

Addis Ababa University
School of Graduate Studies

The Determinants of Foreign Direct Investment
in Ethiopia: A Co-Integrated VAR Approach

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The Determinants of Foreign Direct Investment in Ethiopia: A co-Integrated VAR Approach

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Abstract

Developing countries around the world are competing to attract FDI in hope of its contribution to economic development. This increasing competition gives rise to interest in the performance of Ethiopia regarding FDI inflows, the measures being taken to increase these inflows as well as the current issues that deter the inflow. This paper gives an analysis of Foreign Direct Investment in Ethiopia by first observing the different policy reforms and by analyzing the sectorial and regional distribution of FDI as well as by looking at the different opportunities and challenges faced by foreigners interested in investing in the country. In addition, in this study different factors that determine the inflow of FDI to the country are analyzed. The study uses secondary data form 1980-2014 collected from various national and international sources. The results show that FDI in Ethiopia is significantly and positively affected by human capital, exchange rate, domestic investment and GDP. In addition it is shown that while exports have a positive and significant impact on FDI, and FDI has a positive impact on export as well. With these findings the study recommends that the government should concentrate on stimulating the above macroeconomic variables and creating a hospitable environment for investment so as to increase the inflow FDI and fuel the Ethiopian economy.

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DECLARATION

I hereby declare that this thesis is my own work and has never been presented in any other university or I have not plagiarized in the preparation of this assignment and have not allowed anyone to copy my work. All sources of materials used for this thesis has been appropriately Acknowledged.

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This is to certify that the thesis prepared by Liya Temeselew, entitled: The Determinants of FDI in Ethiopia: Co-integrated VAR Approach in Partial Fulfillment of the Requirement for the Degree of Masters of Science in Economics (**International Resource Economics**) is in line with regulations of the university and meets the accepted standards with respect to originality and quality.

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List of Acronyms

ADLI: Agricultural Development Led Industrialization

AIC: Akaike information criterion

EIC: Ethiopian Investment Commission

FDI: Foreign direct investment

GDP: Gross Domestic Product

HQIC: Hannan-Quinn information criterion

IMF: International Monetary Fund

LDC: Least Developed countries

MoFDE: Ministry of Finance and Development of Ethiopia

MNC: Multinational corporations

OECD: Organization for Economic Cooperation and Development

SBIC: Schwarz's Bayesian information criterion

SNNPR: Southern Nations, Nationalities and Peoples Region

SSA: Sub-Saharan Africa

TNC: Transnational corporations

UNCTAD: United Nations Conference on Trade and Development

VECM: Vector Error Correction Model

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Annex 1 Time series plots

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Chapter One: Introduction

1.1 Background of the study

The role of foreign direct investment (FDI) in driving economic growth and development has been an area of increasing interest since the early 1960's. It initially considered unhelpful, negative and bringing inappropriate technology to developing countries but it is now seen as beneficial and developing countries around the world are trying to provide a welcoming climate for investment (UNCTAD, 2006).

The volume of FDI has increased throughout the world due to the increasing speed of globalization. Especially since the early 1980's, FDI has been growing at a phenomenal rate and the world market for it has become more competitive.

Although Ethiopia is one of the poorest countries in the world with a large proportion of its population living under poverty line The International Monetary Fund (IMF) ranks Ethiopia as among the five fastest growing economies in the world. After a decade of continuous expansion with the real GDP growth average of 10.8% per annum, in 2014 the economy grew for its 11th consecutive year posting 10.3% growth. Although debt as a proportion of GDP rose from 21.6% in 2013 to 24.3% at the close of 2014, the country presents a low risk of debt distress. The country faces a challenge to rebuild its foreign exchange reserves, however, as these have fallen to less than two months' import cover (UNDP, 2015). In addition to this domestic saving rate in Ethiopia was on the lowest for the past several decades (Only 7.9% of GDP). Hence, the country needs additional source of capital in order to minimize the gap between saving and investment, which can come from foreign direct investment.

For countries like Ethiopia the motivations for hosting foreign direct investment are economic growth and development. By adding to domestic savings, foreign direct investment makes it possible to raise rates of capital accumulation in both physical and human resources. Many scholars widely believe that the benefits accrued from FDI include the acquisition of new technology, employment creation, human capital development, contribution to international trade integration, enhancing domestic investment, and increasing tax revenue generated by FDI (Jenkins and Thomas, 2002). Stable economic growth is highly determined by the rate of

investment, which in turn is mainly determined by the national savings level and as stated earlier national savings level of Ethiopia is quite low.

Due to this investment-saving gap the Ethiopian government has been trying to build various incentive packages ever since the country's liberalization. The government of Ethiopia is currently revising its 1960 commercial code in an effort to facilitate investment and ease of operations. Areas of focus include clarifying regulations for potential investors, standardizing appropriate accounting practices to more accurately assess tax and other operating liabilities, increasing protection for shareholders and provisions for bankruptcy filings as well as modernization of trade and registration processes. The revised Investment Code of 1996, as well as the Investment Proclamation provide incentives for development-related investments and have gradually removed most of the sectorial restrictions on investment.

However, Ethiopia's investment code prohibits foreign investment in banking, insurance, and financial services. The remaining state-owned sectors include telecommunications, power transmission and distribution, and postal services with the exception of courier services. Manufacturing of weapons and ammunition can only be undertaken as joint ventures with the government. Some of the reforms made to attract FDI include privatization of state owned enterprises, liberalization of trade policy, reduction of import tariff rates, elimination of non-tariff barriers, devaluation and deregulation of price and exchange rate controls (Remla, 2012).

Given the previously mentioned benefits of FDI it is important to explore the performance of FDI in Ethiopia and to study what factors attract FDI into the country.

1.2 Statement of the problem

It is widely known that there is a mutual interdependence among countries of the world. Particularly less developed countries tend to depend highly on developed countries for finance, technology, and technical work force while the developed countries depend on the less developed countries for their raw materials. Due to this interdependence among less developed countries and developed countries FDI throughout the world has been growing rapidly in the last few decades. Similarly the inflow of FDI in Ethiopia has been increasing over the last couple of decades. However data from World Bank indicates that the performance of Ethiopia in attracting FDI as compared to other sub-Saharan countries is very low.

Considering this performance of FDI in Ethiopia this paper aims to answer two questions. The first question is: what factors determine FDI in Ethiopia? This is an important issue that needs to be addressed in order to know the factors responsible for the poor performance of FDI in Ethiopia as well as the factors that are playing a role in attracting FDI so that it can be possible to make the appropriate policy reforms that will help enhance this performance.

The second question this paper addresses is: does FDI play a role in the country's export performance? This question needs to be answered because FDI is expected to contribute to increasing the country's competitiveness on international markets by increasing technological content of exports and gaining foreign currency, but despite the different policy reforms regarding both FDI and export, MoFED data indicates that Ethiopia's terms of trade remains negative and decreasing. Similarly it can be observed from World Trade Organization statistics database (2014) that Ethiopia's share in total world exports is still very low at 0.02%. Hence, the paper investigates the causality relationship between FDI and export in Ethiopia. The above mentioned policy reforms include liberalizing the foreign trade regime, decentralizing of political and economic power, devaluation of the national currency and deregulation of domestic price. In addition, the investment code has been amended several times in order to meet the demands of both domestic and foreign investors. These amendments include opening up of more sectors for foreign investment, tax exemption of exporting firms so as to encourage foreign investors to export.

The increasing demand for FDI has encouraged a large amount of empirical literature on FDI. Researches have recognized different variables that determine FDI in developing countries and particularly in Ethiopia. These variables vary significantly from study to study. Erdal and Mahmut (2008), on their study on developing countries, conclude that infrastructure and degree of trade openness have a positive and the most significant impact on attracting FDI inflows while inflation and tax rates present negative signs. Another study by Anyanwu (2011) on the determinants of FDI inflows to Africa finds that market size, high government consumption and natural resource endowment attract FDI inflows to Africa while financial development has a negative effect. There are also a number of studies conducted regarding determinants of FDI inflows in the case of Ethiopia. Getinet and Hirut (2006) analyze determinants of FDI in Ethiopia and find that growth of real GDP, export orientation and liberalization promote the inflow of FDI

while macroeconomic instability and poor infrastructure deter the FDI inflow to Ethiopia. A firm level investigation by Henok (2014) on the determinants and impediments of FDI in Ethiopia shows that domestic and regional market seeking, political and social stability and investment incentives were found to be the main determinants of FDI, whereas exchange rate volatility, corruption, and lack of clear policies and regulatory impediments were identified as the three main factors that have the potential to deter foreign investment in Ethiopia.

Taking into account the above lines of enquiry and observing the contradiction, this study explores both analytically and empirically the various determinants that currently affect FDI in the case of Ethiopia. Furthermore, like the above mentioned studies, most researches conducted seem to address the determinants of FDI concerning a group of countries (regional analyses) and those that are conducted regarding Ethiopia are very few. But considering the fact that determinants of FDI vary significantly across economies due to socio-economic and social conditions of a country, it is crucial to conduct country specific studies such as this paper. In addition, as opposed to the few studies that were conducted regarding the determinants of FDI Ethiopia this study uses a more recent and a larger data of thirty five years in order to make the analysis more accurate. The study also explores the different policy reforms that were made regarding FDI as well as exports and compares the performance of FDI before and after trade was liberalized by the residing government.

1.3 Objective of the study

General objective:

- To assess the main determinants of FDI in Ethiopia.

Specific objectives:

- To review the trend of FDI performance in Ethiopia throughout the years,
- To observe the factors that determine FDI inflows to Ethiopia,
- To assess the relationship between FDI and export in Ethiopia

1.4 Scope and limitation of the study

This study focuses on the determinants of FDI inflow to Ethiopia from 1980 to 2014. The impact of FDI on exports is also analyzed in this study.

The study is limited to the case of Ethiopia. Due to this the policies recommended at the end of the paper might not fit other developing countries.

1.5 Significance of the study

There are a number of researches undertaken regarding the determinants of FDI. However, there is still a debate concerning these factors due to the different results found from different regions of the world. Hence, this paper contributes to the debate by providing evidence from Ethiopia. In addition, as stated above most of these studies are regional and are not specific for individual economies. But, because countries differ with regards to their social, economic and political conditions and it is essential to conduct an investigation regarding a single country in order to observe precise relationships between the different variables. Furthermore this paper, by looking at the effects the different variables have on FDI, is presumed to benefit policy makers by suggesting appropriate policies that will work best in the conditions of the country according to the results.

1.6 Data source and Methodology

Data

The study is conducted using secondary data. Data for variables such as export, Gross Capital Formation (GCF), exchange rate and GDP was collected from Ministry of Finance and Economic Development (MoFED). Data regarding sectorial and regional distribution of FDI was be obtained from Ethiopian Investment Commission (EIC). Due to the lack of sufficient data on FDI before 1991 domestically, this data was obtained from United Nations Conference for Trade and Development (UNCTAD).

Methodology

This paper uses both qualitative and quantitative approach. Different tables and graphs are used to show the pattern of the variables and the general performance of the country. The co-integrated VAR approach is used to look at the effects of the variables on FDI and to observe causal relations between FDI and export.

Chapter Two: Literature review

2.1 Definitions of FDI

Foreign Direct investment can be defined as a category of cross-border investment made by a resident in one economy with the objective of establishing a lasting interest in an enterprise that is resident in an economy other than that of the direct investor. The motivation of the direct investor is a strategic long-term relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in the management of the direct investment enterprise. The lasting interest is evidenced when the direct investor owns at least 10% of the voting power of the direct investment enterprise (OECD, 2008).

The foreign direct investor could be an individual, a group of related individuals, an incorporated or unincorporated enterprise, a public or private enterprise, a group of related enterprises, a government body, an estate, trust or other societal organization.

According to the OECD benchmark definition of FDI the main financial instrument components of FDI are equity and debt instruments. Equity includes common and preferred shares, reserves, capital contributions and reinvestment of earnings. All cross-border positions and transactions in equity between FDI related enterprises are included in FDI. Dividends, distributed branch earnings, reinvested earnings and undistributed branch earnings are components of FDI income on equity.

The companies that make FDI are Multi-National Companies (MNE). They produce value added in more than one country and own this process. These companies may prefer to produce where the product will be marketed instead of producing in the home country and export it. If this preference is analyzed at country or the source of investment points of view instead of firm viewpoint, one encounters with the subject of FDI (Muratet al. 2005). In other words it is referred to as multi-national company on the micro level and FDI on the macro level.

2.2 History of FDI

According to Wilkins (1988) the initial era of the modern multinational enterprise was from 1870 to 1914. Flows of financial capital in the form of British portfolio investments still dominated but in 1914 international production and MNEs were firmly established as parts of the global economy. The United Kingdom was the most important source country of FDI, being responsible

for around 45 per cent of the global stock of FDI in 1914 while USA, France and Germany also were important direct investors (Dunning, 1983). Sweden had also emerged as an international investor by the turn of the century. Accordingly, almost all of the flows of FDI originated in industrialized economies whereas the industrializing economies generated large flows of FDI among themselves during the second half of the nineteenth century, as time passed an increasing share of FDI flowed to the non-industrialized economies.

The most important motive for FDI during this period was resource seeking through MNE employment of natural resources or agricultural production (Dunning, 1983). However, as argued by Wilkins (1988), the United States was the single most important host country for FDI in 1994 due to its large market, high tariffs and abundance of natural resources.

The First World War severed many of the interconnections in the global economy and destroyed large amounts of real capital including a substantial share of the European stock of FDI. However, during the inter-war period there was an increase in the global stock of FDI as well as an increase in the number of MNC subsidiaries. Still, the pre-war value of the global stock of FDI was not surpassed until the 1930s (Dunning, 1983).

In the mid-1940s several important institutions such as the IMF, the World Bank, GATT and the Bretton Woods system were created, resulting in a favorable economic environment where stable currencies helped to encourage international trade and production. The United States then replaced the United Kingdom as the most important source country of FDI.

In the 1960s a process had started where developing economies became less important as host countries for FDI. Whereas in 1938 close to two thirds of FDI flowed to the developing economies, in 1960 two thirds of global FDI flowed to the developed economies (Dunning et al., 1986).

After the end of the Second World War the volume of FDI flows as well as trade flows increased strongly. During the 1960's the primary sector became less important as a destination for international investment and the decreasing importance of the developing economies as host countries for FDI continued. Instead, FDI increasingly tended to flow between the developed economies with increasing diversity (Dunning (1979)). The first small outward flows of FDI from the developing economies also started to appear during the early 1970s.

Changes in the distribution of FDI inflows among host industries were also observed among host industries. There were also changes in the distribution of FDI inflows among host industries. As the significance of the primary sector declined, the manufacturing industry emerged as the dominant host industry for FDI inflows. The growing importance of production of services also affected the destination of FDI and in the middle of the 1970s the share of FDI going to the service sector started to increase relative to manufacturing. This development has continued during the 1980s and 1990s (Dicken, 2003).

In the second half of the 1980s growth in FDI took off, growing at an average annual rate of 28 per cent. These increases in flows of FDI and trade came hand in hand with a period of intensified globalization and a growing importance of MNEs, Dicken (2003).

2.3 Types of FDI

According to Protsenko (2003) FDI can be divided into two based on the reasons for firms to go multinational or the motives behind the investment. These reasons are either to serve a foreign market or to get lower cost inputs. Based on these reasons FDI is divided into: horizontal and vertical.

Horizontal FDI- refers to the foreign manufacturing of products and services roughly similar to those the firm produces in its home market where each plant serves the local market from the local production. This type of FDI is called horizontal because the multinational duplicates the same activities in different countries. This type of FDI is also known as market-seeking and the motive behind the investment is to serve the local and regional markets or to avoid transportation costs. Here market size and market growth of the host economy play important roles. The horizontal models predict that multinational activities can arise between similar countries.

Vertical FDI- refers to those multinationals that fragment production process geographically in order to exploit differences in relative factor costs. It is called vertical because MNE separates the production chain vertically by outsourcing some production stages abroad (Chrysochoidis, 1997). The modeling of this type of FDI is based on the idea, that different parts of the production process have different input requirements. Since the input prices vary across countries it becomes profitable to split production, conducting for example labor intensive

production stages in countries with low labor costs (Protsenko 2003). In contrast to horizontal FDI vertical or export-oriented FDI involves relocating parts of the production chain to the host country (Dunning, 1993).

