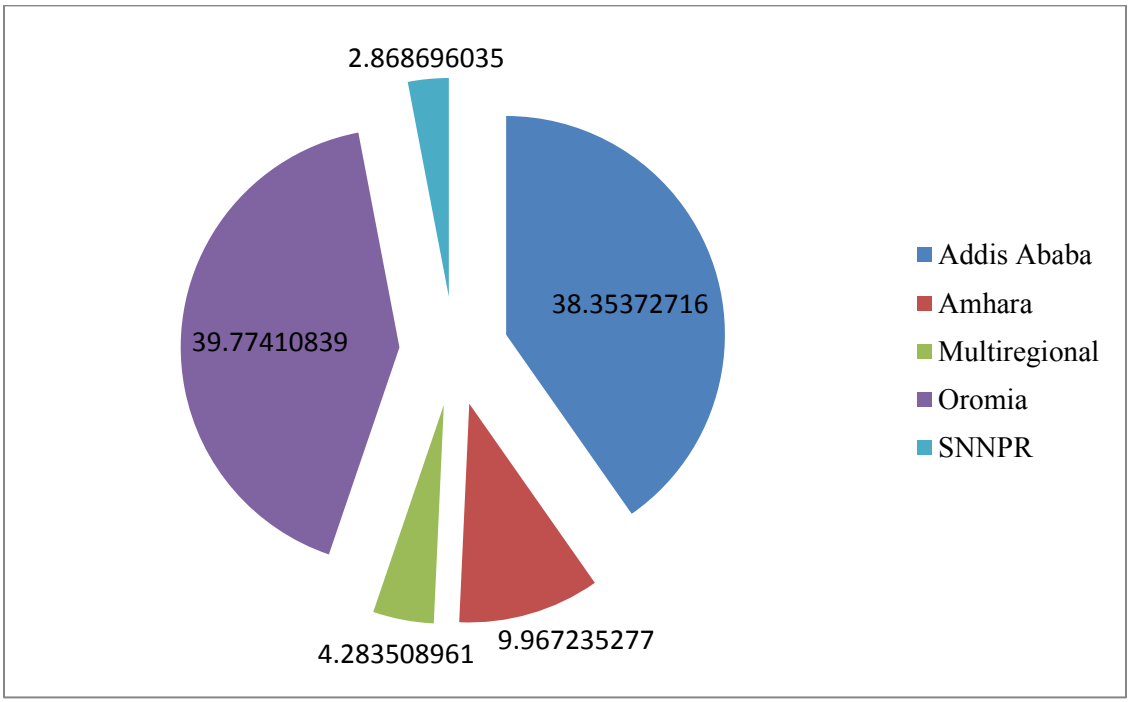
3.4. Regional distribution of FDI

The flow of FDI to Ethiopia has been unevenly distributed among the nine regions and two federal administrative towns. Even though the incentive system encourages foreign investors to invest in the least developed regions (Gambella, Afar, Somali, South Omoo Zone and Benshangul-Gumuz) of the country by providing special benefits including provision of land free of any charge, and an income tax deduction of 30% for three consecutive years but their performance in attracting FDI is very poor (Federal Negarit Gazettie, regulation No.270/2012).

As it can be seen at the table3.1, from 22 august 1992- 31December 2015 G.C most of the FDI is concentrated in Ormia, Addis Ababa, Amhara and Multiregional consecutively.

Out of the total FDI capital inflow from the period 1992-2015, Oromia, Addis Ababa, Amhara, and Multiregional shared 39.77%, 38.35% , 9.96% and 4.28 % , respectively. These means, these four regions of Ethiopia takes for over 95% of the total capital invested in the country.

Figure 3:2 Shares FDI by regions (capital %) from 22 august 1992- 31December 2015 G.C



Source: EIC: Investment Statistical Abstract, personal computation

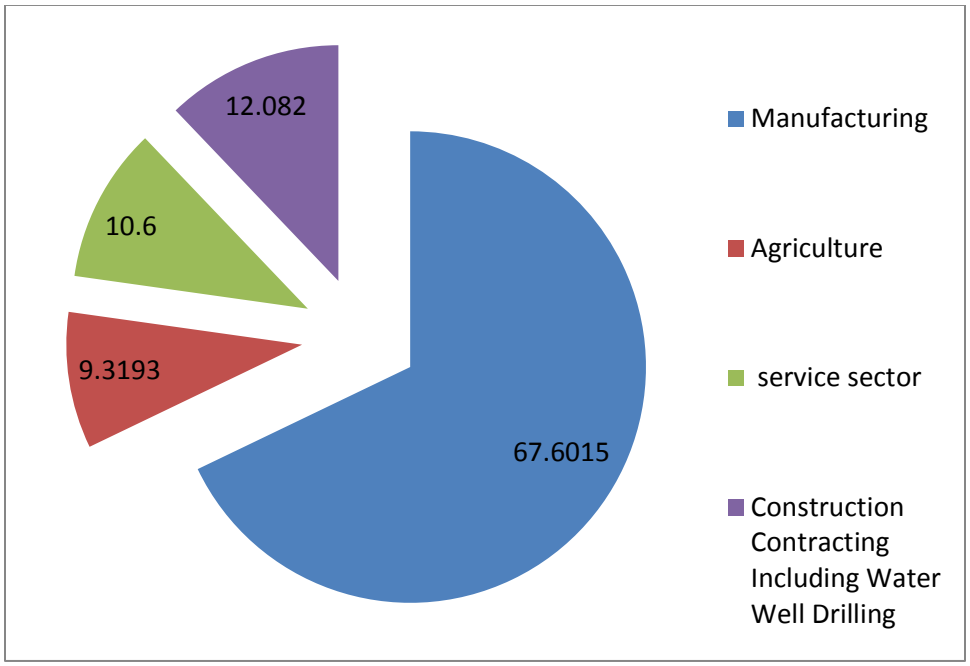
In terms of employment creation in regional bases again from 22 august 1992- 31 December 2015 (G.C) Multiregional takes the lead with 31.24% of the total employment by foreign investors, Addis Ababa share is 29.85 % , Oromia share is 25% Amhara with 7.64% and SNNP had 2.9% of the total employment creation from FDI. On the other hand, regions like Harrari, Somali, B.Gumuz , and Afar performance in attracting FDI is very insignificant.

3.5. Sectoral distribution of FDI

As it can be seen from the figure 3.3 in the period from 22 august 1992- 31 December 2015 G.C the manufacturing sector takes the lion share of capital accounting for 67.6% of the whole invested capital in the given time interval, from this manufacturing of basic metals, textiles and other non- metallic mineral products take the leading FDI capital inflow. The construction contracting and water well drilling is the second largest FDI recipient sector accounting for 12% of the total FDI. The service sector takes a share of 10.6% in hear

construction and renting of machinery and equipment take the leading share. The primary sector which refers the agriculture and mining sector accounts to 9.8% of the total inflow of FDI capital in the country. From these growing of crops, vegetables, fruit, horticulture and beverage crops take the lead followed by farming of animals and other mining and quarrying.

