

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN
ETHIOPIA**

BY: MOLLALIGN SOMMIE

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ETHIOPIA

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ADDIS ABABA UNIVERSITY
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DETERMINANTS OF FOREIGN INVESTMENT
IN ETHIOPIA

This is to certify that the paper prepared by Mollalign Sommie entitled Determinants of Foreign Direct Investment in Ethiopia, and submitted in partial fulfillment of the requirement of the Degree of Masters of Art in Applied Economic Modeling and Forecasting complies with the regulations of the University and meets the accepted standards with respect to originality and quality

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ADDIS ABABA

DECLARATION

I, the undersigned, declare that this is my original work and has not been presented for a degree in any other university and that all sources of materials used for the project have been duly acknowledged.

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Determinants Of Foreign Direct Investment in Ethiopia: A Time-series
Analysis

Paper prepared for the partial fulfillment of MA program

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Abstract

This paper attempts to examine the determinants of Foreign Direct Investment in Ethiopia. The study applies multivariate ordinary least square regression by using time series data covering over the period 1974 to 2015. The variables used in the study are market size, export orientation, inflation rate, exchange rate, infrastructure and human capital. The finding shows that market size in the form of real GDP per capita and infrastructure in the form of gross fixed capital formation have positive impacts while macroeconomic instability (both inflation and exchange rates), export orientation and illiteracy have negative impacts on FDI inflow to Ethiopia. On the other hand, from those variables exchange rate, illiteracy rate and export orientation affects FDI significantly while market size, infrastructure and inflation has insignificant effect on FDI inflow to Ethiopia. These findings imply that market size, infrastructure, the financial sector and the export sector should be improved by giving special attention.

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

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Acronyms

- ADF- Augmented Dickey-Fuller
- BoP- Balance of Payment
- DF- Dickey-Fuller
- ECM- Error Correction Model
- EEA-Ethiopian Economic Association
- EIA- Ethiopian Investment Agency
- Ethiopian Privatization Agency
- EPRDF-Ethiopian People Republic Democratic Front
- FDI- Foreign Direct Investment
- GDP- Gross Domestic Product
- GNP- Gross National Product
- IMF- International Monetary Fund
- LDCs- Less Developed Countries
- MOFEC-Ministry of Finance and Economic Co-operation
- MOFED-Ministry of Finance and Economic Development
- MNCs- Multi-National Corporations
- NBE-National Bank of Ethiopia
- UNCTAD- United Nations Conference on Trade and Development
- WB- World Bank
- WTO- World Trade Organization

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CHAPTER ONE

1. INTRODUCTION

1.1 Background

Sustainable economic growth is highly determined by the rate of investment, which in turn is mainly determined by the national saving level. The national savings level of countries in Africa is quite low. Hence, foreign direct investment is an alternative source of capital to bridge the gap between savings and the required investment level (Solomon, 2008).

It is one of the most striking features of the global economy today. The rapid growth in FDI over the last few decades has spurred a large body of empirical literature to examine the determinants and the growth enhancing effect of FDI. The effects of FDI can be wide ranging since FDI typically encompasses packages of capital as well as technical, managerial and organizational know-how. FDI is particularly important for developing countries since it provides access to resources that would otherwise be unavailable to these countries. Its contribution to economic development and therefore poverty reduction comes through its role as a conduit for transferring advanced technology and organizational forms to the host country; triggering technological and other spillovers to domestically owned enterprises; assisting human capital formation; triggering technological and other spillovers to domestically owned enterprises; assessing human capital formation; contributing to international trade integration; and helping to create a more competitive business environment (Ikiara, 2003). Moreover, Krifa Schneider (2010) stated foreign investors can contribute to growth of a country by providing a package of financial capital, transfer of technology, sharing risk in large projects, job opportunity, information, goods and services that can make a country more competitive in the world market. As a result of these benefits of FDI, many developing countries are now actively seeking foreign investment by taking measures that include economic and political reforms designed to improve their investment environment.

In Ethiopia the gap between domestic investment and savings has remained wide due to the low levels of income and domestic savings. FDI as a source of capital other business know-how is, therefore, desperately essential to finance growth and development. For instance between 1990 and 1997, growth of domestic investment as a portion of GDP rose from 12 percent to 19 percent,

while growth domestic savings remained at the same rate (UNCTAD, 2002). Ethiopia's gross domestic savings as a portion of GDP is quite low, and it is unlikely to achieve its short and long run objectives by mobilizing the meager domestic savings i.e., 9.4% (MoFED, 2010). In addition, World Bank (2011) report shows that the average saving rate of Ethiopia was very low by any standard. For instance, when we compare the average saving rate of Ethiopia with that of Sub-Saharan African countries between the periods 1980/81-2010/11, the average saving rate of Ethiopia was only 8.6% but that of SSA countries was 17.2% of GDP. This saving gap can be filled by loans and development assistance from multilateral agencies such as the World Bank, bilateral sources, or by private investment. However the former sources of official finance have been declining. It has been reported that the development assistance to Sub-Saharan Africa declined from 17 billion to 10 billion (Asiedu, 2003). Of these sources of finance, FDI is by far the most important alternative source of foreign capital for these countries.

In view of this importance role FDI, it is essential to understand the principal determinants of FDI in these countries in general and Ethiopia in particular. In recent years Ethiopia has started encouraging the inflows of FDI by improving the investment climate and by providing different incentive packages.

1.2 Statement of the Problem

As indicated in the in the introduction part Ethiopian gross domestic savings as a portion of GDP is quite low, and it is unlikely to achieve the present growth rate (above 10%) by mobilizing the meager domestic savings. The current government of Ethiopia has realized the inadequacy of capital and opened some economic sectors to foreign investors. The government also issued several investment incentives, including tax exemptions to encourage FDI. Furthermore, the Ethiopia Investment Agency (EIA) has been established to service investors and streamline the investment procedures.

Ethiopian performance in attracting FDI was very poor compared to many African countries. For instance, Ethiopian's per capita inflows were only \$5 in 2006, compared with \$39 for African countries as a whole (UNCTAD, 2006). But at this time FDI flows in Ethiopia shows improvement even though there are different difficulties in the sector.

So, identifying the determinants of FDI in Ethiopia is a necessary condition to know the factors responsible for such kind of performance in attracting FDI. Besides to this most of the researches that are focused on the determinants of

FDI in Ethiopia were conducted before some years ago; and these researches do not explain the present condition of Ethiopia. In addition, those researches have no the same conclusion on the determinants of FDI. From this point of view, this research may fulfill those gaps.