In an attempt to combine the approaches of vertical and horizontal FDI, Markusen (1997) develops the Knowledge Capital model. It nests in one model factor costs and market access as the driving forces for vertical and horizontal FDI. Therefore both types of FDI can arise endogenously within a single model depending of the country's characteristics. It is called Knowledge Capital (KC) model because knowledge is geographically mobile and serves as a joint input to multiple production plants, independent of the type of FDI. The type of FDI prevailing in Ethiopia will be visible through the factors that attract FDI into the country in the first place. This issue will be observed in this study.

2.4 Benefits and costs of FDI

In order to formulate sound policies it is important to understand the benefits and costs of FDI. There are contradicting views regarding the use of FDI to the host country. Although FDI is usually considered a desirable capital inflow there are opposing views regarding the use of FDI. On the one hand, it is argued that FDI has a positive role in the development of countries on the other it is said that the cost of FDI outweighs its benefits.

Pro-FDI views argue that foreign investments directly add to the host countries' capital stock. According to OECD (2005) FDI triggers technology spillovers, assists human capital formation, contributes to international trade integration, helps created a more competitive business environment and enhances development.

Anti-FDI views allege many evils caused by FDI. Some of these arguments are for the home country- they depress wages and employment at home by moving production abroad (Lipsey, 2004). And others are for the host country- they depress wages by exploiting helpless workers in developing countries, they stifle the country's growth by displacing local firms and obstructing their technological progress (Johnson, 2005).

There is also the risk that foreign-owned enterprises could use FDI to export production no longer approved in their home countries. In this case, and especially where host-country

authorities are keen to attract FDI, there would be a risk of a lowering or a freezing of regulatory standards. In fact, there is little empirical evidence to support the risk scenario (OECD, 2005)

Overall, the costs are best mitigated when appropriate practices are pursued toward flexibility, coupled with macroeconomic stability and the implementation of adequate legal and regulatory frameworks. While the responsibility for this lies largely with host-country authorities, home countries, MNEs and international forums also have important roles to play.

2.5 Theories on determinants of FDI

Due to its growing effect of FDI on host and home countries it has started to be vastly analyzed throughout the years and multiple theories have been raised.

Some of these theories are from the point of view of the firms (MNCs) while others are from the host country's point of view (FDIs). The former try to provide answer the questions why multinational companies prefer opening subsidiaries in foreign countries rather than exporting or licensing their products, how MNCs choose their investment locations and why they invest where they do. While the latter deal with the host countries situations that determine the inflow of FDI.

2.5.1 Theories of MNCs

According to Murat et.al (2005) the most significant theories on MNCs are the location and internationalization theories.

Location Theory- states that the location of the production is determined by the resources. The determining factors of the location choice are the cost of transportation and trade barriers. If the transportation cost is high then the production is located in the country or region where the product will be marketed. Another reason of such relocation is the high tariff rates that the host country applies.

Internationalization theory- claims that the reason why production is done by only one company instead of many in various locations is that it is more profitable to produce with one company. For instance, it is difficult for a potential buyer to appraise the actual value of

knowledge. Besides knowledge cannot be packed and sold. The intellectual property rights are also difficult to secure. Therefore for a MNC the establishment of a new enterprise in a foreign country is more profitable than the sale of technology to another company. In addition a dispute may exist between the two companies if the price of input used in the first company and produced by the second company is tried to be lowered and increased by the first and second respectively. Hence, this problem can be avoided by investing in another location.

In addition to the above Muran et al. (2005) states that main stream of the FDI theories with imperfect competition encompasses product life cycle theory, internationalization theory and eclectic paradigm. Although product life cycle theory is sometimes considered as a micro-level determinant (determinant of MNC) the ideas that lie behind the theory described in many studies is similar.

The Product Life Cycle Theory - First developed by Vernon in 1966. He argued that FDI was the reaction to the threat of losing markets as products matured as well as the need for cheaper factor costs in the face of competition (Latorre, 2008). This theory provides an explanation of how factors such as the availability of larger and cheaper capital, superior management, discovery of new processes, product differentiations etc. interact over time to determine production, export and foreign investment patterns of oligopolistic enterprises (Lall, 1976).

In other words increased production affects the choice of production location (Latorre, 2008). As the product standardizes the production also standardize and the need for elasticity decreases while the cost of production becomes important. Increased importance of cost connotes the question of whether to move the production into low-cost locations or not. This choice is done through the comparison of the costs in the host country and home country together with the transportation cost to the host country (Murat et.al, 2005). Consequently production shifts from the high-cost home country to the relatively low-cost developing country.

Therefore, FDI is the stage in the product lifecycle that follows the maturity stage (Dunning, 1993). Vernon's product life cycle theory is a dynamic theory because it deals with changes overtime. However, the theory is not confirmed by empirical evidence, as some multinational companies start their operations at home and abroad simultaneously (Chen, 1983). According to

Shenkar (2007) this could be because Vernon's theory is more relevant to manufacturers' initial entries into foreign markets than to MNEs that have FDI already in place.

Internalization Theory- Initially, the theory was launched by Coase in 1937 in a national context and Hymer in 1976 in an international context. Hymer identified two major determinants of FDI. One was the removal of competition. The other was the advantages which some firms possess in a particular activity (Hymer, 1976). Similarly Buckley and Casson (1976) state that according to the theory, firms maximize their profits in an imperfect competition environment. They state that one of the reasons of internalization is market imperfection.

Mostly, technologies or knowhow can be sold and licensed. However, sometimes, there are technologies that are not possible to write or sale to other parties. This difficulty of marketing and pricing know how forces multinational companies to open a subsidiary in a foreign country instead of selling the technology (Solomon, 2008).

Therefore, the firm tends to produce an internal market through investment in multiple countries and thus creates the needed market to achieve its objective. In other words, there are transactions that should be "internalized" to reduce transaction costs and hence increase profitability. This theory explains why production is carried out by the same firm in different locations (Shenkar,2007). Shankar also states that the major advantages of internalization include: lower search and negotiating costs, avoid costs of moral hazard, avoid costs of violated contracts and ensuing litigation, to capture economies of interdependent activities, to avoid government intervention etc.

The Eclectic Theory- also known as the OLI paradigm was developed by John Dunning in 1973. This paradigm, which is used to develop the model in this study, includes three variables O, L and I which refer to ownership advantage, location advantage and internalization conditions, respectively.

It stands at the intersection of a macroeconomic theory of international trade (L) and a microeconomic theory of the firm (O and I). The essential feature in the eclectic theory is that all three types of conditions must be satisfied before FDI occurs (Nayak et.al, 2014).

Operating a business in a foreign country market has many costs. These may include a failure of knowledge about local market conditions, cultural, legal and many other costs. Therefore, foreign firms should have some advantages that can offset these costs. Ownership advantage is a firm specific advantage that gives power to firms over their competitors. This includes advantage in technology, in management techniques, easy access to finance, economies of scale and capacity to coordinate activities. Unlike ownership advantages, location advantages are country specific advantages. Transnational Companies in order to fully reap the benefit of firm specific advantages they should consider the location advantage of the host country. This includes accessibility and low cost of natural resource, adequate infrastructure, political and macroeconomic stability. As a consequence, the location advantage of the host country is one essential factor that determines the investment decision of TNCs. Internalization is multinational companies' ability to internalize some activities to protect their exclusive right on tangible and intangible assets, and defend their competitive advantage from rival firms Accordingly, all the three conditions must be met before transnational companies open a subsidiary in a foreign country Soderstein (1992).

The theory has the most extensive scope among FDI theories. Dunning has created the theory by combining many former studies (eclectic).

Although the theory is much broader than the others, it is also criticized. First criticism is the decreased significance of the variables as they are immense. The variables are correlated with others. Another criticism is that the theory is static and cannot explain the paths and processes of firms in the internalization process. Some blame the theory as entirely micro economic and even claim that it has no difference with the theory of internalization (Murat et al., 2005).

Overall, the eclectic paradigm provides a more comprehensive view explaining FDI than do the product life-cycle theory, the monopolistic advantage theory, or the internalization theory because it combines and integrates country specific, ownership-specific, and internalization factors in articulating the logic and benefits of international production (Shenkar, 2007).

Other theories include:

The Early Neoclassical and Portfolio Investment Approaches- state that interest rate differentials are the main reason for the firms to become a multinational company. In this line of arguments, capital moves from a country where return on capital is low to a place where return

on capital is high. This approach is based on perfect competition and capital movement free of risk assumptions (Harrison et al, 2000).

Monopolization theory- suggests that the MNC possesses monopolistic advantages, enabling it to operate subsidiaries abroad more profitably than local competing firms can. Monopolistic advantage is the benefit accrued to a firm that maintains a monopolistic power in the market. Such advantages are specific to the investing firm rather than to the location of its production. According to this theory, monopolistic advantages come from two sources: superior knowledge and economies of scale (Shenkar, 2007).

2.6 Host country determinants of FDI

Many theories have been suggested to explain the possible determinants of FDI in the host country. But due to lack of accepted theoretical framework researchers are led to rely on empirical evidence for explaining the emergence of FDI.

According to Dunning (1993) FDI takes place when three sets of determining factors exist simultaneously: the presence of locational advantages in a host country, and the presence of superior commercial benefits in and intra-firm as against an arm's-length relationship between investor and recipient.

According to this study the ownership-specific advantages of a firm can compensate for the additional cost of establishing production facilities in a foreign environment and can overcome the firm's disadvantages through local firms. Locational advantages of host countries are characters of the host country such as large markets or lower costs of resources or superior infrastructure. In the case of Ethiopia the low labor costs, high population and increasing infrastructure development could be some of the advantages gained by foreign investors. Finally, by exploiting both the above advantages the firm finds greater benefits by internalization or through FDI rather than arm's-length transaction.

UNCTAD (1998) states that the determinants of FDI in the host country can be divided into three categories: Policy factors, business facilitation measures and economic determinants.

The economic determinants listed by this paper are similar to the ones stated by Dunning (1993). The study states that the most important host country determinant of FDI has been the availability of natural resources for a long time. But recently there has been a decline in the importance of natural resources as an FDI determinant.

The role of national policies especially the liberalization of policies is a key factor in globalization and its role in affecting FDI is not negligible. The study states that policy factors that determine FDI may include economic, political and social stability, rules regarding entry and operations, standards of treatment of foreign affiliates, policies on functioning and structure of markets, international agreements on FDI privatization policy, trade policy and tax policy.

Business facilitation measures play a role in attracting FDI because as the world economy becomes more open to international business transactions, countries compete increasingly for FDI not only by improving their policy and economic determinants but also by implementing pro-active facilitation measures that go beyond policy liberalization. Under this category UNCTAD (1998) lists: investment promotion, investment incentives, hassle cost, social amenities and after-investment services as factors that determine FDI. The ease of doing business in Ethiopia is discussed in detail in chapter three of the study.

2.1 Foreign direct investment and export

Economic theory does not identify a clear cut relationship between FDI and trade. In other words the relationship between FDI and trade from the theoretical point of view is quite ambiguous. The traditional view (Mundell, 1957) stated, in the context of the (two-good, two-factor, two-country) Heckscher-Ohlin trade model, that goods movements and factor movements were substitutes. Factor mobility induced by differences in factor prices between countries would eliminate price differentials in both goods and factor markets, so removing the basis for trade.

Therefore, Mundell concludes that capital mobility driven by FDI constitutes a perfect substitute for exports. Although Zenegnaw (2010) suggests that complementarity or substitution of FDI and trade depends on whether the trade is based on comparative advantage or absolute advantage. If trade between two economies is based on their comparative advantages then FDI and trade can be complementary. However, if the trade between the two countries is based on their absolute advantages, there may be substitution between trade and investment, as businesses

decide to supply products and services through exports or FDI. The degree of complementarity between trade and investment therefore remains an empirical question.

Helpman et al. (2003) show that whether the relationship is complementary or subsidiary that it is an issue that depends on the type of FDI. As stated earlier in the review FDI could be of two different types: horizontal or vertical. The models of horizontal FDI denote the predominant negative impact on exports and establish, therefore, a relationship of substitution. In the case of vertical FDI, there are complementarities between the trade flows of final goods from foreign affiliates to parent firms and intra-firm transfers of intermediate goods from parent firms to foreign affiliates. In general, the model suggests that vertical FDI is likely to occur between developed and developing countries.

Additionally, other theories, as for instance the earlier stated theory of internalization suggest that FDI substitute for exports as the OLI- conditions are supported and there are sufficient costs for external transactions such as exporting and licensing. Furthermore, Brainard (1993) states that the proximity-concentration trade off, which was determined by the firm's fixed costs, transportation costs, and trade barriers, is the explanation for the substitutive link between FDI and trade.

In addition to these varying views studies attempt to combine both horizontal and vertical motives for FDI and their implications on the relationship between FDI and trade. Carr et al. (1998) using knowledge-capital models predict several combinations of vertical and horizontal FDI and imply that horizontal FDI is more prevalent in countries with similar factor endowment and with high trade costs. In addition, vertical FDI arises within countries that differ substantially in terms of factor endowments and when trade costs are low. Trade and FDI between developed countries, therefore, could be regarded as substitutes while FDI and trade between developed and developing countries are likely to be complements. Hence it can be seen that economic theory does not provide an unambiguous relationship between FDI and export.

2.2 Empirical studies

There have been a number of empirical studies conducted regarding the determinants of FDI in a group of countries. A large portion of these studies is undertaken in less developed countries. The results of these studies vary with methodology, data, as well as variables used.

Study by Ryan (2005) investigates some of the economic, political and geographic variables that may explain the pattern of FDI growth in Africa using panel data from 22 SSA countries. He employs three separate regression processes, of these three regressions analyses. Using such indicators as lag of FDI, GDP, total trade, population, inflation, a political rights index, production of oil, and an infrastructure proxy, his findings suggest that GDP, trade, lag of FDI and crude oil production are statistically important in explaining FDI inflows to the host country. The significance of a one-year lag of FDI indicates the persistence of the level of FDI inflows received by a country. The findings of this paper emphasize that FDI is not the cure for Africa. However, with long-term investments from multinational corporations, FDI offers Ad Avenue to access capital where access is limited transfer of skills such as trade specific and managerial skills as well as transfers of technology.

Anyanwu (2007) finds that market size, openness to trade; high government consumption expenditure, international remittances, agglomeration, and natural resource endowment attract FDI inflows while higher financial development has negative effect on FDI inflows.

Other studies conducted on broader level such as Mottaleb et.al (2013), in their study on the determinants of FDI in developing countries, try find out the influential factors that determine the FDI inflow to the low income and lower middle income countries and Asian and African and Latin American countries by first examining the simple correlation coefficient between FDI inflow and the seemingly influential variables and second they compare the characteristics between lower middle income countries and low income countries and Asian and African and Latin American countries. Their findings show that that most of lower middle income countries and Asian countries, besides their large domes market, highly linked with the global market through international trade and offer more business friendly environment to the investors. in the estimated empirical model it is also found that besides GDP size and its growth rate, linkage with the global market through international trade, relationship with the major donor countries in the form of foreign aid and business friendly environment measured by the days required to start a business are the most important and significant factors in determining FDI inflow to the developing countries. The paper concludes that small developing countries across the globe can attract substantial amount of FDI just by adopting more outward oriented trade policy and by providing more business friendly environment to the foreign investors.

A report on trends and determinants of FDI in South Asia (2013) presents control of corruption, lower taxes, reduced trade protection, and greater investment openness as key contributors to FDI growth. The study concludes that for South Asia, the potential for faster growth in intra- and inter-regional FDI flows is significant. The key factors leading to this conclusion are South Asia's low levels of FDI, the many unexploited opportunities for embodied knowledge transfer, and supply-chain linkages. Liberalizing policy constraints in both trade and foreign investment, keeping corporate tax rates competitive and low, and improving governance and transparency could help to substantially improve FDI flows.