Figure3:3 Sectoral distribution of FDI from 22 august 1992- 31December 2015 G.C



Source: EIC: Investment Statistical Abstract, personal computation

3.6. FDI flows by country of origin

According to the data from EIC (2015) and own computation , from the period 1992-2015 it is shown that countries such as Turkey, Saudi Arabia, china, India, USA, France, and Sudan invest huge capital in Ethiopia. Countries share of investment capital from 1992-2015 is Turkey leads by 22% of the total investment capital, Saudi 15.67% , China 14.53%, and India 6.9% are among the leading investors in the time interval which together accounts for about 60% of the total capital invested in Ethiopia.

However, Ernest and Young study (2014), suggest that Ethiopia‟s top five investors for FDI capital invested since 2007 until 2012 with a total of 4,833 million USD are UAE (42%),

USA (16%), India (12%), Germany (9%), China (8%), and other investors (13%). In addition, according to their studies in this time interval among the total of 69 new projects India share is 23%, USA 19%, china 14%, UAE 9%, Germany 6% and other investors takes 29%.

Worldwide, Developed countries are the major source of FDI flows. Nevertheless, more than 60% of FDI flows to Ethiopia are originated from developing economies (Saudi Arabia, India and China). This might indicate that Ethiopia could not provide an attractive business environment for FDI originates from developed economies. However, recent trend shows there is a growing interest from western developed economies. For instance, in 2012 the two largest FDI were from UK and Netherland represented by Diageo and Heineken (Ethiopia investment guide 2015).

3.7. Incentives for foreign investor investing in Ethiopia

The Council of Ministers Regulations No.270/2012 specifies the areas of investment eligible for investment incentives.

a) Customs Duty

To encourage private investment and promote the inflow of foreign capital and technology into Ethiopia, the following customs duty exemptions are provided for investors (both domestic and foreign) engaged in eligible new enterprises or expansion projects such as manufacturing, agriculture, agro-industries, generation, transmission and supply of electrical energy, Information and Communication Technology Development (ICT) tourism, construction contracting, education and training, star designated hotel, specialized restaurant, architectural and engineering consultancy works, technical testing and analysis, capital goods leasing and importation of LPG and bitumen 100% exemption from the payment of customs duties and other taxes levied on imports is granted to all capital goods, such as plant, machinery and equipment and construction materials; Spare parts worth up to 15% of the total value of the imported investment capital goods, provided that the goods are also exempt, from the payment of customs duties

An investor granted with a customs duty exemption will be allowed to import capital goods duty free indefinitely if his investment is in manufacturing and agriculture and for five years if his investment is in other eligible areas

An investor entitled to a duty-free privilege buys capital goods or construction materials from local manufacturing industries shall be refunded the customs duty paid for raw materials or components used as inputs for the production of such goods; and

Investment capital goods imported without the payment of custom duties and other taxes levied on imports may be transferred to another investor enjoying similar privileges.

b) Income Tax Exemption

Any investor who establishes a new enterprise in Gambella; Benshangul/ Gumuz; Afar (except in areas within 15 kilo meters right and left of the Awash River); Somali; Guji and Borena Zones (in Oromia); or South Omo Zone, Segen (Derashe, Amaro, Konso and Burji) Area Peoples Zone, Bench-Maji Zone, Sheka Zone, Dawro Zone, Keffa Zone, Konta and Basketo Special Woredas (in Southern Nations, Nationalities and Peoples Region) shall be entitled to an income tax deduction of 30% for three consecutive years after the expiry of the income tax exemption period specified.

Exports at least 60 percent his products or services, or supplies the same to an exporter as production of service input will be exempted from the payment of income tax for additional 2 years.

c) Remittance of Capital

A foreign investor has the right to make the following remittances out of Ethiopia in convertible foreign currency:

- profits and dividends;
- principals and interest payments on external loans;
- payments related to technology transfer agreements;
- proceeds from the sale or liquidation of an enterprise;
- compensation paid to an investor; and
- Proceeds from the sale or transfer of shares or partial ownership of an enterprise to a domestic investor (Ethiopian investment guide 2015). And others

CHAPTER FOUR

4. DATA SOURCE AND METHODOLOGY

4.1. Research Designs

As indicated in different literatures and empirical studies there are many economic variables that have an effect on the inflow of FDI to the host country. This study is uses quantitative method of data approach, which was collected from secondary data sources in order to tests the main economic variables that determine the inflow of FDI in Ethiopia, because of international business research in general and that of FDI in particular favor quantitative method over qualitative methods. Multiple ordinary least square (OLS) estimator has uses for analyzing the determinate of FDI inflow to Ethiopia for the time series data 1974-2015 G.C.

4.2. Data source and types

This study has tests the main economic variables that determine the inflow of FDI in Ethiopia for the time series of 1974-2015G.C. All the necessary data that associate with the study was quantitative type of data and that was collected from secondary data sources, the major data sources is Ministry of Finance and Economic Development (MoFED), Ethiopia Investment Commission (EIC), National Bank of Ethiopia (NBE) and country reports published by the United Nations Conference on Trade and Development (UNCTAD) and International Monetary Fund (IMF).

4.3. Definitions of variables

FDI: The World Bank World Development Indicators (2012) defined Foreign Direct Investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. In line with the approach used in the FDI literature, the dependent variable used in this study FDI is measured as the net foreign direct investment inflows as a percentage of GDP.

The following independent variables has been considered in order to test either or not have an effect on the inflow of FDI in to Ethiopia

Market size: It is believed to be one of the significance determinants that have been used in empirical studies to explicate the inflow of FDI to a host country. Because if the host countries have large market size it will have investment opportunities that will in turn to generate high profit for the foreign firms. Besides, the market size hypothesis states that multinational firms are attracted to a larger market in order to utilize resources efficiently and exploit economies of scale (Chakrabarti, 2001). Usually the proxies to measure market size are Real GDP per capital and Real GDP growth rate, but in order to maintain consistency with Chakrabarti, (2001) this study use Real GDP growth rate. The nominal values of GDP where taken and then converted in to real value using GDP deflator. FDI is expected to have positive relationship with Real GDP growth rate.

Macroeconomic stability*:* There is a widespread perception that macro-economic stability shows the strength of an economy and provides a degree of certainty of being able to operate profitably (Balasubramanyam, 2001). Inflation rate, government expenditure, exchange rate, and foreign debt are used as proxy variables of macroeconomic stability. Low inflation, high employment level, low foreign debt, stable government expenditure, have a positive impact on FDI.

Infrastructure development: Studies have indicated the presence of an advanced infrastructure like roads, ports, railways, telecommunications system, and other public institutions are indications that the host country has attracts more FDI the main agreement that advanced infrastructure will reduce the cost of doing business and help maximize the rate of return(Wallace, 1990) It is suggested that the availability of a good quality infrastructure subsidizes the cost of total investment and increasing efficiency of production and marketing. Taking in to account Gross Fixed Capital Formation (GFCF) has been included to proxy infrastructure development. It is expected to be positively correlated with FDI.

Human capital: Human capital is considered to be an important factor for location strategies of multinational companies. When investing for the long term in another country, multinational companies have in mind the human resources in the host country. Large, efficient, and educated population is a requirement for an attractive investment (Getinet and Hirut, 2006). The more educated the population is, the more likely it is for a country to attract more FDI (Lewis, 1999). In this study, human capital is measured School enrolment rate (percent of people aged 15 and above). School enrolment rate is expected to have positive relationship with FDI.