1.3 Objectives of the Study

The general objective of this paper is to investigate, empirically, the determinants of FDI inflows in Ethiopia. To achieve this broad objective the study tries to achieve the following specific objectives.

- To identify the role of FDI inflows to the country.
- To review the economic and FDI performance of Ethiopia.
- To identify which determinant has a positive and significant effect on FDI and which are not.

1.4 Significance of the Study

Since the national saving level of less developing countries (LDCs) especially Ethiopia is very low; FDI is an alternative source of capital to cover the gap of saving and necessary investment level. So, it is essential to understand the principal determinants of FDI in those countries in general and our country Ethiopia in particular.

Thus, the research would attempt to provide an empirical evaluation on the determinants of FDI inflows, and give high light some of the policy issues which are essential for attracting more FDI to Ethiopia. In addition to this the research will be used as a bench mark for future studies.

1.5 Scope and Limitation of the Study

Even though FDI covers broad areas of social, economic and cultural issues, this study is focused on the economic aspects of FDI with respect to economic growth. In addition to this, the study is focused on the major determinant factors of FDI in the national level and review the economic and FDI performance of Ethiopia.

Concerning to the limitation, since the source of data is secondary data i.e. time series data: Problem of getting adequate data, and variation of data from one institution to another were the basic problems that challenges.

The rest of the paper is organized as follows. The next section presents an overview of the theoretical and empirical literatures on the determinants of FDI flows to a host country with the aim of coming up with factors behind FDI flows

in theoretical and empirical perspective. Section three discusses about over viewing the recent economy and FDI performance and policies of Ethiopia. The fourth section discusses about the data type and its source, and also about the definitions of variables and model specification developed in the study. The fifth section discusses about data analysis and discussion; and finally, the last section discusses about the conclusion that summarizes the main findings, and given recommendation as well.

CHAPTER TWO

2. LITERATURE REVIEW

Foreign Direct Investment is considered as a key ingredient for economic growth in developing countries. Since a host should clean the house before inviting guests, many countries are trying to create a hospitable environment for FDI. Several studies have been conducted on the determinants of FDI, as a key step to understand what the guests want. Therefore, this chapter reviews theories of determinants of FDI and empirical studies accompanying the theories.

2.1 Theoretical Literature Review

2.1.1 Definition and Concepts of Terms

Foreign Direct Investment: The World Bank World Development Indicators (2012) defined Foreign Direct Investment is the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. International Monetary Fund (IMF) also defined FDI as it is international investment made by a resident entity in one economy (direct investors) with the objective of establishing a lasting interest in an enterprise resident in an economy other than that of the investor (direct investment enterprise). Lasting interest implies the existence of a long term relationship between the direct investor and enterprise, and a significant degree of influence by the direct investor on the management of the direct investment enterprises.

In line with the approach used in FDI literature, the dependent variable used in this study, FDI is measured as the net foreign direct investment inflows as a percentage of GDP.

2.1.2 Types of FDI

There are three main types of Foreign Direct Investment from investors' perspective: *Vertical*, *horizontal* and *conglomerate* FDI (Caves, 1971). For Caves, *Horizontal FDI* refers to undertaking for the purpose of horizontal expansion to produce goods and services roughly similar to those the firm produces in its home market. This type of FDI is called "horizontal" because the multinational duplicates the same activities in different countries Lipsey 2003. This type of FDI arises because it is too costly to serve the foreign market by export due to transportation costs or trade barriers. *Vertical FDI*, on the other hand, refers to those multinationals that fragment production process geographically for the purpose of providing input goods to parent company (backward vertical FDI) (Ibid). It is called "vertical" because MNE separates the production chain vertically by outsourcing some production stages abroad. Finally, the third type of FDI, *Conglomerate FDI*, involves the former two types of FDIs.

FDI can also be divided in three groups from the host country's perspective.

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

Export increasing FDI: It is described by Reuber (1973) as the type of investment that reflects a wide range of consideration such as the desire to develop secondary and diversified sources of supply by way of obtaining lower cost products to be used either as inputs or for sale elsewhere. It is also motivated by

firms desire to seek raw material and intermediary products. This type of investment is found in the raw material sector. Such foreign investors are mainly interested in extracting products from the host and selling them abroad through establishing market channels. In making such types of investments, firms sometimes create a supporting infrastructure such as housing, schools and hospitals. Generally, this investment focuses on the needs of a particular market which is largely or entirely outside the host country (Ibid). Host countries will increase its export of raw material and intermediary products to investing country or other countries where the firm has other subsidiaries.

Government Initiated FDI: It involves government's action to attract more FDI in order to eliminate its balance of payment deficit (Mossa, 2002). Government may provide the necessary investment incentive to attract foreign investment in to its economy. These are accepted by investors whereas market as well as cost conditions may have precluded them from investing in the host country under normal or non-incentive conditions.

Finally, FDI may be classified in to *expansionary* and *defensive* types. Expansionary FDI seeks to exploit firm specific advantage in the host country. This kind of FDI benefited MNCs in increasing sales both in host and investing country. While, defensive FDI seeks for cheap labor or materials with the objective of reducing cost of production (Chen and Ku, 2000).

2.1.3 Theories of FDI and its Determinants

This section will briefly examine various theories on the determinants of foreign direct investment. Theories of FDI can be divided in two groups: *micro-level determinants* of FDI and *macro-level determinants* of FDI. The micro-level

theories of determinants of FDI try to provide answer the questions why multinational companies(MNCs) 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, where as the macro-level determinants deal with the host countries situations that determine the inflow of FDI.

2.1.3.1 Micro-level Theories of FDI

The theoretical explanations of FDI are largely stemmed from traditional theories of international trade that are based on the theory of comparative advantages and differences in factor endowments between countries. Multinational companies are usually attracted to a particular country by the comparative advantage that the country or region offers (Harrisch el al, 2000).

Investment across national borders takes two forms: foreign portfolio investment and foreign direct investment (FDI). Foreign portfolio investment is usually accompanies investment of foreign nationals via bank accounts, securities, treasury bills, and so on. Such investment takes indirect control of firms or existing assets. On the other hand, FDI takes direct command over a full range of manipulations.