In addition to the above mentioned studies multiple researches have also been conducted regarding individual countries. M.M Kinuthia (2012) in his thesis studies the relationship between capital flows and FDI in Kenya. The study establishes the primary factors responsible for affecting capital flow in Kenya and the relative influence of these factors to FDI. The management of GDP is reported to have a positive and significant impact on FDI. Openness and size of the domestic market though to a large extent as witnessed by the size of their respective coefficients, played a positive role while real interest rates and inflation have a negative role in attracting FDI. A study with a similar objective conducted in Malaysia by Wong (2005) investigates the long-run relationship between FDI and its location-related determinants in the country's manufacturing industry. The results of the Johansen co-integration method show that there is one co-integrating vector in each of the estimated models. Moreover, the results of the Phillips and Hansen fully-modified least squares estimator show that an increase in education, infrastructure, market size or current account balances leads to an increase in FDI whereas an increase in inflation or exchange rate leads to a decrease. This study concludes that human capital is a critical factor in attracting FDI in a liberalized and globalized world economy.

Juan (2009) analyzes determinants of FDI in Vietnam since the year of open policy implementation. In this paper a model is constructed that draws on a body of theories to test the influence of each characteristic on FDI inflow at the national level. Market size, bilateral trade, export and import were found to have positive impact on FDI inflows. Exchange rate is also significant determinant adjusting gradually to changing market conditions, which is keeping devalued for more export. Unlike the above mentioned study in Kenya here Infrastructure was found to be only partially significant.

2.2.1 Determinants of FDI in Ethiopia

There have been a number of researches done regarding FDI in Ethiopia with different objectives and various ways of achieving them. A study by Solomon (2008) on the determinants of FDI in Ethiopia aims to study the key factors that determine the inflow of FDI into the country. The study concludes that natural resource and petroleum-rich countries attract sizeable FDI regardless of their political and economic environment. He also concludes that in order of Ethiopia to attract a sizable amount of FDI a certain minimum level of development is necessary.

Similarly Atlaw et al. (2011) study the reason behind boost in FDI and the factors that contribute for the growth of FDI in the country as well as the roles of the government in the achievement. The study concludes that the most important factors are the presence of high economic growth in the past few years and the potential of low cost skilled man power. The study attributes the increase in FDI inflows to the stable political environment, natural resource endowment as well as domestic market and infrastructural development of the country.

The above studies, while they give a good explanation of FDI determinants in Ethiopia as well as other African countries, lack a through empirical investigation of the variables of interest.

A study by Miteku (2013) on FDI and the Ethiopian economy he includes three basic channels through which FDI in Ethiopia and through which it can affect the Ethiopian economy. These channels include GDP, human capital development and domestic investment. Using an Autoregressive distributed lag Model he finds that trade liberalization economic growth infrastructure and political stability affect FDI favorably. On the other hand he concludes that human capital macroeconomic instability and market size are unfavorable to attract FDI.

Amanuel (2015) empirically investigates the factors affecting FDI in Ethiopia using data of 21 years. Using multiple regression models the study finds that trade openness and inflation rate are the only variables that show a significant impact on FDI and no clear relationship was obtained from market size, infrastructure and human capital. The strong conclusions and policy implications of both of these papers contribute a great addition to existing literature. That being said the study uses data of only twenty periods and due to this the analysis does not include the performance of FDI before the power transition of 1991. A study by Getinet et al. (2005) on the determinants of FDI in Ethiopia investigates the nature and determinants of FDI in Ethiopia over

the period of 26 years and finds that in the short run GDP export orientation and liberalization are the main factors that show a positive and significant impact on FDI. Similarly Asmelash (2015) studies the performance of FDI in Ethiopia using co-integrated VAR approach and finds in addition the above factors domestic investment and inflation have negative effect on FDI, while human capital and openness are not significant in attracting FDI.

In addition to the determinants of FDI the contribution of FDI to exports of a country has also received relevant attention throughout the years. Jayakumar et.al (2014) studies the link between FDI Exports and Imports in India. The study provides adequate and statistically significant evidence of positive linkage between FDI and exports. International trade is found to be complementary to FDI inflows. FDI inflows are observed to have feedback effects with exports of the trading partners and of the other trading partners. Similar linkages between FDI inflows to the trading partners and the other trading partners are also revealed. FDI induced by trade expansion will also improve social welfare. The study suggests that it is important for both the public and private sectors to realize the complementarity between trade and investment, and respond accordingly.

Zhang (2005) this study attempts to empirically investigate the issue by using the Chinese industrial data. The estimates indicate that FDI indeed has a positive impact on China's export boom, its effects are much larger than those of domestic capital, and its effects are larger in labor-intensive industries, as one might anticipate.

China's success in promoting exports through FDI reported here might be somewhat special due to its unique advantage over other developing countries in bargaining with multinational corporations. While FDI has potentials in helping host countries' exports, the benefits do not accrue automatically or evenly across countries. National policies and host government bargaining power relative to multinational corporations matter for attracting export oriented FDI and for reaping its full benefits for exports. China's unique advantages in large country-size, strong centralized government, large amount of rich overseas Chinese who set up most of the export-oriented affiliates, and well-designed FDI strategy, have provided it with negotiating power to minimize the adverse effects and realize positive effects of FDI.

As it can be observed above different empirical researches have come up with conclusions on the relationship of FDI and foreign trade. These studies have been conducted on other countries and

blocks of countries in this regard. To the best knowledge of the author, there are few studies conducted regarding FDI-trade nexus in the case of Ethiopia. For instance, Kiros (2012) finds that FDI has no statistically significant effect on exports of Ethiopia. Another paper on the determinants of export in Ethiopia by Sisay (2010) finds that FDI inflows to Ethiopia have a positive but insignificant effect on the country's export. This paper concludes that Ethiopia must try to attract FDI despite its insignificant value not only to improve its exports, but also to bring in foreign exchange, capital and technology.

To sum up, there have been various studies conducted regarding the determinants of FDI using different methodologies. However there is no specific conclusion or agreement as to the specific factors that affect FDI. This may be because of the difference in variables taken in to account during the analysis and because of the difference economic, institutional and technological conditions in the recipient countries. Since the FDI and export are country specific and since there a limited amount of studies conducted in the case of Ethiopia the author finds it crucial to conduct this study. In addition, as opposed to the few studies that were conducted regarding the determinants of FDI Ethiopia this study uses a more recent and a larger data of thirty five years in order to make the analysis more accurate. The study also explores the different policy reforms that were made regarding FDI as well as exports and compares the performance of FDI before and after trade was liberalized by the residing government.

Chapter three: FDI in Ethiopia

3.1 The Ethiopian Economy

Ethiopia is the second most populous country in Africa with a total population of over 90million in 2015. The International Monetary Fund (IMF) ranks Ethiopia among the five fastest growing economies in the world with a growth rate of 10.3% in 2014. This rate after a decade of continuous expansion (during which real GDP growth averaged 10.8% per annum), is said to be very encouraging for the future years. Furthermore poverty rate declined from 38.7% in 2004/05 to 26% in 2013/14. Although agriculture sector accounts for the highest portion of the population (85%) in terms of employment, other sectors are also showing an increasing trend and over 1.4 million Ethiopians are ready to join the labor force every year.

Although debt as a proportion of GDP rose from 21.6% in 2013 to 24.3% at the close of 2014, the country presents a low risk of debt distress. Regardless, the country faces a challenge to rebuild its foreign exchange reserves (AfDB, 2015). Over the past decade, the public-sector led development strategy with its focus on heavy investment in infrastructure has underpinned the country's strong economic growth. This high rate of growth has been inclusive, spanning different economic sectors and benefiting both urban and rural communities. Growth has been inclusive and widespread and a large number of new jobs have been created in both the public and private sectors, particularly through a boom in construction (covering infrastructure, housing and commercial developments). Inflation, which has historically been high and volatile, has been contained to single digits since the end of 2013, due to a combination of moderate international food prices and reduced central bank financing of the budget deficit as well as other complementary policy measures. The strategy of transitioning towards export-led growth has had limited results with exports rising by just 5.6% in 2014, as declining commodity prices have penalized exports of coffee and gold. Together with oil seeds, these still accounted for 56% of goods exports in 2013/14. Over the same period, imports increased by 20% driven by capital goods, a development which caused the current account deficit widened to 8.6% of GDP from 6.0% in 2013. Prospects for export diversification are positive, helped by a slightly improving environment for foreign direct investments (FDI) and potential electricity exports.

Ethiopia’s trading across borders, trade diversification and trade freedom indices are among the lowest in sub-Saharan Africa.

According to the Global Competitiveness Report (2015) the most problematic factors for doing business in Ethiopia are inefficient government bureaucracy (14.1% of respondents), foreign currency regulation (13.8%), and access to financing (12.5%), corruption (12.4%), and inadequate supply of infrastructure (7.6%).

3.2 Doing Business in Ethiopia

The World Bank looks at how far the world has come regarding doing business by ranking 189 countries throughout the world using different indexes to view their performance and compare each country’s performance with the rest of the world. According to World Bank (2016) over the last 10 years 180 economies implemented close to 2000 business regulatory reforms as measured by doing business. Eastern Europe and Central Asia improved the most, overtaking East Asia and the Pacific as the world’s second most business-friendly region.

Quality and efficiency of business regulatory practices have been slowly converging as economies with initially poor performance narrow the gap with better performers. Among the 50 economies with the biggest improvements since 2005, the largest share—a third— are in Sub-Saharan Africa. In other words But lower-income economies have improved more in the areas measured by Doing Business than high-income economies have—there is convergence.

Table 3.1: Doing Business in Ethiopia

Category	2008	2010	2012	2014	2016
Ease of Doing business	102	107	111	125	146
Starting business	106	93	99	166	176
Dealing with construction permits	58	60	56	55	73
Getting electricity		-	93	91	129
Registering property	147	110	113	113	141
Getting credit	97	127	150	109	28
Trading across borders	150	152	157	166	24
Enforcing contracts	77	57	57	44	11

Source: World Bank 2008-2016

The figures in Table 3.1 state that the categories that Ethiopia has been showing progress in the year 2016 are its ranking in terms of getting credit, trading across borders and enforcing contracts. These improvements could be a lagged response of some of the reforms made in the country in order to encourage investors.

One of these reinforcements is incentives given to all exporters' investors who invest to produce export products allowing them to import machinery and equipment necessary for their investment projects through supplier's credit. In addition to this the assistance of EIC with the facilitation of negotiations and contracts could also be one reason for the progress in these areas. The reason for ease of trading across boarders in Ethiopia could be a result of the many incentives given to investors of the country regarding export and import. Some of these incentives include: 100% exemption from the payment of customs duties and other taxes levied on imports 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.

Despite the multiple reforms and improvements made to the investment policy in Ethiopia it can be seen from the first row of the table that the overall ease of doing business in Ethiopia has been decreasing in the past years. The low ranking of the country could be explained by the high level of competitiveness of countries around the world. Due to this increasing competitiveness the reforms made by the country are dwarfed by the achievements of other countries. This indicates that further effort is necessary in order to keep up with competing countries and create a favorable environment for investment in the country.

For instance, in addition to the mentioned indicators, the World Bank (2016) states that only a third of low-income economies conduct public consultations on proposed regulations, and they typically use less technologically advanced methods to do so. Ethiopia is one of these countries where policy makers hold public meetings to discuss proposed regulatory changes. On the other hand Kenya and Vietnam have recently started using technologically advanced methods to propose regulation. This is one example that Ethiopia needs to speed up the process of nurturing Ethiopia's business environment by taking lessons from competing countries.

3.3 FDI policy in Ethiopia

The climate for foreign investors has been shown progress ever since the power transition from the former socialist and military government to the current democratic government in 1992. The residing government has made changes to the existing policies in 1992 and has been continually making consecutive amendments from 1992 to 2015 on the investment policy in general and the foreign investment policy in particular. Throughout the years the first investment proclamation has been amended five times. These amendments were made in 1996,1998,2002,2012 and 2014.

The first investment proclamation (No. 15/1992) was introduced to the country with its main objective being the establishment of the Ethiopian Investment office. Investment incentives were restricted to a few sectorial categories mainly agriculture and manufacturing, foreign investors were obliged to deposit USD 125,000 in a blocked account. The second investment proclamation (No.37/1996) constitutes more sectors in the incentive scheme in addition to the agriculture and manufacturing sectors mentioned in the previous proclamation such as: health, education, tourism, consultancy services. In addition the above mentioned USD 125,000 necessary deposit for foreign investors was removed in this proclamation. In the third proclamation (No. 116/1998) the term domestic investor was redefined to include foreign nationals who are Ethiopian by birth. In addition investment in defense and telecommunications was allowed for private-government joint investments and hydro-electric power generation became open to domestic and foreign investors. The fourth investment proclamation (No.280/2002) amended the previous proclamation by decreasing the minimum investment capital required for foreign investors from 500,000 USD to 100,000 for wholly foreign investors. In addition minimum investment capital requirements were avoided for foreign investors re-investing in their profits or exerting at least 75% of their output, foreign investors were allowed the right to own a dwelling house and other immovable property required for their investment, allowing investors to employ duty qualified expatriate experts required for the operation of their business. The fifth investment proclamation (No769/2012) introduced the provision for establishment of industrial zone with favorable investment tax and infrastructure incentives. According to this proclamation in order for the industrial sector to have a leading role in the economy of the country the federal government shall establish industrial development zones in regions.

The last amendment made to the investment proclamation was in July, 2014 (Proclamation No.849/2014). This amendment was regarding the restructuring of the Ethiopian Investment Agency to Ethiopian Investment Commission (EIC). The EIC is to be headed by the commissioner who is a member of the investment board which is chaired by the prime minister of the country. The EIC provides a number of services to the country, one of the main services being: promoting the country's investment opportunities and conditions to foreign and domestic investors, registering technology transfer agreements and export-oriented non-equality based foreign enterprise collaborations with domestic investors, negotiating and up on government approval, signing by lateral investment promotion and protection treaties with other countries and advising the government on policy measures needed to create and attractive investment climate for investors. In addition to this the EIC also provides services on behalf of investor's request to facilitate the acquisition of land and utilities and to process loan and residence permit applications.

3.4 Opportunities and challenges of FDI in Ethiopia

According to a recent Enterprise Survey for Ethiopia by the World Bank as well as the EIC unpublished study on foreign investment recruitment and expansion (2015) there are a number of challenges faced by FDI firms in the country. Some of the opportunities that Ethiopia offers to foreigners are listed as follows

Suitable climate

Ethiopia is the 27th largest country in the world by land size and given its diverse topography and geographical location, it is suitable for the production of some of the world's most coveted food crops - cereals, pulses, oil seeds, a wide range of fruits and vegetables, coffee, tobacco, sugar cane, tea and spices, among others. Much of Ethiopia has a surprisingly temperate climate by African standards due to its elevation. Ethiopia has an elevated central plateau varying in height from 2,000 to 3,000 meters above sea level. Thanks to its fertile soils, Ethiopia is the world's 6th largest producer of coffee, and the 3rd largest producer of Arabica beans in the world. Ethiopia has also become the 4th largest non-EU exporter to the EU cut-flower market and the 2nd largest flower exporter from Africa. In additions to this considerable opportunities exist for investing in the livestock sector. Considering that the livestock population in Ethiopia is

first in Africa and tenth in the world. This sub-sector is known to have a lot of untapped resources and high potential for growth.

Strong Guarantees and Protection

Private property is protected by the Constitution and the investment law. A foreign investor has the right to make remittances out of Ethiopia in convertible foreign currency at the prevailing rate of exchange. Furthermore, Ethiopia is a member of the Multilateral Investment Guarantee Agency (MIGA), a World Bank affiliate which issues guarantee against non-commercial risks in signatory countries, and of the World Intellectual Property Organization (WIPO).

Ethiopia has concluded 30 bilateral investment promotion and protection agreements, of which 11 are with individual European Union Member States. Significant other partners include China, India, South Africa, and Russia, and a number of regional economic partners (Israel, Egypt, and Sudan, among others).

Abundant and affordable labor

Ethiopia's labor law, which regulates worker-employer relations, is in line with international conventions. With over 43 million workers, Ethiopia has the second largest labor force in Africa (World Bank, 2014). Ethiopia's minimum wage is among the lowest in Africa, with only 5 countries - Burundi, Uganda, Egypt, Gambia and Malawi - having lower minimum wages (ILO, 2010/11). Generally, private sector monthly salaries for university graduates range from USD 150 to USD 200, while construction sector monthly wages range from USD 60 for daily laborers to USD 300 for a foreman.