Trade Openness: according to UNCTAD (2015) should Openness to investment in line with each country‟s development strategy, investment policy should establish open, stable and predictable entry conditions for investment. The ease of capital movement to and out of the country and the trade openness of the country affect the flow of FDI. The standard way of thinking is that countries with capital control and restrictive trade policies discourage business, compared with countries with liberal policies. This study has used the ratio of trade to GDP (import plus export to GDP). As openness of an economy is believed to foster the level of FDI, the more open an economy is, the more likely it would grow and attract FDI. Thus, we expect a positive relationship between openness and level of FDI.

Table4:1 the proxy and expected sign of independent variables

Variables	prox	expectation
Macroeconomic stability	Inflation rate if low	+
	Exchange rate	+
	Foreign debt	_
Openness	Import plus export to GDP	+
Market size	Real GDP growth rate	+
Infrastructure	Gross fixed capital formation	+
Human capital	School enrollment rate	+

Source: from theoretical and empirical study

4.4. Specification of the Model

This study use a model which was developed by Chan and Gemayel (2004) to examine the determinants of FDI in Ethiopia over the period of 1974 – 2015 G.C. by using Multiple Linear Regression Model. This model analyzes the effect of number of variables on FDI and is presented as follows.

FDI = f (X),

Where X includes market size, trade openness, macroeconomic stability, infrastructure, human capital

*FDI= f(*MES, MCS, HCD,OPP, GFCF,*)*……..(3.1)

FDI = f [RGDPGR, SCER, MCS_INR, MCS_EXR, MCS_FD, GFCF, OPP]..... (3.2)

In all of the models, all variables except the Growth rate of Real Gross Domestic Product (RGDPGR), OPP and inflation rate, all other variables was first converted in to natural log and are denoted by lnFDI, RGDGR, lnGFCF , lnSCER,MCS_INR, lnMCS_EXR, lnMCS_FD, OPP

The model is:

$lnFDIt= \beta 0+ \beta 1(RGDPGRt) +\beta 2(lnGFCFt) + \beta 3(lnSCERt) + \beta 4(MCS\_INRt)+ \beta 5(lnMCS\_EXRt) + \beta 6(lnMCS\_FDt)+ \beta 7(OPPt) + Ut$……………………………………(3.3)

Where, FDI is, the net foreign direct investment inflow (measure of FDI.)

RGDPGR= Real GDP growth rate (measure of market size)

GFCF= Gross Fixed Capital Formation (percent of GDP) (measure infrastractur)

SCER= Human Capital development (HCD) (proxy School enrolment rate above 15 age)

INR= Inflation rate based on consumer price index (measure macroeconomic stability)

FD= Foreign debt as a percentage of GDP (measure macroeconomic stability)

EXR= Exchange rate (measure macroeconomic stability)

OPP= Openness to trade (import plus export to GDP) (used as proxy to measure financial restrictions)

MCS= Macroeconomic stability

The coefficients β0, β1, β2, β3, β4, β5, β6, and β7 are the parameters of the econometric model, and they describe the directions and strengths of the relationship between FDI and the factors that used to determine FDI in the model (called Explanatory Variables) and U is error term.

4.5. Econometric Method

4.5.1. Stationarity Test

In the analysis of time series data, the notion of stationarity plays an important role. A stationary series can be defined as one with a constant mean, constant variance and constant autocovariances for each given lag. Proper estimation of a time series model requires a stationary data. Conducting time series analysis on non-stationary data will results what is called "spurious" or "nonsense" regression, i.e., a situation where the estimated regression has a high R^2 and significant t- values without any economic relationship between the

variables. According to Granger and Newbold (1974), Estimation of parameters and hypothesis testing using time series data requires an investigation of the data generating process of the variable under consideration. This investigation helps to avoid estimating a spurious correlation between variables in a regression, where and what actually exist is correlated time trend rather than a meaningful economic relationship. A combination of variables that contain a time trend or are non-stationarity may lead to spurious correlation. Hence, the problem of spurious correlation leads inappropriate model specification and misleading results due to the presence of non-stationary variables in the regression model, so the time series properties of the variables used in the model are investigated. To determine whether the data is stationary or not we can use the popular form of checking the stationary property of the variables is the Augmented Dickey

4.5.2. Vector Autoregressive (VAR) Modeling and Co-integration analysis

The study has concerned about the concept of co-integration because making a variable stationary by differencing only gives the short run dynamics while the research also interested in knowing the long run relationship. Economically speaking, two variables will be co- integrated if they have long run relationships between them. In VAR models the test for co- integration is vital because if there is no co-integration relationship between the variables under consideration then there is no point in estimating VECM.

A simple approach to testing for the existence of co-integration is the Engle-Granger (1987) two-step approach. Though this procedure is easily implemented, it has several important limitations. One crucial limitation of the method is that it has no systematic procedure to identify the existence of multiple co-integrating vectors. An alternative approach which addresses the drawbacks of the two steps Engle-Granger approach was proposed by Johansen (1988), who developed the maximum likelihood estimation procedure that also allows one to tests for the number of co-integrating relationship. The Johansen (1988) maximum likelihood estimators overcome problems associated with the use of two step estimators. Most importantly it can detect the presence of multiple co integrating vectors.

Moreover, the test allows testing restricted versions of the co-integrating vector(s) and the speed of adjustment parameters (Brooks, 2008).

The procedure used for co-integration testing and estimation of the VAR in this study follows the methodology developed and used by Johansen (1988, 1991), and Johansen and Juselius (1990). The Johansen (1988) procedure allows testing for the presence of more than one co-integration vector. Moreover, it permits to estimate the model without priority restricting the variables as endogenous and exogenous. It is used to determine how each endogenous variable responds over time to a shock in that variable and in every other endogenous variable.

Economic variables have short run behavior that can be captured through dynamic modeling. If there is long run relationship among the variables, an error correction model can be formulated that portray both the dynamic and long run interaction between the variables. In the previous discussion, we show that if two variables that are non-stationary in levels have a stationary linear combination then the two variables are co-integrated. Co-integration means the presence of error correcting representation. That is, any deviation from the equilibrium point will revert back to its long run path. Therefore, an ECM depicts both the short run and long run behavior of a system. Engle and Granger (1987) (cited in Asmelash 201) defined ECM as "a particular representation of a vector auto-regression appropriate for co-integrated results." This means if there exists long run relationship (i.e., co-integration among the variables).

In this study, different post-estimation diagnostic tests were performed to guarantee that the residuals from the model have a Gaussian distribution. Such as: residual vector serial correlation LM test, residual vector normality test, and residual vector heteroscedasticity test. Furthermore, the diagnostic test results used as indicators of the validity of employing impulse-response functions and variance-decomposition analyses. Similarly, the study also employed impulse response function to traces the effect of a one standard deviation shock to one of the innovations on current and future values of the endogenous variables.

CHAPTER FIVE

5. ECONOMERIC TEST RESULTS AND DISCUSSION

Before going to estimation of the model and discussion directly, between Foreign Direct Investment (FDI) and its determinants using annual time series data it is advisable first to conduct the unit root test to check whether the time-series is stationary or not and after identifying the optimal lag length and check VAR stability, the presence of the co-integrating vectors is tested using the Johansen co-integration method. The long-run and short-run relationship is also identified followed by the post diagnostic test.