Some of the micro-level theories of FDI are the following:

The Early Neoclassical and Portfolio Investment Theory: This is one of the earliest explanations of FDI. According to this theory, interest rate differentials between countries are the main reasons why MNCs operate outside their country of origin. Capital under this theory moves from a country where the rate of return is low to a country with a high return on capital. The theory is based on

a perfect competition and risk free capital movements assumptions (Harison et al. 2000).). In light of the traditional view, neoclassical scholars regard the presence of FDI as the different return on capital between different nations. Such kind of viewpoint encourages multinational corporations to invest their capital assets from low return to high return countries in order to acquire more profit. But in reality capital flow is not always one way. Especially, the existence of risk and barriers to capital movement will erode the legitimacy of the theory, and capital can freely flow in any direction or from both sides (Hosseni, 2005). This analysis also focuses on the micro foundations of FDI, by moving from a simple capital movement/portfolio theory to a broader production and industrial organizational theory. The portfolio approach to FDI reacted to this early theory of FDI by emphasized (Alemayehu, 1999). Indeed this school of thought has formed the bases for a whole stand of the literature.

Location Theory: It mainly focuses that multinational corporations would choose a location, which is close to markets or raw materials, to construct the investment position so FDI comes in to existence. Once the investment location attracts more and more FDI and becomes an agglomeration location even though the agglomeration effect is associated with externalities. Concentration of production and urbanization facilitate quick spillovers of knowledge and the use of joint networks of suppliers and distributors. This helps firms enhance their levels of technology and acquire economies of scale and scope. Investment in such region with substantial clustering of industrial activities is likely to involve relatively lower costs than in a region with a dispersed manufacturing sector. Krugman(1991) also gives a complement about the agglomeration effect and he

considers a clustering of economic activities as a form of resulting from contingency of history.

Product Life Cycle Theory: Vernon's product life cycle theory (1996) is another explanation of FDI. This theory focuses on the role of innovation and economies of scale in determining trade patterns. It states that FDI is a stage in the life cycle of a new product from its invention to maturity. A new product is first manufactured in the home country for the home market. When the home market is saturated, the product is exported to other countries. At the later stage, when the new product reaches maturity and loses its uniqueness, competition from similar rival products becomes more intense. Vernon's product life cycle theory is a dynamic theory because it deals with changes over time. However, it seems that the theory is not confirmed by empirical evidence, as some multinational companies start their operations at home and abroad simultaneously (Chen, 1983).

Internalization Theory of FDI: To increase profitability, some transactions should be carried out within a firm rather than between firms and this is one of the reasons why multinational companies exist. This theory may answer the question why production is carried out by the same firm in different locations. One of the reasons of internalization is market imperfection. Any knowledge which is economically useful can be said to be technology, and technology can be sold or licensed. However, there are technologies that are embodied in the minds of a group of individuals and not possible to write or sell to other parties. This difficulty forces multinational companies to open a subsidiary in a foreign country instead of selling the technology. In addition, there are also a number of problems that may arise if an output of a firm is an input to another firm in another

country. The problems can be avoided by integrating various activities within a firm rather than subcontracting the activities (Krugman and Obsfeld 2003).

Eclectic Theory: All of the above mentioned theories are considered a single view to explain the behavior of FDI. To make up for this defect, Dunning (1993) refers to the eclectic theory which are ownership advantage, location advantage and internalization advantage. In the integrated analysis of those advantages, firms would process direct investment across nations so that FDI exists. Eclectic theory asserts the existence of three necessary conditions for FDI. These are, first, multinational corporations own firm-specific assets which is called ownership. Second, because of location, production processes that employ the firm specific assets are efficiently dispersed among several national markets. Third, internationalization, since the decentralized use of a firm-specific asset is more efficiently managed within the owning firm than by renting it at arm's length to another firm. These three features of FDI which are ownership, location and internalization comprise the basis of the eclectic theory of FDI.

Dunning also identifies three possible motives of FDI based on different FDI theories. These are:

Market seeking FDI: refers to FDI for the purpose of serving local and regional markets. Host countries' characteristics that can attract market-seeking FDI include market size of the host country, per capita income and growth (potential) of the market.

Resource/Asset seeking FDI: refers to FDI for the purpose of acquiring resources which are not available in the home country. Such resources include natural

resources, availability of raw materials and productivity and availability of skilled and unskilled labor.

Efficiency seeking FDI: this kind of FDI occurs when the firm can gain from the common governance of geographically dispersed activities, especially in the presence of economies of scale and scope, and diversification of risk.

The above three motives of FDI are categorized under economic determinants of FDI.

2.1.3.2 Macro-Level Determinants of FDI

The macro-level determinants of FDI include any host country's situations that affect the inflow of FDI, such as market size, the economic growth rate, GDP, infrastructure, natural resource, the political situations, etc.

Market Size: The size of the domestic market is a fundamental determinant of FDI. The wealth and development of a country can be used as a proxy to measure the size of the domestic market. Most commonly, per capita income which is an indicator of effective demand is used to measure the size of local market. The GDP of a country and the population size are also used as an indicator to measure the size of local market. A large market can help firms producing tangible products to achieve scale and scope economies. The domestic market growth rate which is measured is measured in terms of population and GDP growth rate also determines the inflow of FDI in to a country (UNCTAD, 1998).

Natural Resource: Historically, natural resources are the most important determinants of FDI. From the 19th century up to the eve of the Second World War about 60% of the world stock of FDI was in natural resources (Dnning, 1993). Birhanu (1999) noted that countries that have sufficient deposit of some

minerals can attract foreign investors particularly those involved in exploitation of natural resources.

Level of Infrastructure: Infrastructure development has a great role in the expansion of FDI because efficient and adequate infrastructure implies better access to natural resources and potential market. According to Birhanu (1999) availability and reliability of telecommunication services developed and adequate road and air transport services, reliable water and electricity supply facilities have paramount importance for the profitability of foreign companies and in attracting FDI.

Low Level Cost: Neoclassical economists noted that labor cost is one of the factors that affect the investment decision of foreign investors and this fact has been proven in numerous locations. UNCTAD (2004a) reported that availability of cheap labor in China is taking jobs from Europe and United States. In addition to cheap labor, the output labor ratio (labor productivity) also determines the inflow FDI.

Inflation: Through the effect of inflation, on the cost of inputs and the price outputs, it reduces the real return on investment and firms' competitiveness. Low and predictable inflation rate is central for the long term investment of both domestic and foreign companies. Therefore, high and unpredictable inflation will decrease the inflow of FDI (Birhanu, 1998).

Exchange Rate Variability: According to Goldberg and Klien (1997), frequent and erratic changes in exchange rate of the domestic currency affect the inflow of FDI. Exchange rate devaluation has two roles in explaining variations in FDI. First, the real value of foreign investors' capital increases when the host country's

currency is devaluated. Second, frequent and continuous declines in the value of host country's currency would decrease FDI inflows because of creating uncertainty (Accoley et al, 1997).