In addition to the above opportunities the Ethiopian government has recognized the importance of FDI in bringing foreign currency into the country and hence offers the multiple inducements to encourage FDI. A major inducement is that foreign investors are fully exempted from customs duties and import tariffs on all capital equipment and up to 15 percent on spare parts; from export taxes. Meanwhile, income tax holidays are given varying from one to five years taxes are deductible from research and development expenditures and remittances of capital are tax exempt. Foreign investors can carry forward initial operating losses and can use any depreciation method in their financial statements. Investment guarantees for FDI include full repatriation of capital and profits. Investment in the export sector have exemption from income taxes if at least

50% of the output is exported or at least 75% of the output is sold as inputs to an exporter for a period of 5 years. Under special circumstances, the period could be as long as 7 years. Similarly, investments in some areas are eligible for duty free imports for capital goods. In addition, losses can be carried over.

Despite these opportunities, Ethiopia faces various challenges that could serve as deterrents to foreign investors in the country

Access to Land

Foreign investors face a big problem regarding the provision of land where they can build a manufacturing industry, commercial farm after they have processed their investment licenses.

In addition to the lack of a single institution where all cases regarding the provision of land can be handled, bureaucracy and corruption are also deterrents for the ease of completion of this process. The government seems to be unable to provide the necessary land to foreign investor due to the problems of unpaid compensation fees to previous owners of the land.

Access to Finance

Shortage of capital hinders the ability of some industries to enhance quality and productivity by acquiring new techniques. The unsatisfactory credit provision and backward service rendering hinders the productivity of the firms.

Infrastructure obstacles, especially electricity mostly refer to the long wait sometimes to actually be connected to the desired services. These include Telecom problems, water problems and road problems

Customs Clearance

Customs and trade regulations are another big constraint for Ethiopian business, especially those frequently engaging in international trade. The World Bank doing business report states that custom clearance time in Ethiopia is about twice as long as the custom clearance time in SSA.

3.5 FDI inflow to Ethiopia

FDI has been an area of interest in Ethiopia for a long time but it has received increasing attention since 1991. In the pre-1991 period, on the other hand, environment was not encouraging for private investment in general and FDI in particular. Political instability,

insecurity, and the nationalization of major industries made the environment unattractive for private investment. As a result there were no foreign direct investment inflows during that time

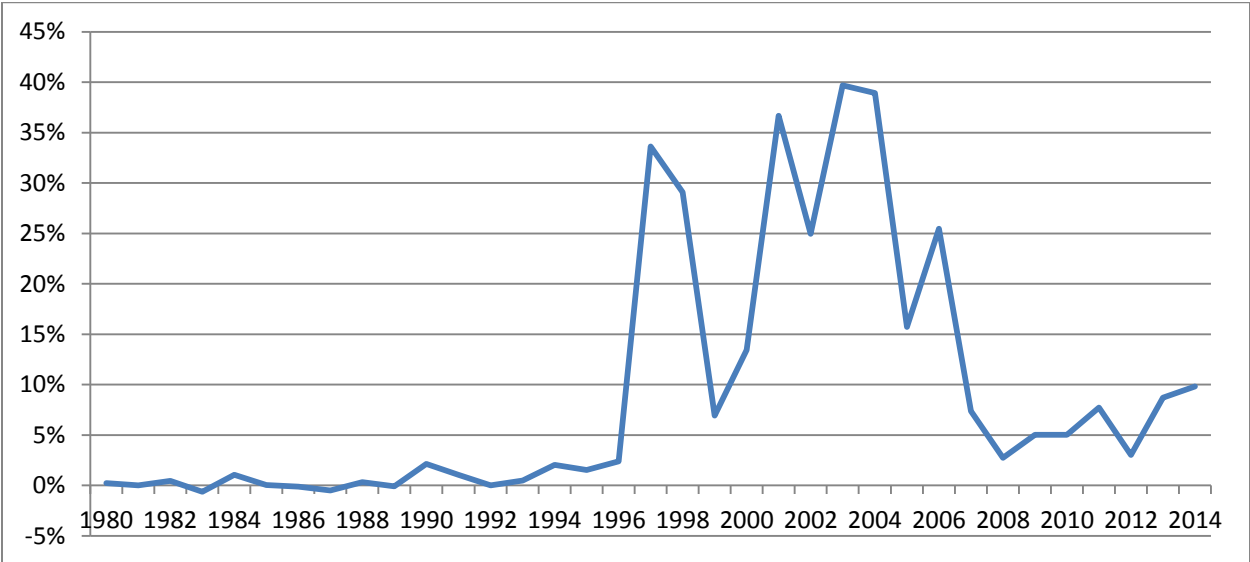
In post 1991 period after the Derg regime was over thrown by Ethiopian Peoples' Revolutionary Democratic Front (EPRDF) and this regime has governed Ethiopia ever since. EPRDF has undertaken many macro-economic reforms. The government implemented a series of reform measures like deregulation, privatization, liberalization of foreign exchange market, elimination of export tax, lowering of maximum import duties from and Provision of adequate incentives in order to increase private sector participation in the economy which is believed to have an important role in the development process of the national economy.

One of the major changes brought by this new regime is the replacement of the command system by the free market system. This transpired when the government adopted Structure Adjustment Program (SAP) as per recommendation of the World Bank (WB) and International Monetary Fund (IMF). The government promised to implement a series of policy reform measure in order to remove and change the command economic system with market based economy, to open the economy into the world economy and to encourage the wider participation of the private sectors in the development process of the country. Under SAP the country became more attractive for FDI and made the domestic investors competitive.

In accordance with this, the data shows that there has been a substantial increase in FDI since 1991. FDI has gone from an average annual inflow of \$1.4 million in 1980-1990 to \$81.6 million in 1991-2000 and \$470.8 million in 2005-2015 with fluctuations. When we look at it from the perspective of GDP on the other hand, as the figure shows although there is increase in the inflow of FDI into the country the performance of FDI as a percentage of GDP is still low. As it can be observed from the figure below there is a vast difference between the FDI inflow before and after the 1991 reform. The increase in FDI inflows into the country can be attributed to the revision of the investment proclamation after the reform in a way that accounted for higher level of incentives for FDI. Although the trend after this reform has been increasing on average there seems to be a decline after 2006. The inflow goes from an average of 3.7% of GDP from 2000-2006 to an average of 1.2% of GDP from 2007-2014. This indicates that even though FDI inflow into the country is increasing there is still capacity to do more due to the increasing market size

and that the country is not performing to the best of its abilities. Furthermore despite the fact that the inflow of foreign direct investment has been increasing over the last twenty five years due to the investment friendly environment created through the introduction of investment guarantee schemes and incentives, it is still small relative to other African countries. In conclusion the FDI regime is being liberalized but it remains a question if the liberalization process is too slow to convince foreign investors of the changing investment environment.

Figure 3.1: FDI inflows to Ethiopia as a percentage of GDP



Source: own composition form UNCTAD and World Bank 1980-2014

After observing the trend of FDI inflow into the country in Figure 3.1 it is pertinent to know where this inflow is concentrated and where it is lacking, in terms of sector as well as region.

3.6 Sectorial distribution of FDI

The inflow of FDI in Ethiopia is distributed to different sectors of the country, ranging from primary (agricultural activities and mining) to secondary sectors (industrial activities) to the tertiary sector including electricity generation, construction, real estate, trade, hotel and tourism, transport service, education and health service.

Despite extensive promotional activities to attract FDI, the presence of foreign-owned companies in Ethiopian manufacturing is generally limited. According to the CSA 2013 survey, foreign ownership share in terms of paid-up capital was only 8.1 per cent of the reported total paid up capital in the large and medium manufacturing sector. A recent sample-based survey by the World Bank reveals that only 4 per cent of the sampled firms in Ethiopia are private and foreign-owned. This is a much lower proportion in comparison with the SSA average (14.7 per cent) and worldwide sample of private enterprises (9.7 per cent) (Geiger and Goh 2012).

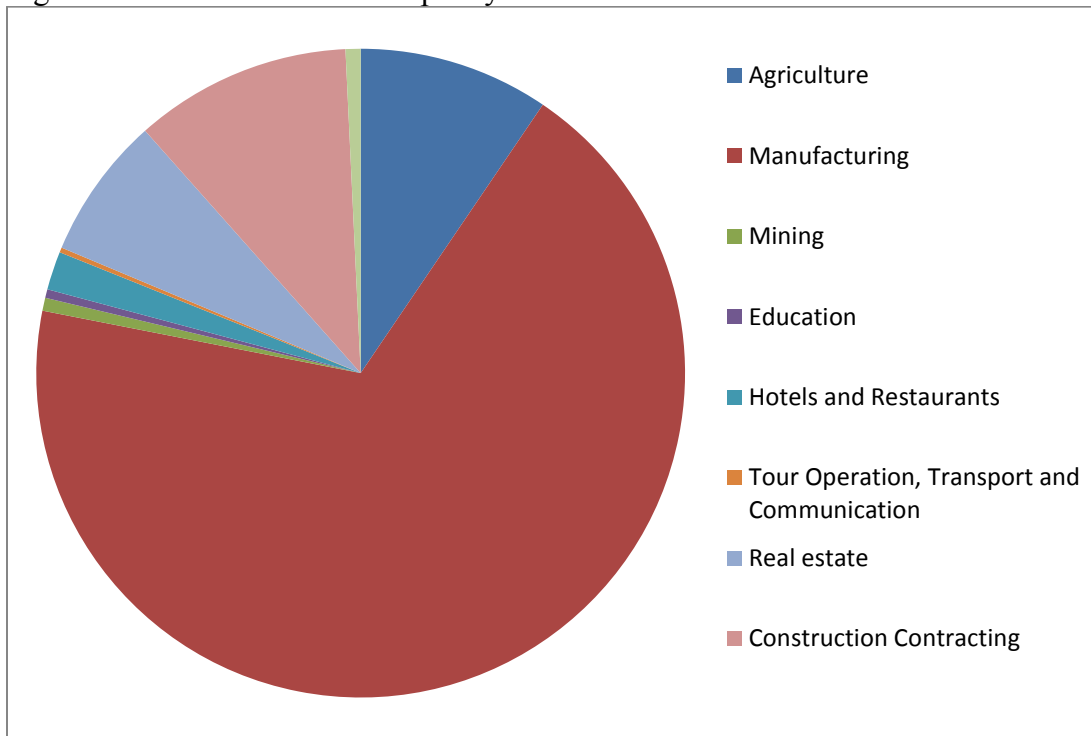
Ethiopia's industrialization goals are set out in the Industrial Development Strategy drafted in 2002, which is the country's first comprehensive industrial development strategy. It spells out how developmental enterprises are to be supported. In addition to a number of tangible institutional changes the most prominent focus of this plan is on Agricultural Demand-led Industrialization (ADIL), prioritization of the export sector, encouragement of labor-intensive industries more than capital led industries.

The ongoing second growth and transformation plan of Ethiopia, and its industrial development strategy are all centered agricultural-based manufacturing sector-driven and export-led development. The GTP pursued the growth through the export-driven industrialization strategy focusing on: labor and capital intensive manufacturing industries, export oriented and import substituting industries contribute to rapid technology and know-how transfer, have broad linkages with the rest of the economy, and use agricultural products as inputs.

Figure 3.2 shows that the manufacturing sector accounts for 68% of FDI inflows into the country from 1992-2016 while the construction sector accounts for 11%. Small proportions of 9% and 7% go to agricultural and real estate sectors respectively. In addition the data shows that there exists an increasing trend in the manufacturing sector followed closely by the agricultural sector. The sector which constitutes the least amount of FDI inflows is the Electricity generation transmission and distribution sector which has raised a capital of only one million birr in the span of twenty four years. The reason behind this could be because this sector was opened for foreign investment recently. This is followed by tour operation transport and communication as well as

hotels and restaurants which constitute less than one percent of the total FDI inflows to the country.

Figure 3.2: FDI inflows to Ethiopia by sector



Source: Own composition with data from EIC 2000-2015

Since manufacturing sector attracts the largest amount of FDI inflows to the country this leads us to investigate further which sub-sectors under manufacturing sector are attracting FDI inflows. Table 3.2 shows the distribution of FDI inflow to the sub-sectors under manufacturing sector.

Four specific economic sub-sectors are identified in the strategy: textile and garment industry; meat and leather products industry; agro-processing industry; construction industry. Specialized institutes and training programs have been created for each of the mentioned agriculture-based and labor intensive sub-sectors. Furthermore the industrial development strategy states that cottage and small-scale manufacturing enterprises deserve special attention.

Table 3.2: Licensed FDI projects on manufacturing by sub-sector

Sub-Sector	Project numbers	Proportion of Capital inflow	Capital in birr	Proportion of Capital inflow
Food Products and Beverages	219	28%	16,085,391	26%
Textiles	53	7%	11,351,251	18%
Other Non-Metallic Mineral Products	50	6%	10,154,894	16%
Fabricated Metal Products	31	4%	8,263,298	13%
Wearing Apparel, except fur apparel	20	3%	3,826,919	6%
Rubber and Plastics Products	95	12%	3,450,616	6%
Chemicals and Chemical Products	79	10%	2,621,989	4%
Tanning, dressing of leather, & footwear	38	5%	1,157,263	2%
Electrical Machinery and Apparatus	36	5%	996,515	2%
Recycling	3	0.1%	920,672	1%
Others	152	20%	3,041,086	5%

Source: Ethiopian Investment Commission 1992-2015

As it can be observed in the above table manufacturing of food products and beverages attracts the highest foreign inflow of capital into the country followed by manufacturing of textiles and non-metallic mineral products. The remaining sub-sectors under the manufacturing sector contribute to less than one percent of total FDI inflows into the country. In terms of number of project, however, manufacturing of food products and beverages (28%) is followed by rubber and plastic products (12%) and chemical and chemical products (10%). Hence these sub-sectors show a high potential of attracting inflow of capital into the country in the coming years.

3.7 Regional distribution of FDI

It can be seen from the data that the flow of FDI to Ethiopia has been unevenly distributed among the various regions. According to the latest investment proclamation any investor who establishes a new enterprise in Gambella, Benshangul/Gumuz, Afar Somalior South Omo Zones, sheka zone, Dawro zone, Keffa zone, Konta and Basketo special woredas (in south 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. In addition to this the

government has provided free land free of any charge. Even with the mentioned reinforcements it can be seen in table 3.3 that the performance of these regions in attracting FDI is very poor. In fact, the largest number of FDI projects in Ethiopia is concentrated in the highest developed region of the country, Addis Ababa (61%) followed by Oromia (25%). In terms of capital on the other hand Oromia region takes the highest share of FDI contributing about 36.2 million birr from 1992 until early 2016. This is followed by Addis Ababa, the capital, which has input approximately 34 million birr during the same time. Although there is lacking research regarding the reason for the high amount of capital into Oromia region it is expected to be because of the high amount of market as well as labor available in the region due to its high population. In addition to this since foreign investors are profit oriented they are likely to invest in an area where there exist previous industries that can provide them with adequate input that could enable them to conduct their business. Furthermore with regard to infrastructural development Addis Ababa and Oromia are the two leading regions of the country and hence tend to attract more FDI.

According to assessment of the implementation of Investment Policy Review (IPR) by UNCTAD (2011) the various regional investment bureaus in different regions of the country excluding Addis Ababa were found not to be best suited for investment promotion. These agencies tend to be under-resourced, particularly in relation to human resources and essential investment promotion skills. The work of these regional agencies is dominated by bureaucratic matters and primarily deals with domestic firms. On the other hand the Ethiopian Investment Commission (EIC), which is located in Addis Ababa, is given the mandate (by investment law) to promote and facilitate foreign investment, joint ventures and investments whose business licenses are issued by the Federal Government, while the regional bureau's is to promote and facilitate domestic investment in their respective regions. Consequently, it is apparent that foreign investors are inclined to invest in Addis Ababa.

The reasons behind this variation to FDI in different regions could be attributed to different location related advantages that each of the regions possess or lack but finding the factors behind these requires further research.

Recently however there has been some movement toward restructuring the regional bureaus, and collaboration with the EIA has improved.