5.1. Unit Root Tests

Proper estimation of a time series model requires a stationary data. Conducting time series analysis on non-stationary data will results what is called "spurious" or "nonsense" regression, i.e., a situation where the estimated regression has a high R^2 and significant t-values without any economic relationship between the variables.

To determine whether the data is stationary or not we can use the popular form of checking the stationary property of the variables is the Augmented Dickey Fuller (ADF) unit root test. As a result of this test the following decision rule is formulated.

If |t*| <|ADF| critical value, or p- value >0.05 ==> not reject null hypothesis, i.e., unit root exists meaning that variable is not stationary

If |t*| > |ADF| critical value or p- value<0.05, ==> reject null hypothesis, i.e., unit root does not exist meaning the variable is stationary which is desirable.

Where: - t* is ADF-test Statistics, i.e. t-calculated - ADF critical value is value of ADF at standard level of significance, at 5% significance levels.

As the result of the first difference test depicted in the (**Appendix 3**); all variables becomes stationary at their first difference of the ADF tests. Therefore the null hypotheses for these variables are also failed to accept. But study was accepting the alternative hypothesis that means the variables are stationary at their first difference of the ADF tests. As the result of

the stationary test, the estimation models need to be adjusted with the differenced variables. In case the first model for analyzing determinant was specified as follows.

$$\ln FDI_t = \beta_0 + \beta_1(RGDPGR_t) + \beta_2(\ln GFCF_t) + \beta_3(\ln SCER_t) + \beta_4(MCS\_INR_t) + \beta_5(\ln MCS\_EXR_t) + \beta_6(\ln MCS\_FD_t) + \beta_7(OPP_t) + + U_t$$

Now, this is adjusted to:

$$\Delta LNFDI = \beta_0 + \beta_1 \Delta RGDPGR_t + \beta_2 \Delta LNGFCF_t + \beta_3 \Delta LNSCER_t + \beta_4 LNMCS - INR_t + \beta_5 \Delta LNMCS - EXR_t + \beta_6 \Delta INMCS - FD_t + \beta_7 \Delta OPP_t + + + U_t$$

ΔWhere refers to the first change

5.2. Co-integration Test and Vector Error Correction Model

5.2.1. Co-integration Test Result

The finding that many macro time series may contain a unit root has spurred the development of the theory of non-stationary time series analysis. Engle and Granger (1987) pointed out that a linear combination of two or more non-stationary series may be stationary. If such a stationary linear combination exists, the non-stationary time series are said to be *cointegrated*. The stationary linear combination is called the *cointegrating equation* and may be interpreted as a long-run equilibrium relationship among the variables (eviews 8 users guide)

Lag Order Selection for Endogenous Variables

The Johansen co-integration test result is very sensitive to the number of lags included for the endogenous variables in the estimation of the VAR. This necessitates the determination of an optimal lag order prior to the test of co-integration. The optimal lag order is determined with the sequential modified Likelihood Ratio test statistics [LR], the Final Prediction Error [FPE], the Akaiki Information Criterion [AIC], the Schwarz Information Criterion [SC], and the Hannan-Quinn Information Criterion [HQ]). As shown in Table 5.1, LR, FPE, AIC, SC and HQ suggest an optimal lag of two, each test at a 5% level of

significance but due to insefitions of observation the study take one lag even the test is also allow.

Table 5.1 VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-116.6436	NA	7.47e-07	8.596108	8.973293	8.714238
1	41.26443	217.8041*	1.36e-09	2.119694	5.514360*	3.182861
2	126.7398	70.73820	1.03e-09*	0.638638*	7.050784	2.646842*

Source: E-views result * indicate optimal lag selection

The Johansen Co-integration Test Result

The ADF and stationary test results presented previously indicate that all the variables are not level stationary. This suggests that regression based on the level variables may produce an unreliable outcome. However, the Granger representation theorem states that it is possible for non-stationary variables to produce a stationary relationship if they are co-integrated. This would imply that there is a meaningful long run relationship among the variables. Thus, the presence and the number of such co-integrating relationships are checked using the trace and the maximum- Eigen value methods.

Decision rule if critical value >Trace statistic or if p-value >0.05 we accept the null hypothesis, means there is co-integration.

Table 5.2 Johansen Co-integration Test Results

Trend assumption: Linear deterministic trend

Series: LNFDI LNGFCF LNMCS_EXR LNMCS_FD LNOPP LNSCER MCS_INR RGDPGR

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.903240	232.6211	159.5297	0.0000
At most 1 *	0.855905	164.8910	125.6154	0.0000
At most 2 *	0.724816	108.7098	95.75366	0.0048
At most 3	0.614761	61.29071	69.81889	0.1080
At most 4	0.495712	43.62788	47.85613	0.1180
At most 5	0.402722	23.77426	29.79707	0.2101
At most 6	0.237245	8.828462	15.49471	0.3815
At most 7	0.033053	0.974737	3.841466	0.3235

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

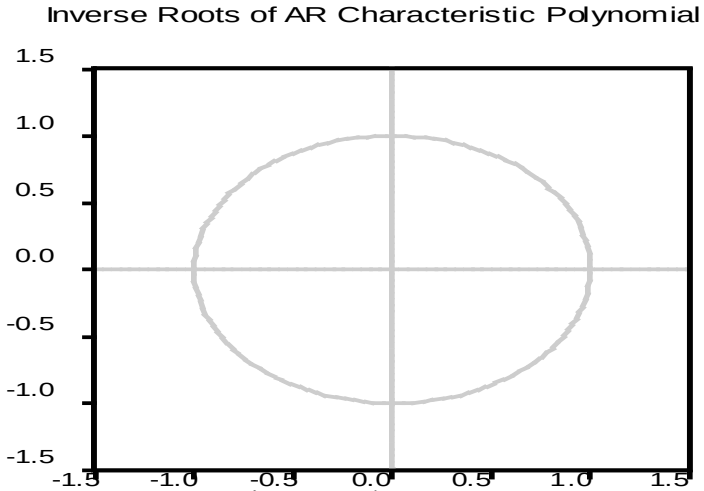
Source: E-views result

As shown in the above table the trace test suggests that there are about five co-integrating equations at 5% level of significance. This is a proof for the long-run relationship among Foreign Direct Investment (FDI), Openness (OPP), Real Gross Domestic Product Growth Rate (RGDPGR), inflation (INF), Gross Fixed Capital Formation (GFCF), Foreign Debt (FD), Exchange rate(EXR) and Human Capital (SCER). This co-intrgration rank test also led for the application of Vector Auto Regressive (VAR) model and the johansen method instead of the single equation based equation-based Engle-Granger two-step procedure.