Foreign Debt: Excess foreign debt is one source of instability and uncertainty in macroeconomic environment of underdeveloped countries and hence this foreign debt is likely to affect adversely the inflow of FDI. It may also signal imminent fiscal crises and foreshadow the future economic situation in a country (Serven and Solimano, 1992).

Fiscal Deficit: The fiscal deficit of the government, whether it is financed through printing additional bank notes or through taxation, decreases the real return on investment (Ibid). In addition, in many developing countries it is apparent that due to excessive government borrowing the financial resources available for the private sector are limited and the interest rate is high. Expansionary fiscal policy may be also important for the expansion of public sector investments on infrastructure (UNCTAD, 1998). Generally, the overall impact of fiscal deficit as empirically tested by different studies is ambiguous. However, the theory postulates that there is a negative relationship between fiscal deficit and FDI inflows (Acolley et al, 1997).

Geographical Proximity: According to Jinayu (1997), current global economic structure, geographical proximity, and cultural and linguistic affinities are becoming are one important determinant of foreign direct investment.

Political Stability: The economic process of a country and the inflow of FDI in to a country can be disrupted by unsettled political disputes and crises. Political

instabilities can delay FDI until the storm weathers away or diverts away for good (Birhanu and Kibre, 2003).

Legal and Regulatory Framework: Stable, transparent and reliable legal and regulatory frameworks promote both domestic and foreign investment while an inefficient and ineffective legal system is an impediment to enforce laws and contracts (Ibid, 2003).

Privatization: Sound privatization programs have three main characteristics political commitment, business orientation and transparency. Large scale programs send a signal to foreign investors that a government is taking measures to create conducive environment to FDI (IFC & FIAS, 1997).

Investment Promotion Strategy and Incentive Structure: Investment incentives are FDI policy instruments used to attract foreign investors. However, the effectiveness of the incentives is highly determined by the country's level of development (UNCTAD, 1997).

Other determinants of FDI: In addition to the above mentioned macroeconomic determinants, there are also other determinants. Some of them are contract law, the image of the host country, availability of investment fund, governance, human resource development, degree of openness, urbanization, coherent and stable macro & sectoral policies, etc (e.g. Birhanu and Kibre, (2003), Asiedu, (2002), UNCTAD, 1998).

2.2 Empirical Literature Review

2.2.1 Determinants of FDI in flows in Africa:

Globally, many empirical studies were conducted to identify the factors that influence the inflow of FDI. Nevertheless, the variables which we identified as determinants of FDI vary from study to study and from country to country. This review focuses on the empirical studies conducted on determinants of FDI in developing countries especially African countries.

For example, Berrta et al., (2003) argue that the determinants of FDI to Africa are different from the determinants to the other parts of the world. Asiedu (2004) agree with this argument and states the lessons from East Africa and Latin America countries do not apply to African countries. To make it more clearly, it is possible to use different research arguments in a specific manner as the following:

On the determinants of FDI in Africa, mot studies argue that FDI inflow is attracted largely by natural resource endowments. Almost 40 percent of FDI has been in the primary sector, particularly oil and mineral extractor business. For instance, countries like Angola, Botswana, Namibia and Nigeria have received foreign investment targeted at the oil and mineral sectors of their economy (Basu and Srinivasan, 2002). Morisset (2000) reports that, on a survey conducted on 29 African countries there is a high correlation between FDI inflows and total value of natural resources in each country.

Though natural resource abundance is a common factor explaining much of the FDI inflows, the few successful African countries have also pure particular attention to the creation of favorable economic, social and political environment of FDI (UNCTAD, 1998; Basu and Srinivana, 2002). For example, countries such

as Mauritius and Seychelles have managed to attract FDI by tailoring their FDI policies through liberalization, export orientation, tax and other investment incentives. Moreover, some countries like Lesotho and Swaziland have attracted FDI because they are near to South Africa and investors wishing to serve the large market in South Africa have located their subsidiaries in these countries (Ibid).

Empirically, Root and Ahmed (1979) also analyzed the determinants of non-extractive direct investment inflows in 70-developing countries and find that urbanization, better infrastructure and higher GDP per capita increase FDI inflows.

Several other studies also found that countries that have a higher degree of openness attract more FDI. Singh and Jun (1995) found export orientation (export as a percentage of GDP) to be the strongest factor which is positively correlated with FDI. Morisset (2000) finds a positive and a significant correlation between trade openness and the investment climate for 29 African countries. Salisu (2003) found that openness to trade attracts FDI. Chakrabarti's having a positive and significant effect on FDI in Nigeria while Tsikata et al., (2000) find export orientation as a significant determinant of FDI inflows to Ghana. Asiedu (2002) analyzed 34 countries in Sub-Saharan Africa over the period 1980-2000. Using panel-data analysis she found that openness to trade, higher income and better growth prospects, better institutional framework and infrastructure were "rewarded" with more investments. The same author, Asiedu (2003; 2006) showed that significant role of the country's market size and natural resource endowment in enhancing FDI. Low inflation, good infrastructure, an educated population, openness, less corruption, political stability and a reliable legal

system are also found to have similar positive effect on FDI flows to the continent. Moreover, Asiedu and Gyimah-Brempong (2008) validated these findings to a large extent and noted that countries that are small or lack natural resources can attract FDI by improving their institutions and policy environment. Linda and Said (2007) conducted a study on the determinants of FDI in North African countries and the Middle East region, and conclude that country openness, return on investment, being a member of World Trade organization (WTO) are the chief deriving factor of FDI inflows. Based on a co-integration analysis for the period 1970-2000 using data for 19 Sub-Saharan African countries, Bende Nabende (2002) found market growth, export-oriented policy and liberalization as the most dominant long-run determinants of FDI in Africa. Kandieru and Chitiya (2003) analyzed the impact of openness on FDI flows to Africa in 51 African countries and their findings indicate that FDI responds significantly to increased openness in the whole economy in general and the services sector in particular.

There are also empirical evidences for market size as a determinant of FDI. Obwona (2001) found market size by a significant determinant of FDI in Uganda. Investigating the determinants of FDI on developing and developed counties, Chakrabarti's (2001) concluded that host country market size, measured by per capita GDP, has a positive and significant effect of FDI. Jenkins and Thomas (2002) conducted a research on determinants and characteristics of FDI in Southern Africa. They argue that the size of the local market, particularly for non-primary sector enterprise, it is an important motivation for FDI in the region.