Table 3.3 Regional distribution of FDI

Region	No. of projects	Capital in '000' Birr	Proportion
Oromia	600	36,515,381	40%
Addis Ababa	1,494	33,898,587	37%
Amhara	67	9,185,387	10%
Multiregional	149	3,998,598	4%
SNNPR	60	2,610,733	3%
Tigray	31	1,695,748	2%
Gambella	6	1,059,662	1%
Dire Dawa	13	863,577	1%
Afar	11	383,369	0.4%
B.Gumze	8	186,372	0.2%
Somali	2	25,000	0.03%
Harari	1	2,500	0.003%
Grand Total	2,442	90,424,915	

Source: Ethiopian Investment Commission 2015/16

3.8 FDI inflows by country of origin

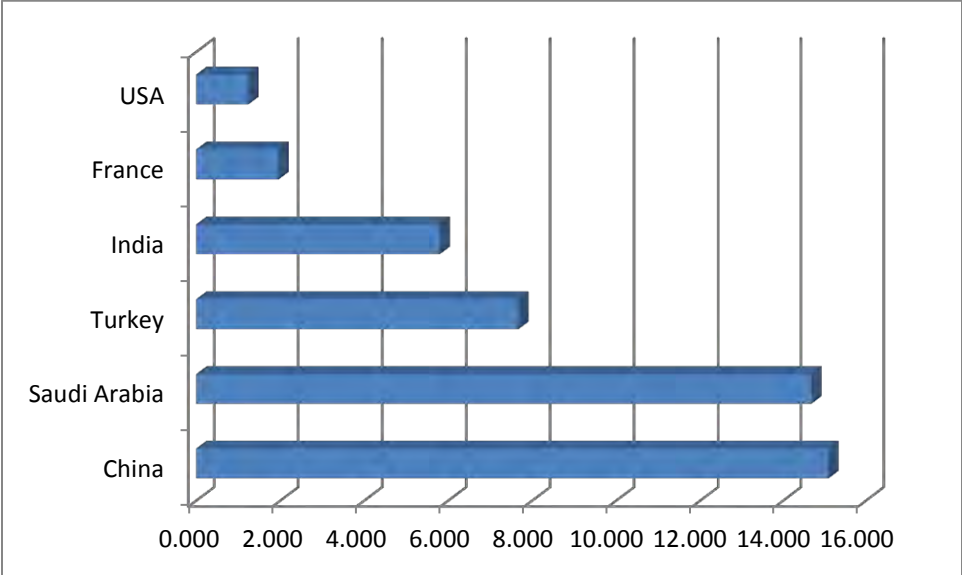
According to the computation by this study using data from EIC (2016) it can be observed from Figure 3.3 that Ethiopia receives FDI inflows from at least 90 countries individually. The data shows that the highest investment in terms of capital comes from China (17%), Saudi Arabia (16%), Turkey (8%), India (6%) and France (2%).

A large proportion of inflows come from developing economies (China, Saudi Arabia, and India). The reason behind the low proportion of FDI from developed economies could be because of the applicability of high-technology manufacturing in these economies and their minimal need of light-manufacturing which is abundantly offered by Ethiopia. In addition to this another reason could be that Ethiopia is not providing a business environment that is attractive enough to bring in FDI that originates from developed economies. For instance the French Minister of state of foreign trade in his recent interview with Ethiopia states that it is important

that the Ethiopian authorities keep improving the business environment and open more sectors to foreign investors, such as the logistics, telecommunications, banking and insurance sectors. That was it can be assured that French companies will continue to invest in Ethiopia. That being said this areas needs to be investigated further in order to understand thoroughly the reason behind the variation in proportion of FDI inflow between countries.

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 (Asmelash, 2015)

Figure 3.3 FDI capital inflows by country of origin



Source: Own composition from Ethiopian Investment Commission 1992-2015

3.9 FDI and employment

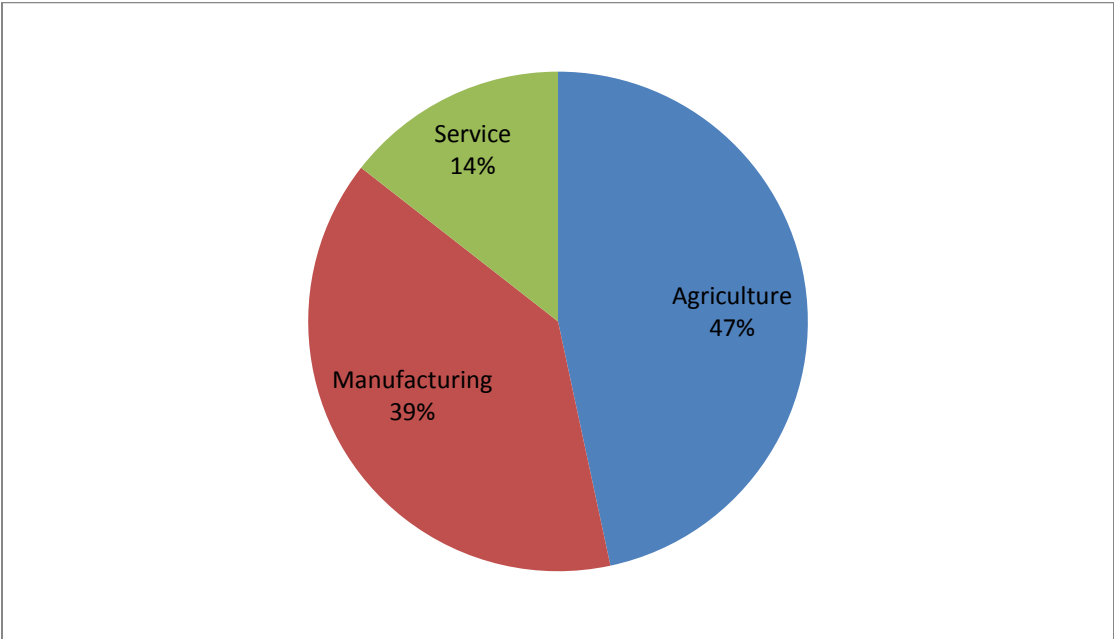
One of the major factors that drives FDI is the cost differential between the host country and the source country. One of the main costs of any investment is the payment on employees.

In Ethiopia the labor force is estimated at 48 million and labor remains readily available and inexpensive. The cost of labor is very low in Ethiopia with a wage of \$1 per day for unskilled labor and average monthly salary of \$90 for a fresh graduate. Furthermore according to Ethiopian labor statistics in 2014 more that 80% of the population participates in the agricultural

sector Ethiopia, being one of the least recipients of FDI in Africa has a very small proportion of the population employed in foreign invested sectors. According to data from EIC employment in FDI accounts for less than one percent of the total labor force in the country from 1992-2015.

Figure 3.4 shows that when employment opportunities are seen in terms of sectorial distribution of FDI the largest share goes to the agricultural sector which constitutes 47% of the total permanent employment provided by FDI in the country followed by the manufacturing sector with 39%. This is due to the low income nature of the country and the agriculture based development plan foreign investors invest more in this sector than in the manufacturing or service sectors.

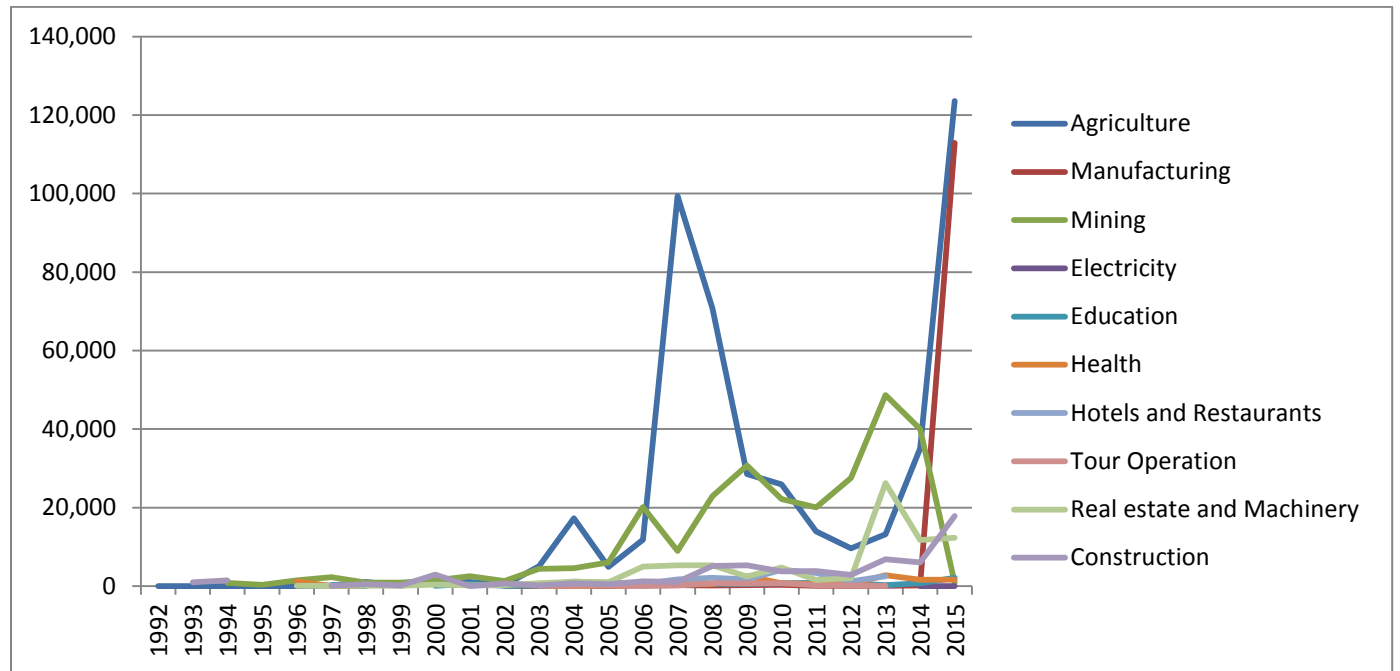
Figure 3.4:Permanent employment opportunities by FDI in Ethiopia



Source: Ethiopian Investment Commission 1992-2015

In terms of growth of employment opportunities of this sector, on the other hand, Figure 3.5 shows that although the agricultural sector comprises the highest labor force employed the manufacturing sector is not far behind. This data shows an increasing trend in the manufacturing sector throughout the years and is expected to keep growing still due to the additional number of projects to be launched in the coming years according to data obtained from EIC.

Figure 3.5: Trend of employment opportunities by FDI in Ethiopia



Source: own composition form EIC 1992-2015

3.10 Export performance in Ethiopia

As stated earlier the EPRDF in collaboration with World Bank and IMF under free market economy has undertaken structural adjustment program and trade liberalization. Both aimed at stabilizing the county's economic condition especially the trade reform that was taken to ensure and promote the export sector through diversifying the narrow base of the nation's exports. The policies were aimed to eliminate state monopoly, reduce excessive control over external trade and promote exporters.

Accordingly the industrial development strategy of Ethiopia gives priority for export sectors. This is because, given the limited size of the local markets and the need to generate foreign exchange there is a clear focus on export industries. Again the main emphasis is on high-value agriculture and agro-processing industries.

In addition to generating foreign exchange, encouraging firms to export has a number of advantages, especially in terms of technological learning. Bigsten and Gebreeyesus (2009) show

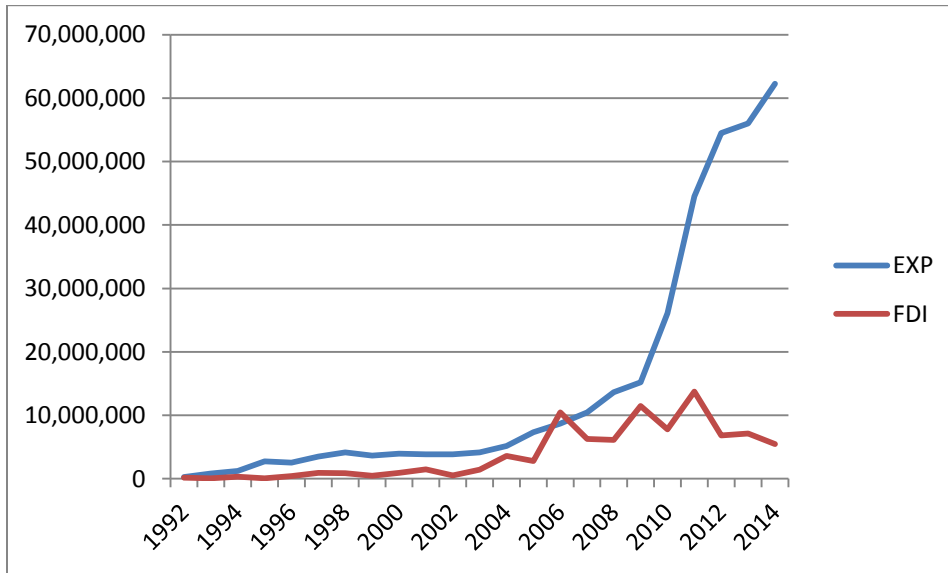
that exporting firms in Ethiopia are generally more productive than non-exporters and tend to increase their productivity faster. Hence, priority to this sector is likely to show progress.

Unfortunately providing firm-level support for exporters is not likely to yield major results as long as exports suffer from unfavorable exchange rate, devaluation would help increase export competitiveness and to resolve the foreign exchange crisis. To encourage exports, the National Export Development Committee chaired by the Prime Minister, sets export and productivity targets. These are negotiated with large enterprises both private and state-owned on a case by case basis and individual targets are agreed upon. Participating companies benefit from a range of government incentives e.g. tax holidays for exporters and tax-free import of machinery – and support services.

Ethiopia's major exports are coffee (21%), oil seeds (17%), gold (13%), chat (10%), pulses (9%) cut flower (7%) and live animals (6%) while their major export destinations are Asia and Europe, mainly China and Switzerland. While the value of exports has been increasing (with some fluctuations) since 2010, exports as a proportion of GDP have been steadily contracting (from 8.6% in 2011, to 6.5% in 2013 and to 5.6% in 2014). Coffee and gold, which are the country's largest exports, have decreased in both value and volume since 2013 (with coffee down 14.7% and gold down 25%) due to both external and domestic factors that include poor international prices, and structural supply and logistical challenges (AfDB, 2014).

It can be seen from Figure 3.6 that there has been a fluctuating but mainly increasing trend in export performance of the country since 1991 when trade was liberalized and FDI inflow started showing a significant increase. It can be assumed from these trends that FDI has a positive impact on the country's exports. This issue will be investigated empirically in the next chapters of the study.

Figure 3.6 Export and FDI in Ethiopia



Source: Own composition from National Bank of Ethiopia

It can be seen from figure 3.6 that there has been an increasing trend in export performance of the country throughout the years and an increasing trend in FDI (with fluctuations). Whether the increase in exports is caused partly by the increasing FDI inflows to the country is to be analyzed later in the study.

The increase in export performance of the country is said to be because of the number of incentives employed throughout the years. These incentives, if thoroughly implemented also serve as incentives for foreigners to invest in Ethiopia. The incentives are fiscal and non-fiscal. Some of the fiscal incentives given to all exporters include: Duty drawback scheme which offers investors an exemption from the payment of customs duties and other taxes levied on imported and locally purchased raw materials used in the production of export goods. No export tax is levied on export products of Ethiopia (with the exception of few products). Duties and other taxes paid are drawn back 100 percent at the time of the export of the finished goods and Bonded Factory and Manufacturing Warehouse Schemes: producers not eligible for voucher scheme but having licensed for bonded are entitled to operate such factory or warehouse in importing of raw materials duty free. The non-fiscal incentives include: the allowance of exporters to retain and deposit up to 20% of their foreign exchange earnings for future use in the operation of their enterprises and no export price control is imposed by the National Bank of Ethiopia, import of

raw materials are allowed for enterprises engaged in export processing; and exporters can benefit from the export credit guarantee scheme, which is presently in place in order to ensure an exporter receives payment for goods shipped overseas in the event the customer defaults, reducing the risk of exporters' business and allowing it to keep its price competitive.

The Ethiopian FDI policy does not require foreign firms to meet specific performance goals. For instance, no performance requirements are imposed in terms of exports, foreign exchange restrictions for imports, minimum local content levels in manufactured goods, or employment limits on expatriate staff. Although this is very encouraging for foreigners to invest in Ethiopia it is still necessary to make sure that the country is receiving the benefits expected from the FDI inflow. Hence these firms need to be constantly monitored by the government.