Diagnostic Test

The stability of the VAR model and the results of the post estimation diagnostics could affect the validity and robustness of the results of the impulse response functions and other diagnostics, and thus should be tested prior to further analysis. As a result, first we have tested for VAR stability (stationary), and the result in the figure presented below shows that all roots of characteristic polynomial lie inside the unit circle which suggests that the VAR is stable. Stability of the system confirms that impulse response functions can be used in our analysis. If the VAR is not stable, certain results (such as impulse response standard errors) are not valid (eviews 8 users guide)

Figure 5.1 Roots of AR Characteristic Polynomial



Source: E-views result

5.2.2. Vector Error Correction Model (VECM)

In the previous analysis, it was found that the data has five co-intrgrating relationships based on the Johansen co-integration test. Hence, VECM is performed by choosing the optimal lag that is chosen based on the information criterion seen in the previous section and by using the result of the Johansen co-integration test. The VECM consists of two parts: the matrix of long-run co-integrating coefficients that is used to derive the long-run co-integrating relationship, and the short-run coefficients which is for the short-run analysis.

Long-run Relationship

Table 5.3 Estimated Long Run Model, Dependent variable: lnFDI

Variables	LNGFCF	LNMCS_EXR	LNMCS_FD	OPP	LNSCER	MCS_INR	RGDPGR	CONSTANT
Coefficient	-3.001327	-3.307466	0.554507	15.84337	-3.767572	0.057513	-5.295042	57.16989
St. error	0.52135	0.33046	0.31218	3.61096	0.57649	0.02194	0.83949	
t. stat.	-5.75688	-10.0086	1.77624	4.38758	-6.53531	2.62163	-6.30742	

Source: Own computation using E-views
Guide lines if t.stat is greater than absolute 2 it is significant

To understand and interpret the above result more easily we can rewrite the long run equilibrium relationship normalized on lNFDI as;

LNFDI=-57.16989 + 3.001327LNGFCF + 3.307466LNMCS_EXR – 0.554507LNMCS_FD – 15.84337OPP + 3.767572LNSCER – 0.057513MCS_INR + 5.295042RGDPGR……(5.1)

The regression result in the above table also shows that the t. stat. of gross fixed capital formation, exchange rate, openness, school enrollment rate, inflation and Real GDP growth rate are significantly affect FDI inflows to Ethiopia under the study periods while, foreign debt is insignificant.

GFCF which constitute all kinds of infrastructure development is positively related with FDI given that good infrastructural facilities in Ethiopia have a significant effect on FDI in the long run, which is similar with the theory that advanced infrastructure will reduce the cost of doing business and help maximize the rate of return (Wallace, 1990). This finding is similar to those former findings of Mitiku.G, Dipti Ranjan and Asmelash.

RGDPGR which is a proxy of market size has positive and significant to the inflow of FDI to Ethiopia during the study period, which is in line with theory that if the host countries have large market sizes it will have investment opportunities that will in turn to generate high profit for the foreign firms. Besides, the market size hypothesis states that multinational firms are attracted to a larger market in order to utilize resources efficiently

and exploit economies of scale (Chakrabarti, 2001) so Ethiopian market size has enough potential to attract FDI in the long run.

Moreover, exchange rate, and school enrollment rate are significant and positively affect the inflows of FDI, which are proxy of macroeconomic stability and human capital respectively, as evidence from the literature stable exchange rate and presence of skilled human capital are pull factor for FDI.

While openness and inflation are significantly and negatively affect FDI inflows to Ethiopia , this finding indicate that a fluctuation of general price level which increase uncertainty of future economy and financial restriction which adversely affect the FDI.

Foreign debt a proxy of macroeconomic stability is insignificant to the inflows of FDI under the given studies period. More debt and excessive foreign debt is one source of instability and uncertainty in macroeconomic environment of underdeveloped countries and hence this foreign debt is no effect in the inflow of FDI to Ethiopia.

Short – run Relationship

As it can be seen from table 5.4, the coefficient of the error correction term for the equation is negative and significant as expected. This tells us that there is a reasonable adjustment towards the long run steady state. This guarantees that although our dependent variable FDI may temporarily deviate from its long-run equilibrium value, it would gradually converge to its equilibrium. The error correction term of -0.650199 shows that about 65.1 percent of the deviation of the FDI from its equilibrium value is eliminated every year; hence, full adjustment would require a period of less than two years.

Table 5.4 Short run coefficient with dependent variable: lnFDI

Error correction	Dependent variable: lnFDI			
	Coefficient	Standard error	t-value	p-value
D(lnGFCF(-1))	-1.447868	1.708447	-0.847476	0.4059
D(lnMCS_EXR(-1))	-2.226957	1.996845	-1.115238	0.2768
D(lnMCS_FD(-1))	-0.877781	0.721458	-1.216677	0.2366
D(OPP(-1))	11.95916	10.13675	1.179782	0.2507
D(lnSCER(-1))	0.765405	1.091233	0.701413	0.4904
D(MCS_INR(-1))	-0.054325	0.025380	-2.140502	0.0437
D(RGDPGR(-1))	-1.437972	1.203204	-1.195119	0.2448
ECM(-1)	-0.650199	0.201744	-3.222895	0.0039

Source: Own computation using E-views

From the table GFCF is insignificant and its coefficient is negatively related to FDI. This indicates infrastructure in the short run have no any effect in the inflow of FDI in Ethiopia during the given study of period. The inflation variable (consumer price index) is significant and negatively affects the inflow of FDI to Ethiopia. This implies that macroeconomic stability is an important short run determinant of foreign direct investment in Ethiopia.

The Real Gross Domestic Product is negative and insignificant in the short run and adversely affect the FDI this finding supports that may be from our shallow markets. And EXR and FD are negative and insignificant to FDI in flows in short run while OPP and SCER are positive and insignificant.

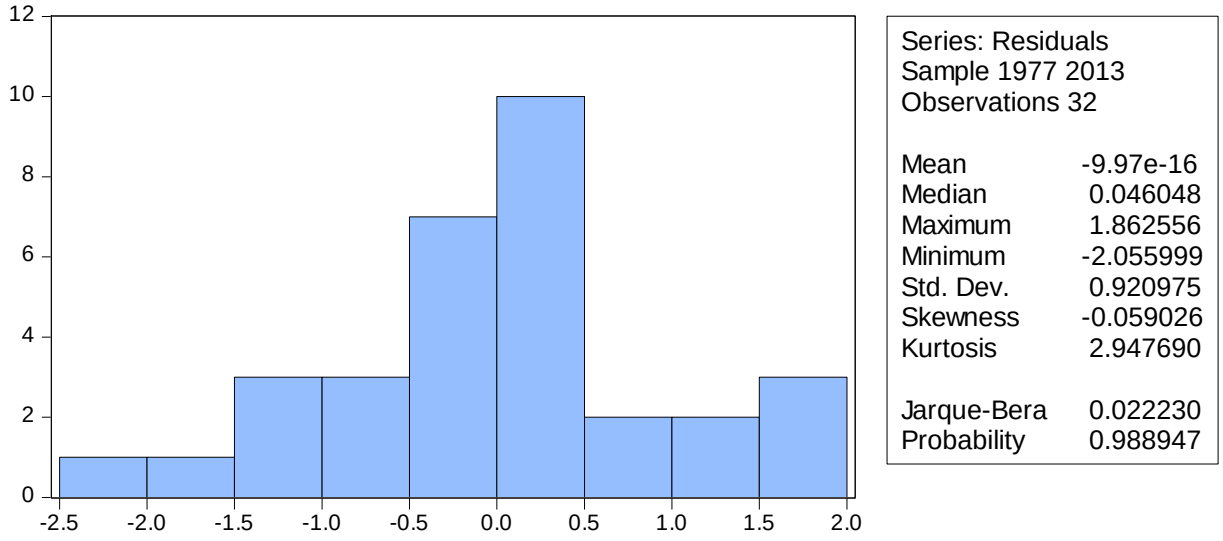
5.2.3. Post – Estimation Diagnostics

The study conducted different post-estimation diagnostic tests to guarantee that the residuals from the model are Gaussian that the assumptions are not violated and the estimation results and inferences are trustworthy. We have also tested for autocorrelation, normality and heteroscedasticity and the results are presented as follows:

Test for Normality

Another important diagnostic test conducted in this paper is the normality assumption (i.e. the normally distributed errors). Brooks (2008) stated that the normality assumption (ut~ N (0, σ2) is required in order to conduct single or joint hypothesis tests about the model parameters. One of the most commonly applied tests for normality is the Bera-Jarque (BJ) test. BJ uses the property of a normally distributed random variable that the entire distribution is characterized by the first two moments - the mean and the variance Brooks (2008).In case of this study, the researcher used BJ normality test to test the null hypothesis of normally distributed errors assumptions. As shown in figure 5.2 the p-value given at the bottom of the normality test screen greater than 0.05 so the study is not reject the null of normality at the 5% level so, the residuals are normally distributed in this study, concluded that there is no the problem of normality on FDI model.

Figure 5.2 Normality test



Source: computed from E-views result

Test for Heteroskedastic

To test for the presence of heteroscedasticity, the popular Arch test would be employed in this study. This test involves testing the null hypothesis that the variance of the errors is constant (homoscedacticity) or no heteroscedasticity versus the alternative that the errors do not have constant variance. In this study as shown in table 5.5, both the F-statistic and Chi-Square versions of the test statistic gave the same conclusion that there is no evidence for the presence of Heteroskedasticity, since the p-values were in excess of 0.05. The third version of the test statistic, "Scaled explained SS", which as the name suggests is based on a normalized version of the explained sum of squares from the auxiliary regression, also gave the same conclusion that there is no evidence for the presence of Heteroskedasticity problem, since the p-value was considerably in excess of 0.05.

Table 5.5 Heteroskedasticity Test: ARCH

Heteroskedasticity Test: ARCH

F-statistic	0.005050	Prob. F(1,27)	0.9439
Obs*R-squared	0.005423	Prob. Chi-Square(1)	0.9413

Source: computed from E-views result

Residual Serial Correlation LM Test

In the analysis there is no evidence that reveals the presence of autocorrelation at the first and the second lags. The large p-values imply that the chi-squared statistics at all lags are not large enough to help reject the null of no autocorrelation at any of the usual critical values. Thus, the study could not find any evidence of autocorrelation problem in the residuals.

Table 5.6 Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.113007	Prob. F(2,20)	0.1471
Obs*R-squared	5.582116	Prob. Chi-Square(2)	0.0614

Source: computed from E-views result

Test of multicollinearity

The final test which is conducted in this study is the multicollinearity test, this help to identify the correlation between explanatory variables and to avoid double effect of independent variable from the model. Therefore, in this study correlation matrix for seven of the independent variables shown in (appendix4) had been estimated. The results in the correlation matrix show that the highest correlation between gross fixed capital formation and with exchange rate, 0.8523 According to Gujarati, (2004) multicollinearity could only be a problem if the pair-wise correlation coefficient among regressors is above 0.90 (Hair et al, 2006).

Goodness of fit test

The aim of the goodness of fit test is to measure the validity and reliability of the variables of the specified models understudy. For that reason Unit Root Test, Johansen **co-integration** Test, Autocorrelation, Normality, Multcollinearity, Heteroscedacity, and Model Specification test were made before running the regression analysis of the model.

The unit root test was conducted using ADF tests in which their results indicates the data series are non stationery and stationary at level which leads to rearrange the models with these level to difference and stationary at their first difference a Johansen testing approach is used tests for the existence of a co-integration relationship among the independent variables. The co-integration assured that the models have short run and long run relations so the result leads to rearrange the models to accommodate this short run and long run relations. Though the Serial Correlation LM Test for autocorrelation assured that the residuals of the models

have no a serial correlations. Using the Skewness/Kurtosis tests plus two graphical examinations i.e. the kerner density and the normal probability plot for normality the residuals are confirmed to be normally distributed along the theoretical lines. In testing the multicollinearity of the explanatory variables there is no variables are strongly correlated with other variables

CHAPTER SIX

6. CONCLUSION AND RECOMMENDATION

6.1. CONCLUTION

The major objective of this paper was to identify the determinants of FDI inflows in Ethiopia and the characteristic of FDI in Ethiopia. To fulfill this objective, I have reviewed theoretical explanations and empirical literature regarding to the determinants of FDI in the context of developing countries and in order to identify the trend and characteristic of FDI in Ethiopia the study have evaluated various reports. In addition to the theoretical and empirical literature, the empirical analysis that is conducted by using econometrics technique identifies the determinants of FDI in Ethiopia. The major findings that are obtained through empirical analysis can be concluded as follows:

The flow of FDI to Ethiopia was quite low for long period of time but it was increase at an alarm rate from recent years as world investment report while also characterized with very high volatility, with behavior of frequent accidental ups and downs the average flow showed an increasing trend over the study period and its share to GDP have 3.8% and 3.5% in the year 2014 and 2015 respectively. And foreign investors mainly invested in the manufacturing sector which is around 67.6% of the total project while in the agriculture 9.6% which is quite low beside this most of FDI is concentrated in Ormia and Addis Abeba region with a share of 77.12% of country.

RGDPGR a proxy of market size has a positive and significant effect on FDI flows in Ethiopia. This conclusion is nearly similar to the following market hypothesis i.e., multinational firms are attracted to a larger market, measured by RGDPGR, in order to utilize resources efficiently and exploit economies of scale (Charkraborti 2001).this finding is similar to those former finding of Mitiku G., Asmelash B. and Hale and Assefa.

Exchange rate has a positive and significant to the inflow of FDI during the study period while inflation rate negative and significant effect to the inflows of FDI and foreign debt has insignificant to the inflow of FDI, the variables are measure macroeconomic stability during the study period**.** Macro-economic stability shows the strength of an economy and provides a degree of certainty of being able to operate profitably (Balasubramanyam, 2001). From finding we can observe that inflation is maybe one case of macroeconomic instability.

GFCF measure Physical infrastructure has positive significant effect on the contribution on FDI inflows in Ethiopia. This finding support the hypothesis of Mourise the availability of well-developed infrastructure will reduce the cost of doing business for foreign investors and therefore countries with good infrastructures are expected to attract more FDI (Mouriset, 2001) cited by (Mitiku G/K, 2013). This finding is similar to those former findings of Mitiku.G, Dipti Ranjan and Asmelash.

Trade openness has negative and significant effect to the inflow of FDI in Ethiopia during the study period as per finding there are may be restrictive trade policies and capital movement to and out of the country. According to UNCTAD (2015) should Openness to investment in line with each country‟s development strategy, investment policy should establish open, stable and predictable entry conditions for investment.