Moreover, the recent results also show this condition, for instance, Fayyaz (2012) found that amongst all the indicators market size is the most important

determinant of the FDI. Abdoul (2012) also estimated a model of FDI determination using a five-year panel data with the system-GMM technique, over the period 1970-2009 for 53 African countries and he found that larger countries attract more FDI. However, regardless of their size, more open, politically stable countries that offer higher return to investment also attract FDI. Anyanwu (2012) also, using a cross country data for 53 African countries for the period 1996-2008 and found that market size, openness to trade, rule of law, foreign aid, natural resources, and past FDI inflows to have a positive effect on FDI inflows. He also found domestic financial development to have negative effect on FDI inflows.

Morisset (2000) argued that macroeconomic stability, government policies and political variables are more important determinants of FDI in Africa than the market variables. Schneider and Frey (1985) used politico-economic model which simultaneously includes economic and political determinants of FDI in explaining the flow of FDI in 80 LDCs. They find that the most important determinant of FDI in a country's level of development, measured by real per capita GDP and the balance of payments. Regarding the political determinants of FDI, they conclude that the political instability significantly reduces the inflow of FDI, and regarding to the per capita income and balance of payment, they conclude, the higher the per capita income and the lower the balance of payments deficit, the higher the amount of FDI. According to Solomon (2008), through its effect on the cost of inputs and the price of outputs, inflation reduces the real return on investment and firm's competitiveness. Hence countries that pursue policies that reduces inflation rate have better chance in attracting FDI. Low and predictable inflation rate is central for the long term investment of both domestic and foreign

companies. Therefore higher and unpredictable inflation will decrease the inflow of FDI (Ibid). Fayyaz et al (2012) also found that macroeconomic environment as depicted by low and stable inflation encourages FDI inflows. Goldenberg and Klien, 1997 also found that frequent and erratic changes in exchange rate of the domestic currency affect the inflow FDI.

In today's globally competitive business environment, absence and lack of efficient infrastructure means not only high transaction costs for those that are already in business but also a barrier to entry for new firms. Infrastructure development has high importance for the expansion of FDI because efficient and adequate infrastructure implies better access to natural resources and potential market (John, 2012). In the same way, Abdoul (2012) concluded that to improve the returns to investment for FDI in Africa, African countries should work more on the development of infrastructure. Lydie (2006) also using a time series analysis for Cameroon, showed that the level of infrastructure appears as the most significant determinant of FDI.

Finally, human capital both in terms of quantity and quality is another important factor in promoting labor intensive and export oriented FDI in particular. For example, Lewis (1999) found that the more educated the population is the more likely it is for a country to attract more FDI. Sarisu (2003) also found low level of human capital as measured by the illiteracy rate, having discouraging effect on FDI in Nigeria. Fayyaz et al (2012) also concluded that availability of skilled labor force encouraged the FDI inflows. Solomon (2008) found that in addition to cheap labor the output labor ratio (labor productivity) also determines the inflow.

2.2.2 Determinants of FDI Flows to Ethiopia: The Recent Evidence

In the case of Ethiopia, there are few studies conducted on the factors that determine the inflow of FDI, such as Solomon, (2008) found that stable, transparent and reliable legal and regulatory frameworks promote both domestic and foreign investments; on the contrary, an inefficient and ineffective legal system is an impediment to enforce law and contracts. On the other hand, Getnet and Hirut (2005) examined determinants of FDI in Ethiopia over the period 1974-2001, using a time series analysis. Their empirical analysis showed that economic growth, export orientation (openness) and liberalization have a significant positive impact on FDI, while macroeconomic instability (measured by inflation) and low level of physical infrastructure (measured by telephone lines per 1000 people) have a negative impact. Henock, 2012 also found that the domestic and regional market seeking, political and social stability, and investment incentives were found as 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. Moreover, Amanuel, Mekonnen, 2014, investigated that level of trade openness and inflation rate have significant impact on the inflow of FDI to Ethiopia while no clear relationship was obtained with market size, infrastructure and human capital.

In sum, both the theoretical discussion in the previous section and the empirical review in this section show that market size, openness of the economy, natural resource endowment, political and macroeconomic stability, infrastructure, and human capital seem to be important determinants of FDI flow to Africa and

particularly to Ethiopia. I believe these are important factors that any model about determinants of FDI flows to Ethiopia needs to consider.

Even though these research papers focus on the same title, they were done in different periods which have different investment environment and some of them are done before ten years; the variables that the papers used as an independent variable are not exactly the same for all papers; and even the papers conclusions are not exactly the same. Because of such situations and little has been done to investigate on the determinants of FDI inflow initiates me to do a research on this title in order to add my own contribution to narrow and address the gap.

CHAPTER THREE

3. OVERVIEW OF THE ETHIOPIAN RECENT ECONOMY AND FDI PERFORMANCE AND POLICIES

Ethiopia is located in the north-east part of Africa, commonly known as the Horn of Africa at the cross roads between Africa, the Middle East and Asia. Ethiopia with the total population of over 90 million is the second populous country in Africa next to Nigeria. Ethiopia is a Federal Democratic Republic composed of nine regional states (Tigray, Afar, Amhara, Oromia, Somali, Benishangul-Gumuz, Southern Nations-Nationalities and Peoples Region, Gambella and Harari) and two city administrative states, Addis Ababa and Dire Dawa Council (EIA, 2008).

It is now two decades since Ethiopia stated to building a market economy after 17 years of a state centered and controlled economy. But before this Ethiopia has been faced different economic systems in different regimes, For instance, in the pre 1974, emperor, Hailesilase, period a liberal policy was followed to encourage the establishment of private of private industries and import substitutions strategy was promoted. The liberal policy were able to attract few investments even though the amount was not significant (Melese and Waldkirch, 2011). From 1974-1991, when Derge came to power the liberal policy was replaced by command system of economic management that discourages market economy and private property. In post 1991 replaced the Derge command system and undertakes many macroeconomic reforms in order to increase the participation of private (Getnet and Hirut, 2005).

In the next section, some of the major feature of the last two periods in terms of economic performance and the foreign direct investment policy framework will be reviewed.

3.1. THE PRE-1991 PERIOD

This period marked the introduction of the command system of economic management in 1974. The mainly liberal policies of the pre-1974 Imperial/Feudal era were replaced with centralized policies that discouraged market economy and private property. The land reform measure that was undertaken in 1975 was one of the major policy reforms that took place immediately. Land was nationalized and private ownership of land ceased. Medium and large size enterprises were also nationalized. The government also nationalized and subsequently reorganized, any medium and large seal manufacturing Enterprise.

In this period the economic and investment performance was poor because of internal instability and external aggression, severe drought, civil war and unproductive public spending such as defense spending which constitutes more than half of the budget and the negative impact of the country's policy by itself. Moreover, other policy failures such as running inefficient public enterprises, bias against the private sector, low diffusion of farm technology, the closed nature of the economy as well as low capacity utilization in industries (below 50 percent in most cases) owing to the (structural) import compression problem had their share in explaining the negative contribution of policy. (Alemayehu, Geda and Befekadu, Degefe, 2005).