Chapter Four: Data source and Methodology

4.1 Data Source

The study is conducted using time series secondary data. Data for variables such as Export, Gross Capital Formation (GCF), exchange rate, real GDP and human capital was collected from Ministry of Finance and Economic Development (MoFED). Due to the lack of sufficient data on FDI before 1991 domestically as is the case in previous studies conducted in this area, this data was obtained from United Nations Conference for Trade and Development (UNCTAD).

4.2 Model Specification

Dunning combines several complementary theories, and identifies a set of factors that influence the activities of FDI.

According to Dunning's OLI (eclectic) paradigm there are three advantages gained by an investor by investing abroad. These are ownership advantage, location advantage and internalization advantage.

Ownership advantages address the question of why some firms but not others go abroad, and suggest that a successful MNE has some firm-specific advantages which allow it to overcome the costs of operating in a foreign country. Location advantages focus on the question of where an MNE chooses to locate. The location advantage can be for both horizontal FDI and vertical FDI. The vertical motive for FDI implies that the focus of the investor is on how the firm can serve its home market, by vertically disintegrating and moving its production facilities to a cheaper foreign location. The vertical motive basically attaches great importance to the costs and efficiency of production in the home country. Implying that trade liberalization will encourage FDI. TNCs. Internalization is multinational companies' ability to internalize some activities to protect their exclusive right on tangible and intangible assets, and defend their competitive advantage from rival firms. Accordingly, all the three conditions must be met before transnational companies open a subsidiary in a foreign country (Dunning, 2001).

The horizontal motive of FDI, however, focuses on serving the market of the host country

In this study Internalization and ownership variables are represented by market size, exchange rate, export orientation and stable macroeconomic environment. And location advantages have been represented by human capital, domestic investment. To capture the impact of political power transition from and inward looking to an outward looking system a dummy variable is included.

The study uses the model similar to one developed by Chan and Gemayel (2004) to examine the determinants of FDI in Ethiopia. The general function of FDI is presented in the following form:

$$FDI = f(EXR, HC, GCF, RGDP, EXP, LIB)$$

Where FDI- Foreign Direct Investment to GDP ratio

EXR- Real Exchange Rate

HC- Human Capital

GCF- Gross Capital Formation to GDP ratio

RGDP- Real Gross Domestic Product

DBT- external debt of the country

EXP- Export to GDP ratio

LIB- Trade Liberalization

ε - the stochastic error term

All of the variables except LIB in the model are first converted into their natural log forms and are denoted by $\ln FDI$, $\ln EXR$, $\ln HC$, $\ln GCF$, $\ln RGDP$, $\ln DBT$ and $\ln EXP$. Hence the model can be given by:

$$\begin{aligned} \ln FDI_t &= \alpha_0 + \alpha_1 \ln EXR_t + \alpha_2 \ln HC_t + \alpha_3 \ln GCF_t + \alpha_4 \ln RGDP_t + \alpha_5 \ln DBT + \alpha_6 \ln EXP_t \\ &+ \alpha_7 LIB + \varepsilon_t \end{aligned} \quad 4.1$$

Where $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6$ represent the coefficient for each of the parameters of the model and they identify the relationship of the variables with FDI.

4.3 Definition of Variables

Foreign Direct Investment- is defined by World Bank as the net amount invested or reinvested by non-residents to acquire a lasting interest in enterprises in which they exercise significant managerial control. In line with the approach used in many similar studies this paper uses FDI as a ratio of GDP to measure the dependent variable.

Real Exchange Rate- is said to be one of the important factors that affects FDI by many researchers. In this paper it is measured by the ratio of domestic to foreign currency. The relationship between real exchange rate and FDI could be either negative or positive. This being said most previous literatures show a positive sign for this variable.

Human capital: indicates the productivity and skill of workers in the country is indicated by enrolment rate of secondary school. The study expects human capital to have a positive relationship with FDI.

Gross Capital Formation: this variable is used to represent the domestic investment in the country and is expected to have a positive sign. The ratio of gross capital formation to GDP is used to indicate this variable.

Market Size: is represented in this study by Real GDP. According to past literature this variable is expected to have a positive relationship with the level of FDI as countries with expanding market size are expected to attract higher levels of FDI.

Macroeconomic stability: a stable macroeconomic environment shows the there is a strong economy and that there is a certain degree of certainty regarding the profitability of the investment. Excessive foreign debt is one source of instability and uncertainty in macroeconomic environment of underdeveloped countries and hence this foreign debt is likely to negatively affect the inflow of FDI to the country. Low level of external debt is expected to have a positive impact on FDI.

Export: measured by the ratio of export to GDP is used to indicate the value of exports in the economy as well as the openness of the country to international markets. A positive relationship between exports and FDI is expected.

Trade liberalization: is measured by using a dummy variable. It captures democratization and trade liberalization, with value 1 for liberalization and 0 otherwise.

4.4 Estimation technique

To model the relationship between FDI and its determinants this paper utilizes the vector autoregressive models. This method was chosen in order to avoid concerns regarding the possibility of endogeneity of the variables. Because VAR provides a framework in which to explore the interrelationships, as all variables are considered endogenous and allowed to impact of the other variables in the model. This approach is commonly used for forecasting systems of interrelated time series and analyzing the dynamic impact of random disturbances on the system of variables. The various steps followed during the analysis are discussed in this portion.

4.4.1 Test of Stationarity

The concept of stationarity is an important notion in estimation of parameters and hypothesis testing using time series data. A model whose coefficients are non-stationary will exhibit the unfortunate property that previous values of the error term will have a non-declining effect of the current value of dependent variable as time progresses.

An examination of whether a series can be viewed as stationary or not is essential because the stationarity or of a series can strongly influence its behavior and properties. To offer one illustration, for a stationary series, shocks to the system will gradually die away. The use of non-stationary data can lead to spurious regressions. Hence, testing for stationarity is essential for any econometric analysis. This investigation helps to avoid estimating a spurious correlation between variables in a regression, where what actually exist is correlated time trend rather than a meaningful economic relationship (Granger and Newbold 1974).

Hence each series is checked for stationarity using the standard Augmented Dickey-Fuller (ADF)

Augmented Dickey-Fuller test

Checking the autocorrelation function of the series is one way to test for a unit root but this process will often be seen to decay away very slowly to zero. Thus, such a process may be mistaken for a highly persistent but stationary process. Hence it is not possible to use the autocorrelation function.

Therefore, what is required is a formal hypothesis testing procedure that answers the question, is it plausible that the true data generating process for y contains one or more unit roots?

A test of stationarity that has become popular over the past several years is the unit root test. The DF and the ADF tests are the most usually used tests for unit root (Gujarati, 2004).

The basic objective of the test is to examine the null hypothesis that $\phi = 1$ in equation 4.1 against the one-sided alternative $\phi < 1$

$$y_t = \mu + \phi y_{t-1} + u_t \quad 4.2$$

Thus the hypotheses of interest are

H_0 : series contains a unit root

H_1 : series is stationary.

For ease of computation the following equation is used instead of 4.1

$$\Delta y_t = \mu + \psi y_{t-1} + u_t \quad 4.3$$

So that a test of $\phi = 1$ is equivalent to a test of $\psi = 0$ (since $\phi - 1 = \psi$). Again we test the same hypothesis as the earlier equation.

But the DF test assumes data generating process follows autoregressive (AR) of order one; AR (1), and residuals are 'white noise'. However, if data generating process is AR (p), where $p > 1$, the error term will be auto correlated due to misspecification of dynamic structure of the concerned variable. In this case the DF test is no longer valid, and lagged differences of the dependent variable should be added or augmented to the test model in order to mitigate autocorrelation problem, in the disturbance term. This is incorporated in the augmented Dickey-Fuller test (ADF) (Gujarati, 2004).

Phillips-Perron Test

Another test used in this study to check for the existence of unit-root in the variables is the Phillips-Perron Test, first suggested by Phillips and Perron (1988) this test improves over the ADF test on the finite sample properties and is argued to be more robust to serial correlation and time dependent heteroskedasticity. The PP test differs from ADF test in that it does not take lagged difference terms into account for a potential serial correlation in the error terms, instead it uses non-parametric statistical methods. While both PP and ADF tests follow the same asymptotic distribution it is argued that the tests have low power if the first-order autocorrelation coefficient is close to one under the alternative hypothesis. According to Enders, (1995) PP tests are applicable to a wide class of dependent and heterogeneously distributed innovations Kirchgassner and Wolters (2007).

4.4.2 Test of Co-integration

To make the regression involving non stationary at level time series variables (integrated of order one) meaningful the notion of co-integration is necessary. According to Wooldridge (2003), it is a notion that a linear combination of two series, each of which is an integrated of order one; $I(1)$ is integrated of order zero, i.e. stationary. In other words the issue of co-integration applies when two series are $I(1)$, but a linear combination of them is $I(0)$; in this case, the regression of one on the other is not spurious, but instead tells us something about the long-run relationship between them (Wooldridge 2004).

We are concerned about the concept of co-integration because making a variable stationary by differencing only gives the short run dynamics while we are also interested in knowing the long run relationship. In other words two variables will be co-integrated if they have long run relationships between them. In co-integrated VAR models the test for co-integration is vital because if there is no co-integration relationship between the variables under consideration then it is irrelevant to estimate vector error correction model (VECM).

There are two ways of testing for the existence of co-integration: the Engle-Granger (1987) two-step approach or the Johansen (1988) maximum likelihood estimation procedure. Even though the Engle-Granger (1987) two-step approach is quite simple it has several limitations. One important limitation of this method is that it has no systematic procedure to identify the existence

of multiple co-integrating vectors. It is also not possible to perform any *hypothesis tests* about the actual co-integrating relationship estimated using the Engle Granger two step approach.

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 (Enders, 1995). In addition, the Johansen setup does permit the testing of hypotheses about the equilibrium relationships between the variables. If the results from this test tells us that there in fact exists a long-run relationship then we move on the Vector error correction model, if not we proceed with the unrestricted VAR model.

To undergo the Johansen maximum likelihood test we start by formulating the VAR model. By considering k lags of Y_t , a general P^{th} order VAR representing the interrelationships among the n variables in the model as given in Johansen and Juselius (1990) is in the form

$$y_t = \alpha + \partial_1 y_{t-1} + \partial_2 y_{t-2} + \dots + \partial_p y_{t-p} + \varepsilon_t \quad 4.4$$

$$y_t = \alpha + \sum_{i=1}^p \partial_i y_{t-i} + \varepsilon_t \quad 4.5$$

Where Y_t is an $(n \times 1)$ vector containing the n -variables including in our model, ∂_1 is an $(n \times n)$ matrix of coefficients γ is a vector of deterministic terms like trends and intercepts, and ε_t is *iid* $(0, \Sigma)$ vector error terms with Σ representing contemporaneous covariance matrix.

4.4.3 Vector Error Correction Model

The VECM contains information on both the short run and long run properties of the model, with disequilibrium as a process of adjustment to the long run model (Nuru, 2013). Following the Johansson procedure, if the variables are co-integrated, the vector error correction model (VECM) representation can be written as follows

$$\Delta y_t = \Psi \Omega + \Pi \Delta y_{t-1} + \theta_1 \Delta y_{t-1} + \dots + \theta_p \Delta y_{t-p+1} \dots + \varepsilon_t \quad 4.6$$

$$= \Psi \Omega + \Pi \Delta y_{t-1} + \sum_{i=1}^{p-1} \theta_i \Delta y_{t-i} + \varepsilon_t \quad 4.7$$

From the above specification, ΔY_t is the first difference operator, $\theta_i = -\sum_{j=i+1}^p \alpha_j$ is a coefficient matrix and $\Pi = \sum_{i=1}^p \alpha_i - I$ is a (n x n) matrix whose rank determines the number of co-integrating relationships among the variables. In this way we can represent both short run and long run relationships with parameters θ_i and Π .

If π is of full column rank, that is $r = n$, this suggests that the variables are level stationary. In this case, estimating the level VAR and the VECM with unrestricted OLS will give identical results. If $r = 0$, this means that there are no co-integrating vectors. However, if $r < n$, then π can be decomposed to the following form, $\pi = \alpha\beta'$, where α represent the speed of adjustment to disequilibrium which is $n \times r$ matrices while β is a matrix of long run coefficients such that the term $\beta' Y_{t-k}$ is included in the ECM represents up to $(n - 1)$ co integration relationships in multivariate model which ensures that Y_t converges to their long run steady state solution (Enders, 1995).

Davidson and Mackinnon (1999) state that the estimation of the VECM requires the determination of the appropriate lag length because the co-integration result may be sensitive to the number of lags included.

The appropriate lag length of the VECM is determined by using model selection criteria, the Akaike Information Criteria (AIC), the Hannan-Quinn Information Criteria (HQ) and Schwartz (Bayesian) information criteria (SIC) (Nuru, 2013). After estimation of the VAR or VECM, (depending on the result of co integration test) causality tests and diagnostic checking will be undertaken.

4.4.4 Granger Causality Test

VAR model can be used to test Granger causality among the variables and also that an endogenous variable can be treated as exogenous. The Granger causality test is applied to investigate the direction of causality between the variables. This concept involves the effect of past values of one or more of the variables on the current value of the other. A Wald statistic is used to test for the joint significance of all other lagged endogenous variables in each equation of the model. The null hypothesis being tested is that for X and Y in the vector of endogenous variables of the VAR X does not Granger cause Y or vice versa. This is checked by testing whether lagged values of the variables in the unrestricted VAR are statistically significant or not.

4.5 VAR diagnostic tests

Once the VAR models are estimated we should make some diagnostic tests which are important in order to make sure that the results obtained from VAR estimation can be used for forecasting or policy purposes. These post-estimation tests are mostly performed on the residual of the model and they include the LM test for residual autocorrelation, Jarque-Bera test for residual multivariate normality, test for VAR stability and White test for the presence of heteroscedasticity in the VAR's residuals.

Residual vector normality test

The Jarque-Bera normality test is used to determine whether the regression errors are normally distributed. It is a joint asymptotic test whose statistic is calculated from the skewness and kurtosis of the residuals.

Error vector autocorrelation test

Testing for autocorrelation helps to identify any relationships that may exist between the current values of the regression residuals and any of its lagged values (Brooks, 2002). The null hypothesis of the LM test for autocorrelation is that the residuals are not serially correlated, while the alternative is that the residuals are serially correlated if the p-value is less than 0.05 then we reject the null hypothesis (Harris, 1995).

Heteroskedasticity test

The test for heteroskedasticity investigates whether the variance of the errors in the model are constant or not. White's test is used to check whether the residuals are homoscedastic.. It tests the null hypothesis that the residuals are both homoscedastic and that there is no problem of misspecification. The test regression is run by regressing each cross product of the residuals on the cross products of the regressors and testing the joint significance of the regression. If the White test statistic is significant, that is, Pvalue is less than 0.05; the null hypothesis of homoscedasticity and no misspecification will be rejected (Brooks, 2002).

Stability test

The test for stability checks whether the roots of the characteristic polynomial lies inside the unit circle. If all roots lie inside the unit circle then the VAR is considered as stable and can be used for

policy analysis. We can also make use of variance decomposition and impulse response functions in our analysis if the VAR is stable.

4.6 Impulse response function

Impulse responses trace out the responsiveness of the dependent variables in the VAR to shocks to each of the variables. So, for each variable from each equation separately, a unit shock is applied to the error, and the effects upon the VAR system over time are noted. Thus, if there are g variables in a system, a total of g^2 impulse responses could be generated.

The way that this is achieved in practice is by expressing the VAR model as a VMA -- that is, the vector autoregressive model is written as a vector moving average. Provided that the system is stable; the shock should gradually die away.

There are two approaches that are commonly used to estimate impulse responses. These are the generalized impulse response and the Cholesky decomposition. The main advantage of the generalized impulse response is that it does not require orthogonalization of innovations and is invariant of the ordering of the variables in VAR (Pesaran and Shin, 1998 cited in Stulz, 2006). But, the Cholesky decomposition in the base line model incorporates a small sample degrees of freedom adjustment when estimating the residual covariance matrix used to derive the Cholesky factor (Lutkepohl, 1991). As a result the Cholesky decomposition was used in this study.