Finally, school enrollment rate has significant and positive impact on FDI inflows to Ethiopia. This result is similar to the former results like the more educated the population is, the more likely it is for a country to attract more FDI (Mose M, 2003) and also concluded that availability of skilled labor force encouraged the FDI inflows.

6.2. RECOMMENDATION

There are many factors that determine the overall performance of FDI inflows. Based on the findings of the study, the following recommendations are provided as follows:

- In the time series analysis I found that economic growth has positive and significant effect on FDI. These suggest the decisive role of growth in stimulating investment by foreign as well as domestic investors. Hence, the current fast economic growth of the country signals a country‟s economic prospects and encourages foreign investors. Keeping up the growth momentum and ascertaining its sustainability is a key to attracting more FDI. Strengthening the growth performance of the economy through the creation of favorable macroeconomic environment, developing vital infrastructure, ensuring the quality of institutions as well as improving the quality of education and technique are some of the important measures essential to attract FDI.
- openness of an economy is believed to foster the level of FDI, the more open an economy is, the more likely it would grow and attract FDI while the finding shows openness country‟s has significant and negative effect in attracting FDI. So the government should analyze the trade policies, investment police and capital movement polices, beside this the government should open the restricted sector to foreign investor, which has their own impact on FDI.
- Inflation rate is the main cause of macroeconomic stability which negatively affects the inflow of FDI to Ethiopia. To tackle this problem government should take the necessary measures.
- For researchers Why inventors are more interested in manufacturing area which accounts 67.7% while the agriculture sector is 9.7% but Ethiopia has suitable climate and type of soil required for the production of variety of food crops, and a broad range of fruits and vegetables and cut flowers, organic coffee, cotton, tobacco, sugar cane, tea and spices are the main cash crops grown in Ethiopia and others. Despite the share of agriculture is quite small why?

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Appendix

Appendix 1: Areas reserved for domestic investors

1. **Areas exclusively reserved for the Government**:
   - Postal services except courier services;
   -
   - Transmission and supply of electrical energy through the Integrated National Grid System; and
   - Passenger air transport services using aircraft with a capacity of more than 50 passengers.
2. **Areas reserved for joint-venture investment with the government**:
   - Production of weapons and ammunition;
   - Telecommunication services.
3. **Areas exclusively reserved for domestic investors**:

3.1.Trade

- Export of raw coffee, chat, oil seeds, pulses, precious minerals, natural forestry products, hidesand skins bought from the market, and live sheep, goats, camel, equines and cattle not raised by the investor;
- Import trade (excluding LPG and bitumen); and
- Wholesale trade (excluding supply of petroleum and its by-products as well as wholesale trade by foreign investors of their locally produced products).

3.2.Others

- Manufacturing of ice crème and cakes; Finishing of fabrics, yarn, warp and weft, apparel and other textile products by bleaching, dyeing, shrinking, sanforizing, mercerizing or dressing;
- Tanning of hides and skins below finished level;
- Manufacture of cement;
- Manufacture of clay and cement products;
- Tour operation below grade 1;

- ❖ Construction, water well and mining exploration drilling companies below Grade 1;
- ❖ Kindergarten, elementary and junior secondary education by constructing own building;
- ❖ Diagnostic center service by constructing own building;
- ❖ Clinical service by constructing own building;
- ❖ Capital goods leasing (this does not include leasing of motor vehicles); and
- ❖ Printing industries.
- ❖ Manufacturing of plastic shopping bags
- ❖ Manufacturing of corrugated metal sheet for roofing and nails

4. Areas exclusively reserved for Ethiopian nationals:

- ❖ Banking, insurance, micro-credit and saving services;
- ❖ Broadcasting and mass media services;
- ❖ Attorney and legal consultancy services;
- ❖ Preparation of indigenous traditional medicines;
- ❖ Advertisement, promotion and translation works;
- ❖ Domestic air transport services using aircraft with a seating capacity of up to 50 passengers; and
- ❖ Packaging, forwarding and shipping agency services.

Appendix 2: Investment areas open for foreign investors

The following areas are open for foreign investors.

1. **Manufacturing**
   - 1.1. Food industry
   - 1.2. Beverage industry
   - 1.3. Textiles and textiles products industry
   - 1.4. Leather and leather products industry
   - 1.5. Wood products industry

1.6. Paper and paper products industry
1.7. Chemical and chemical products industry
1.8. Basic pharmaceutical products and pharmaceutical preparations industry
1.9. Rubber and plastics products industry
1.10. Other non-metallic mineral products industry
1.11. Basic metal industry
1.12. Fabricated metal products industry
1.13. Computer, electronic and optical products industry
1.14. Electrical products industry
1.15. Machinery and equipment industry
1.16. Integrated manufacturing with agriculture
1.17. Vehicles, trailers, and semi trailer industry
1.18. Manufacturing of office and household furniture
1.19. Manufacturing of other equipment (jewelers and related articles, musical instruments,sports equipment, games and toys and similar products)

2. Agriculture

2.1. Crop production
2.2. Animal production
2.3. Mixed (crop and animal) farming
2.4. Forestry

3. ICT

4. Generation, off- grid transmission and supply of electrical energy

5. Hotel and tourism

5.1. Star designated hotels /including resort hotels/ , motels, lodges and restaurant
5.2. Tour operation of grade

6. Grade 1Construction contracting(including water well drilling and drilling for mineral exploration)

7. Real estate development

8. Education and training

8.1. Secondary and higher education by constructing own building

8.2. Technical and vocational training service including sport

9. Health services

9.1. . Hospital service by constructing own building

10. Architectural and engineering works and related technical services, technical testing and analysis

11. Publishing

12. Import trade

12.1. Importation of LPG and bitumen

13. Export trade

13.1. Export trade excluding raw coffee, chat, oil seeds, pulses, precious minerals, natural forestry products, hides and skins bought from the market, and live sheep, goats, camel, equines and cattle not raised by the investor.

14. Whole sale trade

14.1. Supply of petroleum and its by-products as well as whole sale of own products

Appendix 3: Augmented Dickey Fuller (ADF) unit root test using time series data from Ethiopia, 1974-2015