3.2. The post-1991 period

This period began with the coming to power of EPRDF in 1991 and the adopting of the WB/IMF sponsored structural Adjustment programmed soon

after. Among the stated objectives of the new government were reducing macro economic imbalances, eliminating structural disruption, improving the country's human capital and infrastructure as well as poverty reduction.

The government implemented a series of reform measures in order to change the command economic system that had been in place to a free market economy, to speed up the integration of the economy into world economy and to encourage the wider participation of the private sector in the development process of the national economy (MoFED, 2002).

The specific measures taken to promote the export sector and participation of the private sector include the following:

- Deregulation of the domestic prices;
- Devaluation of the national currency by 141.15 percent, from 2.07 Birr per dollar to 5 Birr per dollar;
- Liberalization of the foreign exchange market;
- Elimination of export taxes except for coffee;
- Lowering of maximum import duties from 230 percent to 60 percent;
- Simplification of export licensing regulation and procedure;
- Provision of adequate incentives, strengthening and enhancing institutional support for the export sector.

Increasing the role of the private sector in the economy is one of the main objectives of the government. The privatization program was started in 1994. The Ethiopia Privatization Agency (EPA) which has the power and duties of transferring state-owned enterprises to private ownership was established.

The government has also adopted "agricultural-led industrialization" as a central plan of its development program, with a focus on productivity growth on small farms and labor-intensive industrialization (Economic Commission for Africa, 2002).

3.3. REGULATORY AND INSTITUTIONAL FRAMEWORK OF FDI IN

ETHIOPIA

Implementing market oriented development strategies encourage the role of the private sector improvement in the development process. In order to encourage, promote and expand private investment in the country; the Ethiopia government has set out some private sector development initiatives. These initiatives play their own role in enabling the enhanced utilization of the country's resources through the growth of private businesses by providing predictable and enabling environment (MoFED, 2002).

The program highlights the importance of competitiveness as a key to success for sustained economic development in the country. Some of the important factors that mentioned as the basis for competition are conducive investment climate which focuses on macroeconomic stability, sound policy and regulatory framework for the private investment sector and strong institutions that run and support the system.

3.3.1. THE FDI REGULATORY FRAMEWORK

Under the current regulatory framework, foreign participation in investment may be carried out either through the establishment of branches or through locally incorporated enterprises. Foreign investors are encouraged to invest in all economic sectors, except those currently reserved for domestic private and state investment.

Areas exclusively reserved for the government:

- Postal services except courier services,
- Transmission and supply of electric energy through the integrated national grid system, and
- Domestic air transport using aircraft with a capacity of more than 20 passengers.

Areas Exclusively Reserved for Domestic Investors

- Radio and television broadcasting services
- Retail trade and brokerage
- Wholesale trade (excluding supply of petroleum and its by-products) as well as wholesale by foreign investors of their locally produced products.
- Import trade
- Export of raw coffee, oil seeds, pulses, hides and skins,
- And export of live sheep, goats and cattle not raised or fattened on own farm.
- Construction companies, excluding grade 1 contractor
- Tanning of hides and skins up to crust level
- Hotels other than star-designated hotels, motels, pensions, tea rooms, coffee shops, bars, night clubs and restaurants (excluding international and specialized restaurants).
- Tour operations, travel agency, commission agency and ticket offices.
- Car hires and taxicabs transport
- Commercial road transport and in land-water transport services.
- Bakery products and pastries exclusively for the domestic market
- Grinding mills
- Barber shops, beauty salons, smith workshops and tailoring (excluding garment factories).
- Building maintenance series, repair and maintenance of vehicles
- Sawmills and manufacture of wood products exclusively for the domestic market
- Costumes clearance serves
- Museums, theatres and cinema hall operations
- Printing industry

Even though the government can review the investment code regarding the sector excluded from FDI if it is necessary, the main business sectors which

are opened and in which the country is currently seeking foreign investment are:

- Manufacturing industries (including food, beverages, chemicals and pharmaceuticals, plastic, metallic and non-metals products, leather and leather products, paper product, textiles and garments);
- Agricultural including agribusiness and processing for exports;
- Real-estate development;
- Education and health services;
- Grade 1 construction contract;
- Mining and quarrying of gold, marble and granite; and
- Engineering and management consultancy; and
- Hotel and tourism

Source: UNCTAD (2004)

3.3.2. THE FDI INSTITUTIONAL FRAMEWORK

The government of Ethiopia has established the Ethiopia investment agency (EIA) to promote, coordinate and facilitate foreign investment in the country.

According to the Investment Guide to Ethiopia (UNCTAD, 2000), the functions of the EIA, among others, include:

- Providing all the necessary information required by foreign investors;
- Approving foreign investment applications and issuing investment permits;
- Providing registration services to newly incorporated business organizations;
- Approving expatriate posts in approved investments and issuing work permits to foreign employs;
- Issuing trade and operating licenses for foreign investments;

- Monitoring the implantation of licensed investment projects;
- Approving and registering technology transfer agreements between local companies and foreign technology suppliers, and
- Facilitating the acquisition of land by foreign investor in accordance with the relevant federal and regions government laws and regulations.

The establishment of the Ethiopia Privatization Agency (EPA) is also another significant step in the promotion of FDI. The government is keen to encourage the participation for foreign investors in the privatization program, particularly in large state owned companies. Other government departments that are involved in the attraction of FDI to Ethiopia include; the Ministry of Trade, Ministry of Industry; the ministries and agencies associated with specific sector such as mining and tourism; the Ministry of Foreign Affairs and the Ethiopian Revenue and Customs Authority. Moreover, there are also regional investment promotion agencies that encourage FDI in their region (UNCTAD, 2002).

The establishment of EIA and other investment promotion and support institution is also a step forward in the right direction. However, it needs high coordination among the various institutions to raise the effectiveness of the present national effort to attract FDI. The Ethiopia Investment Agency has restructured itself to improve the efficiency and effectiveness of the service delivery processes for investors is a measure that recognizes the need for effective co-ordination.

In additional to the above institutions, the financial sector of Ethiopia has been growing from time to time especially in the reform period. Indeed, their contribution to the GDP has been increasing throughout the years of the reform period. The growth of the entire sub-sector has been attributed to the expansion of private financial institutions like banks and insurance companies.