Chapter Five: Empirical Results and Analysis

This chapter discusses the results obtained for the econometric analysis built on the econometric framework discussed in chapter four.

This study tests for the stationarity of the variables using ADF test before any analysis is made.

It can be observed from the table below that all of the variables are not stationary at level at 5% level of significance

Table 5.1: Unit Root Test

Variables	Test statistic under different assumptions			Order of Inegration
	intercept	Trend and intercept	No trend no intercept	
lnFDI	(1.42)	(1.38)	(1.58)	I(1)
D(lnFDI)	(7.59)*	(7.52)*	(7.64)*	
lnEXR	(0.46)	(2.88)	1.28	I(1)
D(lnEXR)	(3.35)**	(3.30)***	(2.78)*	
lnHC	(0.62)	(2.08)	2.72	I(1)
D(lnHC)	(7.83)*	(7.72)*	(6.68)*	
lnGCF	2.16	(0.53)	4.68	I(1)
D(lnGCF)	(6.07)*	(7.32)*	(2.49)*	
lnRGDP	4.64	0.39	3.11	I(1)
D(lnRGDP)	(3.24)**	(4.53)*	(1.63)***	
lnDBT	(1.31)	(1.79)	2.00	
D(lnDBT)	(4.86)*	(4.87)*	(4.30)*	
lnEXPG	(1.39)	(2.71)	(0.60)	I(1)
D(lnEXP)	(5.06)*	(4.35)	(5.10)*	

Source: own composition using EVIEWS

Note: *= significance at 1% level, **=5% level, ***= 10% level

The results from the stationarity test equations under the ADF are shown in the table. It can be observed that all the variables are not stationary at intercept or with trend with a 5% level of significance. Therefore we take the first difference of the variables and check for stationarity. The ADF test shows that for all the variables an intercept as well as a trend can be included while testing for stationarity. During this process we can also determine the order of integration of the variables, which is found to be one in this case, i.e. the variables included in the model are integrated of order one (I(1)).

In addition, the Phillips-Perron test given in annex 3 gives a result that is consistent with the ADF test and shows that the variables are integrated of order one.

5.1 Co-integration Test Results

Lag order selection

Before running the co-integration test it is essential to know the optimal number of lags to include in the test because the Johansen co-integration test results are sensitive to the number of lags included for the endogenous variables. Introducing too many lags wastes degrees of freedom, while too few lags leaves the equations potentially mis-specified, and is likely to cause autocorrelation in the residuals.

There are a number of tests to determine this optimal length; Likelihood Ratio test statistics, Final Prediction Error, the Akaike Information Criterion, the Schwarz Information Criterion, and the Hannan-Quin Information Criterion.

Table 5.2: VAR Lag order selection criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-82.2722	NA	5.28E-07	5.410436	5.727877	5.517245
1	122.5207	310.2922	4.48E-11	-4.03156	1.492028*	-3.177082
2	188.9658	72.48563*	2.40e-11*	-5.088839*	-0.32722	-3.486700*

Note: * indicates the lag order selected by the respective criteria.

Meaning that, according to the LR, FPE, AIC as well HQ criterion we are advised to use two lags for each variable.

Lag Exclusion test

After we take lag three as an optimal lag length due to the above criterion we have to check whether these lags of the variables are individually and jointly important and if they should be included in the testing for co-integration and estimation of the VECM. This is because the lags of some of the variables even after being recommended by the lag selection criterion could have insignificant contribution to our variable of interest (FDI). To identify this the Wald lag-exclusion test is used.

Table 5.3: Wald Lag Exclusion Test

Lag	FDI	EXR	HC	GCF	RGDP	DBT	EXPORT	Joint
1	17.78486	76.14102	8.698528	22.57754	25.80858	22.59435	17.06908	323.9055
	[0.0129]	[8.40e-14]	[0.275]	[0.0020]	[0.00054]	[0.0020]	[0.0177]	[0.000000]
2	24.55218	31.06092	7.141137	1.566819	3.864166	6.738378	20.33634	160.1567
	[0.000911]	[6.06e-05]	[0.414334]	[0.979906]	[0.79523]	[0.456619]	[0.004887]	[1.01e-13]

As it can be observed in the above table the lag exclusion test shows that including two lags in the model would be irrelevant because it would have an insignificant contribution on FDI as it can be seen from its p value. Hence using only one lag is recommended according to the Wald test because it is found to be jointly significant.

5.2 The Johansen Co-integration test

The stationarity test results observed above confirmed that all the variables are integrated of order one and that they are non-stationary at level, meaning that we would get unreliable outcome if these variables are included in the model. Granger representation theorem, however, states that non-stationary variables can produce stationary relationship if they are co-integrated or that these variables could have a meaningful relationship in the long-run. In order to know the

presence and the number of co-integrating relationships the trace and maximum-Eigen value methods are employed. The results can be observed in the following table.

Table 5.4: Johansen Co-integration rank test

Co-integration rank test	Null Hypothesis	Eigenvalue	Trace Statistic	Critical Value(5%)	p values
Trace test	H0: $r \leq 0$	0.911	190.417	125.615	0.000
	H0: $r \leq 1$	0.788	110.489	95.754	0.003
	H0: $r \leq 2$	0.578	59.261	69.819	0.259
	H0: $r \leq 3$	0.376	30.825	47.856	0.676
	H0: $r \leq 4$	0.231	15.253	29.797	0.763
	H0: $r \leq 5$	0.158	6.603	15.495	0.624
Maximum Eigenvalue	H0: $r \leq 0$	0.911	79.928	46.231	0.000
	H0: $r \leq 1$	0.788	51.228	40.078	0.002
	H0: $r \leq 2$	0.578	28.436	33.877	0.194
	H0: $r \leq 3$	0.376	15.572	27.584	0.702
	H0: $r \leq 4$	0.231	8.651	21.132	0.860
	H0: $r \leq 5$	0.158	5.690	14.265	0.653

The table tells us that both the maximum Eigen value test and the trace test identified that there are a maximum of 2 co-integration equations at a 5% level of significance. This indicates a significant long-run relationship among FDI, exchange rate, human capital, domestic investment, market size and exports.

These results also prove that the use of Johansen method as opposed to the single-equation based Engle-Granger two-step procedure is appropriate. This is because the Engle-Granger method is limited to test the presence of only one co-integrating relationship.

5.3 Granger causality/Block Exogeneity Test

Granger causality test was conducted in the study in order to examine the presence of bidirectional causality between the variables. The results shown in the table below show the existence of bidirectional causality among FDI and export and exchange rate. FDI granger causes export and exchange rate. Export granger causes FDI and exchange rate and exchange rate causes both FDI and export.

Table 5.5: Granger Causality/Block Exogeneity Test

Variable	Chi-sq	prob.	Remark
lnFDI	26.74898	0.0002	Endogenous
lnEXR	30.32678	0.0000	Endogenous
lnHC	3.503771	0.7435	Weakly stationary
lnGCF	53.53945	0.0000	Endogenous
lnRGDP	5.013251	0.5421	Weakly stationary
lnDBT	6.386073	0.3814	Weakly stationary
lnEXPORT	19.2859	0.0037	Endogenous

In order to identify the co-integrating equation, granger causality/block exogeneity Wald test was conducted. The result of this study reveals that the variables HC, GDP, and DBT are weakly exogenous in the model.

The result implies that the lagged values of the variables have significant roles in explaining the current and future values of other variables, and this effect occurs in both directions in some cases. Due to this it can be said that it would not be legitimate to consider FDI as purely endogenous and the other variables as exogenous. In accordance with the paper's objective the long-run model for FDI and Export are estimated.

5.4 Model Stability Test

The stability of the VAR model should be tested before further analysis because it could affect the validity and robustness of the results of the impulse response functions and other diagnostics. The figure presented below shows that all the roots of characteristic polynomial lie inside the unit circle. This suggests that the VAR model is stable. Hence, the impulse response functions can be used in the analysis.

Inverse Roots of AR Characteristic Polynomial

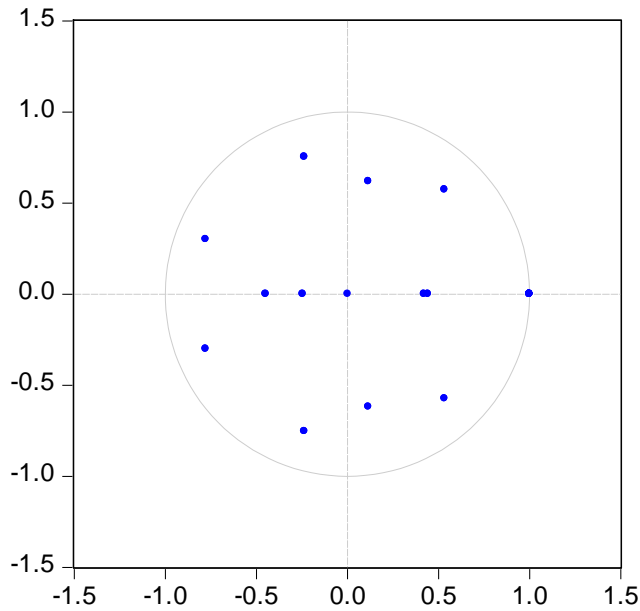


Figure 5.1: Inverse Roots of AR Characteristic Polynomial

5.5 Vector Error Correction Model

As stated earlier VECM contains information on both the long-run and the short-run. Hence, the VECM consists of two parts: the matrix of the long-run co-integrating coefficients (to derive the long-run co-integrating relationship) and the short-run coefficients (for the short –run analysis).

Table 5.6: Estimated long-run model for lnFDI

Variable	EXR(-1)	HC(-1)	DBT(-1)	RGDP(-1)	GCF(-1)	EXPORT(-1)	C
Coefficient	0.6281	-0.02995	2.5994	-4.16901	-1.35756	-8.248097	-0.48475
Standard Error	0.207333	-0.03441	-1.42584	-1.84122	-0.31124	-1.02067	-0.17251
T-statistics	3.03	3.20	-1.82	2.31	4.36	-8.08107	2.81

In accordance with the above results the long-run equilibrium relationship normalized on lnFDI can be rewritten as follows

$$\ln FDI = 0.4847 + 0.6281 \ln EXR + -0.02995 \ln HC + 1.35756 \ln GCF - 4.16901 \ln RGDP - 2.5994 \ln DBT + 8.248097 \ln EXP \quad 4.8$$

Equation 4.8 shows that FDI can be determined by exchange rate, human capital, gross fixed capital formation, real gross domestic product and export of goods and services.

The long-run impact of exchange rate is found to be positive and significant. One percent devaluation in exchange rate of the country increases the FDI inflow by 0.63%. This is because an undervalued exchange rate of host country creates more profitable opportunities for foreign investment, since the real value of foreign investors' capital assets goes up. In other words, the foreign currency becomes more valuable so the foreign investors can spend less on the same project in host market that the expense required if the exchange rate had not increased or if the host country's currency had not depreciated.

Human capital is positively and significantly related to FDI according to the results depicted above. The long run model shows that one percent increase in human capital increased FDI inflows by 0.03%. Human capital can increase FDI inflows by making the investment climate attractive for the foreign investors. This can be done through a direct effect of upgraded skill level of the workforce as well as through indirect effects such as improved socio-political stability and health. This finding is in line with the findings of Aseidu (2004) and Noorbaksh et al (2001). Globally it has been observed that countries attach the highest priority to education due to complementarity with other sectors, higher priority given to education (indicated by government expenditure on education) leads to higher return to health, agriculture and industrial sector investment. Higher education is the source of communication easiness. This ease of communication is a favorable factor for foreign investors.

Domestic investment is also found to be positively and significantly related to FDI in the long-run. FDI inflow to the country increases by 1.35%. This can be explained by the signal theory (Ndikumana and Veric, 2008) which states that domestic investors have better information about the local business climate than foreign investors. When foreign investors lack the available

information regarding the investment climate of the host country the domestic investment acts as a signal about the situation of the economy. Hence we expect domestic investment to influence FDI. This indicates that as the country becomes more capable of mobilizing domestic resources it attracts FDI.

The table indicates that GDP has the expected positive sign meaning that the larger the market size of the country the more attractive it is to FDI. A large market size indicates an increase in demand for products and services and allows for the achievement of economies of scale and encourages horizontal FDI. Economic growth can motivate foreign firms to plan new projects or new production facilities since it can generate more profitable opportunities. The finding of positive and significant relationship between FDI and market size is consistent with findings of Ryan (2005), Anyanwu (2007), Miteku (2013), and Getinet et al. (2005).

The negative and sign of external debt indicates that foreigners are drawn to a country where there is low foreign debt. This could be because excessive foreign debt may signal imminent fiscal crises and foreshadow the future economic situation in a county (Serven and Solimano, 1992). This being said the impact of external debt on FDI is not found to be insignificant, meaning that it does not play a meaningful role in the performance FDI in the country.

The results also show that exports have a positive and significant impact in attracting FDI in the long-run. A one percent increase in export increases FDI inflow by 0.62%. The positive sign of the variable could mean that foreign investors interested in investing in Ethiopia are drawn to the country as the export level of the country increases. This is due to the fact that these investors have a number of foreign affiliates in different parts of the world as well as in their home country. Hence, if the export level of a country is high it could mean an ease of access to foreign markets from the host country and this encourages FDI. This indicates that the type of FDI in Ethiopia is partly vertical FDI, meaning that FDI and export of the country are compliments rather than substitutes and that the host and home country vary substantially in factor endowment which is the case with countries that invest in Ethiopia as it can be seen from chapter three of the analysis.

Table 5.7 Estimated long-run model for D(lnEXP)

Variable	EXR(-1)	HC(-1)	GCF(-1)	RGDP(-1)	DBT(-1)	FDI(-1)	C
Coefficient	-0.69935	0.003631	-0.31515	0.505451	0.164591	-0.12124	-0.05877
Standard error	-0.05958	-0.03716	-0.14419	-0.16054	-0.03102	-0.00984	-0.1952
T-statistic	[-11.735]	[0.09771]	[-2.1857]	[3.14853]	[5.30537]	[-12.3163]	[3.0112]

The second equation estimated is the long-run model for export

$$\ln EXP = 0.05877 + 0.69935 \ln EXR + 0.003631 \ln HC + 0.31515 \ln GCF + 0.5054 \ln RGDP - 0.1645 \ln DBT + 0.67891 \ln FDI$$

The results indicate that exchange rate, FDI, domestic investment, Real GDP and external debt have significant impacts in determining exports of the country.

The positive relationship between FDI and export can be attributed to the superior production, technology and management know-how which the local firm can acquire further in addition FDI's have sophisticated international networks which facilitate the exporting capacity of the firms.

The positive and significant relationship between exchange rate and exports shows that the devaluation of the currency is stimulating the country's external competitiveness. This is because a low exchange rate is not favorable to competitiveness because it raises the price of exports and lowers the price of imports. Thereby increasing value of imports as compared to exports and creating a negative trade balance. A weak exchange rate on the other hand fosters competitiveness by reducing the price of the exported products and helping them become more affordable when compared to products of competitors. The finding is similar to findings of Ahmad (2005) who studied the determinants of export in developing countries and Cheng et al. (2007)

Domestic investment is seen to have a positive and significant impact on export. This relationship could be because investment in roads communication and other public goods and services can stimulate the private sector and the private domestic investment can be regarded as a permanent and reliable channel to enhance production capacity and in turn increase exports (Muhammad et al., 2006).

It can be observed from the results that external debt has a negative and significant relationship with export. Meaning that macroeconomic instability negatively affects exports of the country.

Real GDP is found to have positive impact on export, meaning that an increase in domestic output increases export volumes. This could be because increased production leads to surplus output in an open economy and this leads producers to look to international markets to sell their products. This finding is similar to Fugazza (2004) who studies export performance in developing countries and Kiros (2012) who studied export determinants in Ethiopia.

5.6 Short-run relationship

The short-run result from VECM presented in the table below shows the equation for $D(\ln FDI)$ which contains the short run impact of exchange rate, human capital, gross capital formation, real GDP, external debt and export. The coefficients of the two periods lagged difference in the table can be interpreted as the short-run parameters representing the short-run impact of the respective variables.