variables	Test statistics under different assumptions								
	Intercept			Trend and Intercept			No Trend no Intercept		
	ADF t:stat	Critical value	P*	ADF t: stat	Critical value	P*	ADF t stat	Critical value	P*
LNFDI	-0.912	-2.94	0.7742	-3.065	-3.52	0.1280	1.23	-1.95	0.9416
D[LNFDI]	-7.28	-2.94	0.0000	-7.21	-3.52	0.0000	-7.00	-1.95	0.0000
LNGFCF	1.29	-2.93	0.9982	-2.08	-3.52	0.5431	2.37	-1.95	0.9950
D[LNGFCF]	-9.06	-2.94	0.0000	-9.45	-3.52	0.0000	-8.03	-1.9	0.0000
LNMCS_EXR	-0.128	-2.94	0.9392	-2.65	-3.53	0.2601	1.34	-1.95	0.9524
D[LNMCS_EXR]	-3.93	-2.94	0.0043	-3.98	-3.53	0.0174	-3.42	-1.95	0.0009
LNMCS_FD	-1.35	-2.93	0.5948	-2.81	-3.52	0.2014	-0.98	-1.95	0.2893
D[LNMCS_FD]	-6.73	-2.94	0.0000	-6.65	-3.53	0.0000	-6.75	-1.95	0.0000
OPP	-0.97	-2.94	0.7554	-2.06	-3.52	0.5514	0.47	-1.95	0.8117
D[OPP]	-6.62	-2.94	0.0000	-6.54	-3.53	0.0000	-6.58	-1.95	0.0000
LNSCER	2.77	-3.02	1.0000	-1.52	-3.66	0.7863	5.55	-1.96	1.0000
D[LNSCER]	-7.27	-2.97	0.0000	-7.46	-3.57	0.0000	-7.68	-2.57	0.0000
MCS_INR	-2.85	-2.94	0.0611	-3.11	-3.53	0.1182	-1.81	-1.95	0.0675
D[MCS_INR]	-7.77	-2.94	0.0000	-7.66	-3.53	0.0000	-7.87	-1.95	0.000
RGDPGR	-5.40	-2.94	0.0001	-6.16	-3.52	0.0000	-4.38	-1.95	0.0001
D[RGDPGR]	-7.45	-2.94	0.0000	-7.35	-3.53	0.0000	-7.55	-1.95	0.000

Appendix 4 Multicollinearity Test

	LNGFCF	LNMCS_EXR	LNMCS_FD	LNOPP	LNSCER	MCS_INR	RGDPGR
LNGFCF	1						
LNMCS_EXR	0.852358	1					
LNMCS_FD	-0.78514	-0.77046	1				
LNOPP	0.87942	0.87974	-0.6851	1			
LNSCER	-0.14879	-0.07691	-0.03453	0.066559	1		
MCS_INR	0.30875	0.303859	-0.59594	0.26495	0.444528	1	
RGDPGR	0.395411	0.418989	-0.18228	0.401525	-0.06747	-0.07	1

Appendix 5: Vector Error Correction Estimates

Vector Error Correction Estimates

Date: 12/25/16 Time: 12:27

Sample (adjusted): 1977 2012

Included observations: 29 after adjustments

Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
LNFDI(-1)	1.000000
LNGFCF(-1)	-3.00133
	(0.52135)
	[-5.75688]
LNMCS_EXR(-1)	-3.30747
	(0.33046)
	[-10.0086]
LNMCS_FD(-1)	0.554507
	(0.31218)
	[1.77624]
LNOPP(-1)	15.84337
	(3.61096)
	[4.38758]
LNSCER(-1)	-3.76757
	(0.57649)
	[-6.53531]
MCS_INR(-1)	0.057513
	(0.02194)
	[2.62163]
RGDPGR(-1)	-5.29504
	(0.83949)
	[-6.30742]
C	57.16989

Error Correction:	D(LNFDI)	D(LNGFCF)	D(LNMCS_EXR)	D(LNMCS_FD)	D(LNOPP)	D(LNSCER)	D(MCS_INR)	D(RGDPGR)
CointEq1	-0.58418	-0.09377	-0.03066	-0.24477	-0.00468	0.011413	0.434406	0.040637
	(0.23464)	(0.02201)	(0.03056)	(0.08384)	(0.00582)	(0.03657)	(1.83291)	(0.04045)
	[-2.48972]	[-4.25985]	[-1.00307]	[-2.91964]	[-0.80488]	[0.31209]	[0.23700]	[1.00472]
D(LNFDI(-1))	0.180055	0.007146	0.029600	0.201486	0.005169	0.054677	0.453584	0.032446
	(0.34771)	(0.03262)	(0.04529)	(0.12424)	(0.00862)	(0.05420)	(2.71621)	(0.05994)
	[0.51783]	[0.21905]	[0.65357]	[1.62178]	[0.59933]	[1.00888]	[0.16699]	[0.54133]
D(LNGFCF(-1))	-1.23143	-0.28962	0.062529	-1.03449	-0.00446	-0.18944	0.090563	0.193732
	(1.86558)	(0.17502)	(0.24299)	(0.66657)	(0.04627)	(0.29078)	(14.5733)	(0.32158)
	[-0.66008]	[-1.65478]	[0.25733]	[-1.55196]	[-0.09633]	[-0.65149]	[0.00621]	[0.60244]
D(LNMCS_EXR(-1))	-1.78648	-0.11392	0.166235	-1.22493	0.035227	0.008598	15.77580	0.096255
	(2.18772)	(0.20524)	(0.28495)	(0.78167)	(0.05426)	(0.34098)	(17.0897)	(0.37711)
	[-0.81659]	[-0.55508]	[0.58339]	[-1.56707]	[0.64920]	[0.02522]	[0.92312]	[0.25525]
D(LNMCS_FD(-1))	-0.89984	-0.18232	-0.07116	-0.3575	-0.02271	-0.13664	2.875525	-0.17404
	(0.83305)	(0.07815)	(0.10850)	(0.29765)	(0.02066)	(0.12984)	(6.50749)	(0.14360)
	[-1.08018]	[-2.33296]	[-0.65582]	[-1.20108]	[-1.09912]	[-1.05233]	[0.44188]	[-1.21203]
D(LNOPP(-1))	11.96830	2.375907	0.452092	2.611968	0.186296	1.417229	-177.237	-0.76324
	(10.6907)	(1.00293)	(1.39244)	(3.81975)	(0.26516)	(1.66628)	(83.5116)	(1.84280)
	[1.11951]	[2.36897]	[0.32468]	[0.68381]	[0.70258]	[0.85054]	[-2.12230]	[-0.41418]

D(LNSCER(-1))	0.906482	-0.25037	-0.03215	-0.41261	-0.00391	0.016314	10.55463	0.160772
	(1.17596)	(0.11032)	(0.15317)	(0.42017)	(0.02917)	(0.18329)	(9.18620)	(0.20271)
	[0.77084]	[-2.26942]	[-0.20991]	[-0.98201]	[-0.13405]	[0.08901]	[1.14897]	[0.79313]
D(MCS_INR(-1))	-0.04995	-0.00869	-0.00265	-0.0163	-0.00036	0.000208	-0.18744	-0.00331
	(0.03258)	(0.00306)	(0.00424)	(0.01164)	(0.00081)	(0.00508)	(0.25451)	(0.00562)
	[-1.53298]	[-2.84175]	[-0.62536]	[-1.40056]	[-0.44092]	[0.04093]	[-0.73648]	[-0.58975]
D(RGDPGR(-1))	-1.26236	-0.50982	-0.04633	-0.38334	-0.04078	0.047648	5.255956	-0.35027
	(1.32309)	(0.12412)	(0.17233)	(0.47274)	(0.03282)	(0.20622)	(10.3355)	(0.22807)
	[-0.95410]	[-4.10733]	[-0.26882]	[-0.81090]	[-1.24260]	[0.23105]	[0.50853]	[-1.53582]
C	0.240357	0.093137	0.037154	0.027377	-0.00034	-0.03672	0.259930	-0.02993
	(0.28454)	(0.02669)	(0.03706)	(0.10166)	(0.00706)	(0.04435)	(2.22270)	(0.04905)
	[0.84473]	[3.48915]	[1.00251]	[0.26929]	[-0.04759]	[-0.82802]	[0.11694]	[-0.61021]