However, the financial institutions of Ethiopia are growing from time to time, they have various problems. The major problem facing the financial sector in the country is under development. This can take different forms such as the economy being less and less monetized, that is with limited circulation of money and with limited number of financial institutions throughout the country. Dealing and transactions are conducted in the traditional informal financial sector in the rural areas as well as in the urban areas. There are also problems related to current lending and collecting activities. For instance, the credit authorization procedures of lending institutions and their capacity of supervising loans have been inadequate. In general there are different kinds of bottlenecks for the development of the formal financial sectors (EFL, 2006).

These include the following:

- A good part of the economy being not yet monetized;
- Borrowers both private and public enterprises failing to repay loans at the agreed time in the required amount;
- Banks have been forced to sell collaterals (assets held as guarantee for loan payment) since 1998 to enforce the repayment of debts which needs a lot of time and efforts;
- Poor handling of customers and use of background methods or techniques;
- Lack of competition in the sector;
- The maintenance of large amounts of financial resources (excess liquidity) by some banks due to high collateral requirement and lack of variable projects;
- Limited capacity of the newly established financial institutions in terms of both capital and human resources;
- Shortage of trained and efficient human resources in the financial sector;

- Limited capacity of the controlling and supervisory bodies of the government, particular that of National Bank of Ethiopia (NBE).
- The inability of borrowers to submit up to date finance statements which can be used to assess the current financial position of the borrower;
- Lack of coordination among the different government units and financial institutions responsible for the withdrawal of business incenses without the notification of the lending.
- Unnecessary long bureaucracy procedures involving financial institutions in valuing the borrowers' assets.

3.3.3 The Ethiopian Economy

Ethiopia is one of the poorest countries in the world. Most of the population relies on subsistence agriculture and food aid. Yet, Ethiopia is amongst the fastest growing non-oil economies in the world. The economy witnessed a double digit growth rate trajectory since 2004. For example, real GDP grew by an average of 10.4 and 11.4 percent in year 2009/10 and 2010/11 respectively which places Ethiopia among the top performing economies in Sub-Saharan Africa despite world economic meltdown and global financial crisis (African economic outlook, 2012). This growth has been broad-based with the services and the industrial sectors growing at unprecedented rates. Accordingly, agriculture, industry and services grew by an annual average of 9%, 15% and 12.5% respectively during the 2010/11 fiscal period (Ibid). Even though the growth rate of industry and service sectors are higher, the economy is highly dependent on agriculture, which contributes to the GDP to the country to 45 percent and more than 80% of the population are engaged in this sector. The government of Ethiopia launched an integrated 5 year

development plan, the Growth and Transformation Plan (GTP), which aims to achieve 11.2-14.9% GDP growth annually, now it is the second phase; and also Millennium Development Goals has also implementing; and again the country plans and tries to implement to attain Middle-class income status by 2025.

3.3.4 Trends of Investment in Ethiopia

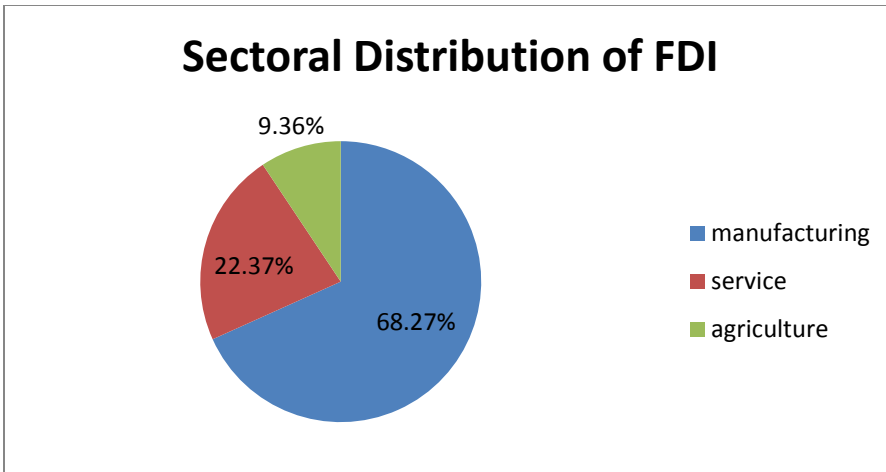
As discussed in the previous section, in the pre 1974 a liberal policy was followed to encourage the establishment of private industries and import substitutions were promoted and able to attract few investments. But from 1974-1991, when Derge came to power, the liberal policy was replaced by command system of economic management that discourages private investment in general and FDI in particular. In post 1991 EPRDF government replaces this command system and undertakes many macroeconomic reforms in order to increase the participation of private sector in the economy which is believed to have an important role in the development process. As the result of these measures, especially in the recent periods, the FDI inflow and the participations in the economy are increasing and we can also see these changes in different aspects.

When we see the trends from 1992-2015 of Ethiopian Investment Authority data, the amount of money that can inflow is approximately 153million, 1.4 billion and 5.5 billion Ethiopian birr in 1992, 2003 and 2014 respectively. From this data we can understand that the inflow of FDI to Ethiopia is increasing from time to time even though there are fluctuations.

3.3.4.1 Sectoral distribution of FDI

When we see the sectoral distribution of FDI among three main economic sectors; manufacturing, agriculture and service sectors accounted for about 68.27%, 9.36% and 22.37% of the total FDI inflows to Ethiopia from 1992 to 2015 respectively.

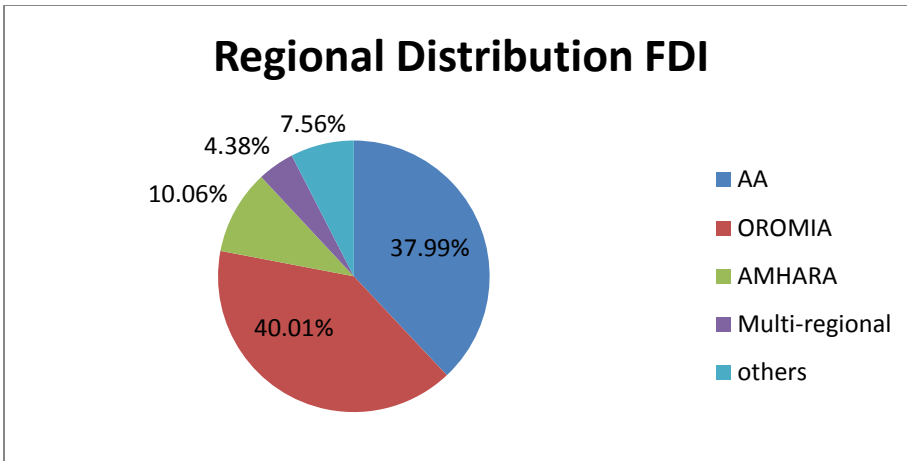
Figure: Sectoral Distribution of FDI (%)



3.3.4.2 Regional Distribution of FDI

The Regional Distribution of FDI inflows have been quite uneven. As EIA data shows most of the shares of FDI inflow are taken by the Oromia region and followed by the capital city, Addis Ababa. Out of the total inflows of FDI to the country Oromia region takes 40.01% while Addis Ababa and Amhara take 37.99% and 10.06% respectively. The rest regions were able to attract very few and insignificant amount. The justification for this might be poor infrastructure, lack of market due transportation cost or sometimes security problem. On the other hand, Oromia region and Addis Ababa city can attract a significant amount of FDI and it may be due to improved infrastructure and market accessibility.