The coefficient of the error correction term for the equation is negative and significant as expected. This tells us that the model is error correcting or that although the FDI might deviate from its long-run equilibrium value it will gradually converge to its equilibrium. The result shows that 61 percent of the deviations of the FDI from its equilibrium value is eliminated every year. In other words a full adjustment will take a little over one year.

The study introduces a dummy for trade liberalization in estimating the error correction model. The positive and significant coefficient of the dummy variable indicates the liberalization of trade by the current regime has positively affected FDI inflows to the country.

The exchange rate variable in the short-run has the same effect on FDI as in the long run, meaning that as the country's currency depreciates foreigners are drawn to invest in the country. But, unlike in the long-run model the short-run effect of exchange rate is insignificant.

The results also show that real GDP has a positive impact on FDI in the short-run. This shows that FDI is attracted by the country's market size in the short-run. This indicates that FDI will tend to be targeted at the recipient nation's domestic market rather than for exports. The size of the host market can be particularly important for horizontal FDI where economies of scale are especially important (*Sasi et al., 2015*)

This brings us to export which according to the outcome discourages FDI in the short-run. This indicates that foreign investors are not attracted to the prospect of the international market in the short-run.

The short-run model shows that GCF negatively affects FDI. This can be explained by the modern theory of MNC which is implicitly based on the hypothesis of a market knowledge advantage of domestic firms. The foreign firm needs to possess a super power to overcome the domestic competitor's advantages due to their proximity and their experience of the local market. And this allows them to identify and to react to new business opportunities faster and sooner but this will disappear in the long run because of information asymmetry and hence the foreign investors will eventually catch up with the domestic investors.

Table 5.8: Short-run model for D(lnFDI)

Error Correction:	Dependent variable: D(lnFDI)	
	Coefficient	t-value
ECM₁	-0.6100531	[-5.65083]
ECM₂	-0.782544	[-3.44954]
D(lnEXR(-1))	4.644965	[2.05670]
D(lnHC(-1))	0.593571	[0.66276]
D(lnGCF(-1))	-0.19204	[-0.16949]
D(lnRGDP(-1))	5.20472	[-2.18083]
D(lnEXP(-1))	-3.13496	[-1.94548]
D(lnDBT(-1))	-1.91685	[-2.65782]
DUM	0.88661	[3.13776]

5.7 Post estimation diagnostics

As discussed in the previous chapter it is necessary to conduct post estimation diagnostic tests in order to make sure that the residuals of the model are Gaussian, that the assumptions are not violated and that the estimation results and interpretations are viable. The results of these tests could also be used to indicate the validity of employing impulse-response functions and variance-decomposition analysis.

Residual Vector Serial Correlation LM Test

The results of the test show that there is no evidence of serial correlation at all the lags. The p-value greater than 5% indicates that we cannot reject the null hypothesis (H_0 : there is no serial correlation) at any of the critical values.

Residual Vector Normality Test

This study uses the Jarque-Bera test to check for normality. The null hypothesis tested is that the residuals are normally distributed. Since the probability is 91% we cannot reject this hypothesis.

Residual Vector Heteroscedasticity Test

The results of the table suggest that there is not enough evidence to help reject the null of no heteroscedasticity. Hence, the residuals of the model are found to be homoscedastic.

Table 5.9 Diagnostic Tests

Tests		Statistic	P-value
Residual Vector Heteroskedasticity		501.96	0.1982
Residual Vector serial correlation (LM)test	Lag 1	32.11	0.6014
Residual Vector Normality test		0.14659	0.9521

Structural break Test

In addition to the above tests chow-break point test was conducted to check for a structural break at the time of power transition in 1991. The result indicates that the null hypothesis “No break at specified at breakpoints” is accepted

Table 5.10 Structural break test

Chow Breakpoint Test: 1991			
Null Hypothesis: No breaks at specified breakpoints			
F-statistic	0.889767	Prob. F(6,23)	0.5184
Log likelihood ratio	7.305577	Prob. Chi-Square(6)	0.2935
Wald Statistic	5.338604	Prob. Chi-Square(6)	0.5012

5.8 Impulse Response and Variance Decomposition

Impulse response function tells us how FDI at any point in time may respond to a one impulse (shock) generated from any of the variables earlier times and whether this effect lasts for a long period of time or if it is temporary.

It can be seen from the impulse response function that a positive shock in FDI results in a reciprocated positive response of FDI. The response of FDI to a shock in exchange rate and real GDP and export is also positive and increasing. The response of FDI to a shock in external debt is found to be negative in the short run and decreases through time. It can also be observed that FDI reacts negatively to shocks in GCF as it can be seen in the table.

Table 5.11: Impulse Response Function

Period	FDI	EXR	HC	GCF	RGDP	DBT	EXPORT
1	0.953947	0	0	0	0	0	0
2	1.56479	0.171526	-0.01663	-0.39682	0.025778	-0.04056	0.712574
3	1.922239	0.597931	0.045708	-0.05111	-0.03255	0.125577	1.288952
4	2.514127	1.149736	-0.03128	0.038123	0.098934	0.081782	1.658072
5	3.108809	1.567453	-0.12482	-0.16854	0.223531	-0.15626	2.023902
6	3.597585	1.972699	-0.19506	-0.25195	0.287539	-0.25563	2.446632
7	4.17243	2.380936	-0.25291	-0.25617	0.35203	-0.34228	2.79852
8	4.761092	2.78142	-0.3303	-0.37379	0.437194	-0.47006	3.189991
9	5.3099	3.177875	-0.39038	-0.44033	0.499287	-0.57425	3.594718
10	5.868219	3.592606	-0.45533	-0.48439	0.56913	-0.66502	3.987601

Chapter Six: Conclusion and Policy Implications

6.1 Conclusion

Over the last few decades FDI throughout the World has been escalating. Ethiopia's main motivations for hosting FDI are economic growth and development. Given this factor the paper finds it essential to evaluate the performance of FDI in Ethiopia and to study the factors that attract FDI into the country. In addition the paper evaluates the relationship between FDI and export. The study finds it vital to evaluate this relationship because FDI is expected to contribute to the increasing the country's competitiveness on international markets by increasing technological content of exports and increasing the foreign currency of the country.

Evaluating the performance of FDI in Ethiopia the study concluded that there is no consistent growth of the trend of FDI, meaning that inflow of FDI to the country can easily be affected by various macroeconomic variables. It is observed that FDI is distributed unevenly throughout the different sectors of the country with the highest share going to the manufacturing sector (68%). The evaluation of the regional distribution of FDI shows that despite the many reforms made to encourage FDI flow to less developed regions the performance of these regions in attracting FDI is quite low and high number of FDI is concentrated in the highest developed regions of the country. The reason behind is said to be due to different location related advantages obtained from investing in more developed regions. The evaluation of the FDI inflow with regard to country of origin indicates that the highest investment in terms of capital comes from China, Saudi Arabia, Turkey, India, France and the US. The results show that there is a low proportion of FDI coming from the more developed economies. This could be attributed to the unattractiveness of the business in Ethiopia compared to other countries or due to the low performance of the country when it comes to high-technology manufacturing. However, the study recommends further study in this area in order to gain more accurate results and recommendations.

The study finds that FDI is contributing a great deal to the employment opportunities provided to the labor force of the country. A sectorial evaluation of these employment opportunities provided by FDI shows that agricultural sector constitutes the highest share of the total permanent employment provided by FDI. The study attributes this to the low income nature of the country.

This being said FDI manufacturing sector is also showing an increasing trend of employment and is expected to increase due to the additional number of projects to be launched in the coming years. Viewing the export performance of the country the study shows that the export of the country shows an increasing trend (with fluctuations). The study also discusses the various incentives implemented in the country to encourage exporters. It can be concluded that a through implementation of these incentives can serve as incentives for foreigners to invest in Ethiopia.

The study uses time series data of thirty five years collected from various secondary sources to identify the different determinants of FDI and look at the impact they have in attracting or deterring FDI. The study first checks for the stationarity of the selected variables using ADF unit-root test and proceeds to co-integration test and vector error correction model. To analyze the response of FDI to the variables the study employs impulse response and variance decomposition tests.

The results of the long-run model indicate that all of the variables (EXR, HC, GCF, RGDP, EXP) except external debt significantly determine FDI. In addition exchange rate, human capital, gross capital formation, real GDP and export have a positive effect in attracting FDI in the country. Furthermore a dummy variable to indicate trade liberalization was introduced in the short-run model. The result shows that trade liberalization has a positive and significant impact on FDI. The positive impact of both real GDP and exports on FDI shows us that FDI inflows to the country are both horizontal and vertical in type. Meaning that FDIs in Ethiopia are both market oriented and efficiency oriented.

Results of the impulse response function indicate that short-run fluctuations in FDI are attributed significantly to shock to itself and in the following periods it responds to domestic investment, exchange rate, real GDP external debt and export.

6.2 Policy Implications

Despite the many policy reforms made in the country on account of attracting FDI this paper finds that it is still necessary to make certain reforms in order to attract more FDI to the country and increase the country's competitiveness on an international level.

The government should encourage the cooperation of EIC with regional investment bureaus and implement effective investment promotion policies such as regional marketing initiatives so as to improve the uneven distribution of FDI throughout the country. Continuous consultations and assessments between these two bodies should be executed so as to make it easier to evaluate the performance of these bureaus and exchange experience to make sure they can perform to the best of their capacities.

It can be seen from the time series analysis that FDI in Ethiopia can be positively affected by economic growth, human capital, exchange rate, domestic investment and export. Hence policy reforms should be made with regard to these areas in order to encourage FDI in the country. In accordance with this the government should give due attention to factors that boost domestic investments since it has been established by the study that the success of domestic investment can influence the location decision of foreign investors. This can be done by increasing ease of investment permit procedures, widening areas allowed for domestic investment and areas of investment eligible for exemption of customs duty. In addition revising burdensome business rules that obstruct firm's entry especially high-start-up capital requirements and easing binding constraints related to reliable power supply, credit and foreign exchange can help motivate the country's domestic as well as foreign investment.

Policy maker must take into a consideration that devaluation has a positive impact in attracting FDI. Hence by conducting further research in order to keep in mind the impact of exchange rate stability on other macroeconomic variables higher FDI and higher volumes of trades can be attracted as the currency is devaluated.

Educating the citizens of the country and enhancing their skills should also be focused upon by the government given that human capital is seen to have a positive effect in attracting FDI. It is crucial in a context of increasing competition for FDI that the country formulates policies that improve the local skills and build up human resource capabilities, this helps raise not only the volume but also the quality and sophistication of the FDI that Ethiopia can attract.

The positive impact of FDI on exports of the country can tell us that the efforts being made by the government to attract FDI by encouraging exports are warranted and need to be heightened in order to increase the impact of FDI on the country's exports to a higher level.

Considering the positive impact the trade liberalization has on FDI the government should improve the investment environment by taking continuous liberalization measures that would make Ethiopia attractive to foreigners and create a hospitable business climate. These liberalizations could include the opening of more sectors to foreign investors. In addition to improving the investment environment of the country these measures could indirectly encourage FDI by improving the poor infrastructure of the country. The insignificant effect of export in attracting FDI could indicate that measures should be taken to insure that more FDI projects in the country are export oriented. The findings also have implications for Ethiopian policy towards encouragement of FDI inflows and the promotion of exports. It is also recommended that the country should try to attract more export oriented foreign investments not only to increase export growth but also to increase the foreign exchange reserve of the country.

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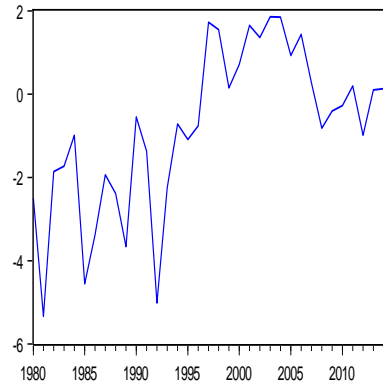
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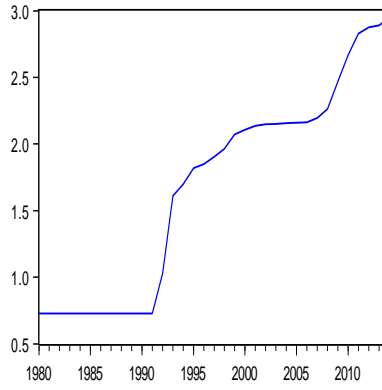
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Annex 1

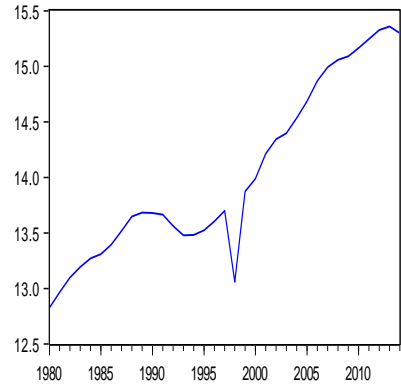
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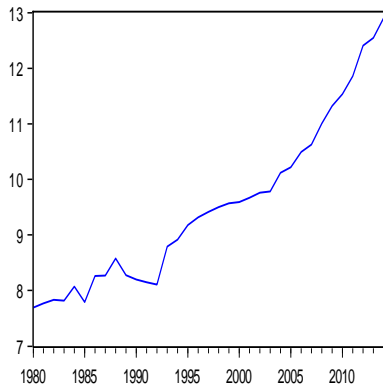
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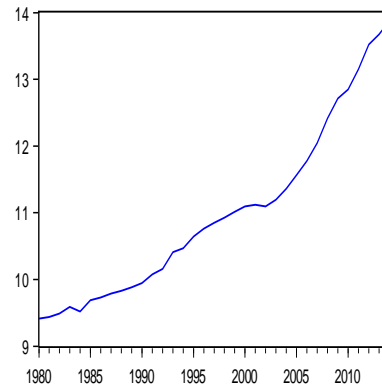
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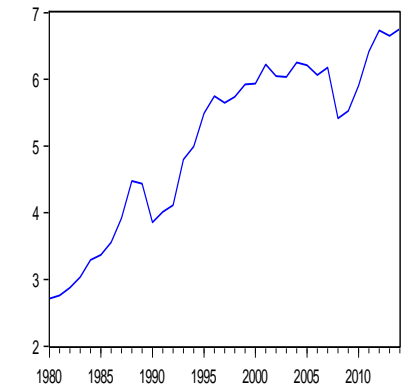
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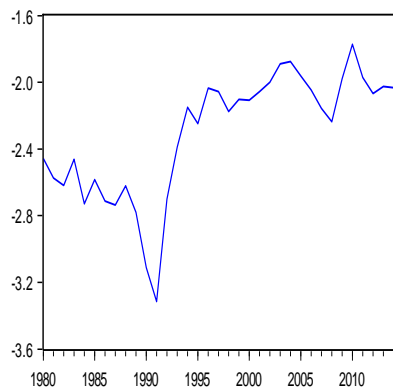
— GCF



— RGDP



— DBT



— EXPORT

Annex 2

PP Stationarity Test

Variables	Test statistic under different assumptions			Order of integration
	intercept	Trend and intercept	No trend no intercept	
lnFDI	(2.368)	(3.514)	(2.429)**	I(1)
D(lnFDI)	(10.280)*	(10.709)*	(9.468)*	
lnEXR	0.047	(2.203)	2.231	I(1)
D(lnEXR)	(3.234)**	(3.388)***	(2.790)***	
lnEDU	(0.618)	(1.979)	2.727	I(1)
D(lnEDU)	(7.825)*	(7.717)*	(6.683)*	
lnGCFC	2.468	(0.436)	5.411	I(1)
D(lnGCF)	(6.067)*	(7.322)*	(3.898)*	
lnRGDP	4.254	0.221	5.343	I(1)
D(lnRGDP)	(3.036)**	(4.531)	(1.266)	
lnEXPG	(1.523)	(2.561)	(0.594)	I(1)
D(lnEXP)	(5.058)*	(4.970)*	(5.102)*	
ln(DBT)	(1.31208)	(1.96426)	1.789399	I(1)
D(LnDBT)	(4.86443)*	(4.87284)*	(4.2961)*	

Annex 3

Impulse Response Graphs

Accumulated Response to Cholesky One S.D. Innovations