Figure: Regional Distribution of FDI (%)



3.3.4.3 FDI flows by country of origin

According to EIA (2012), unpublished document, from the total 6235 FDI projects more than 900 projects inflow are from Chinese investors even though exclusively Chinese owned firm accounted for 773 where as others are joint-ventures. The second largest source is Sudan, accounted for the total of 717 projects (only 622 are exclusively owned by Sudanese). 937 FDI projects are from USA but only 484 are exclusively owned by US citizens. Britain, Turkey, Italy, Germany, France, Sweden, and Netherlands are the major sources of FDI from Europe. Other developing countries such as India, Saudi Arabia, Egypt, South Korea, UAE, Kuwait, South Africa, Nigeria etc., are also sources of FDI in Ethiopia (Ibid).

CHAPTER FOUR

4. DATA AND METHODOLOGY

This section presents a general description of the data and the empirical methodology used in the study. The paper entirely depends on secondary data for the period 1974-2015 in order to show the gap and the determinants of FDI inflows clearly in the two regimes; and the major data sources are National Bank of Ethiopia (NBE), Ministry of Finance and Economic cooperation (MoFEC), Ethiopian Investment Agency (EIA), Ministry of Education (ME), Central Statics Authority (CSA), etc.

4.1 Definition of Variables Market

Before specifying the model, it is important to identify and define the independent variables of FDI.

The World Bank World Development indicators (2003) defined FDI as the net amount invested or reinvested by non-residents to acquire a lasting interest (10 percent or more of voting stock) in enterprises in which they exercise significant managerial control. There are a number of FDI variables included in world development indicators data set: net FDI inflows BoP in current U.S \$, net FDI inflows as a percentage of gross capital formation and net FDI

inflows as percentage of GDP. In line with the approach used in the FDI literature, the dependent variable used in this study is the net FDI inflows as a percentage of GDP.

The choice of independent variable is constrained by data availability, as is mostly the case with time-series data in developing countries. Based on the availability of data, the following variables have been selected: market size, export orientation, macroeconomic stability, infrastructure and human capital.

Market Size: It is one of the significant determinants that have been used in empirical studies on the inflow of FDI to a host country. Because if the host countries have large market size it will have investment opportunities that will in turn to generate high profit for the foreign firms. Besides to this, the market hypothesis states that multinational firms are attracted to a larger market in order to utilize resources efficiently and exploit economies of scale (Charkraborti 2001). It can be represented by real GDP per capita and/or growth rate of real GDP and I include real GDP per capita in the regression as measure of market attractiveness. FDI is expected to have positive relationship with real GDP per capita. The data is taken from Ministry of Finance and Economic Co-operation.

Export Orientation: It is an openness that promotes FDI, which is measured as the ratio of exports to GDP and one indicator of openness is the relative size of the export sector (Singh and Jun, 1995). FDI is expected to have a positive relationship with trade openness. The data is taken from the Ministry of Finance and Economic Co-operation.

Macroeconomic Stability: There is a wide spread perception that macroeconomic stability shows the strength of an economy and provides a degree of certainty of being able to operate profitability (Balasubramanyam, 2001). It is represented by annual rate of inflation and exchange rate in the regression. Low inflation rates and exchange rates are expected to have a positive impact on FDI. Goldenberg and Klien, 1997 also found that frequent and erratic changes in exchange rate of the domestic currency affect the inflow FDI. The data is taken from the National Bank of Ethiopia.

Infrastructure: It covers many dimensions ranging from roads, ports, railways and telecommunication systems to the level of institutional development. The availability of well-developed infrastructure will reduce the

cost of the doing business for foreign investors and enable them to increase the rate of return on investment (Mouriset, 2001). Therefore countries with good infrastructures are expected to attract more FDI. Gross fixed capital formation (percent of GDP) has been included to proxy infrastructure development. FDI is expected to have positive relationship with infrastructure of the host countries. The data is taken from Ministry of Finance and Economic Co-operation.

Human Capital: Human capital is considered to be important factor for location strategies of multinational companies. When investing for the long term in another country, multinational companies have in mind the human resources in the host country. Large, efficient, and educated population is a requirement for an attractive investment (Getinet and Hirut, 2006). The more educated the population is, the more likely it is for a country to attract more FDI (Lewis1999). In this study human capital is measured by adult illiteracy rate (percent of people aged 15 and above). Adult illiteracy rate is expected to have negative relationship with FDI. The data is taken from Ministry of Education and Central Stastics Authority.

Table 1: The Proxy and Expected Sign of Independent Variables

Variables	Proxy	Expectation
Market size	Gross Domestic RGDP: Real Product per Capita	+
Openness	EXP: Export as % of GDP (Measure of Openness)	+
Inflation Rate	INF: Annual rate of Inflation EXR: Exchange Rate	- -
Infrastructure	GFCF: Gross Fixed Capital Formation (as % of GDP)	+
Human capital	ILR: Illiteracy Rate of human capital	-

-

4.2 Model Specification

When we come to the model specification, the general form of the model estimating is a multi-linear regression model. Since this study covers the period 1974-2015 and the variables that are discussed before constitute time-series information, the appropriate modeling strategy is one involving time-series analysis.

Following the works of the researchers that are mentioned in the empirical literature and others, this research is conducted on the determinants of FDI in Ethiopia by using multi-linear regression model.

The general form of the model is:

FDI, as a function of the market size, trade openness, inflation rate, exchange rate, infrastructure and human capital, i.e.

FDI=f(x), where x includes all the above independent variables

$$FDI = f(RGDPC, EXP, INF, EXR, GFCF, ILR).... [1]$$

Where:

FDI: the net Foreign Direct Investment inflow as a percentage of GDP (measure of FDI)

RGDPC: Real Gross Domestic Product per Capita (Measure of market size).

EXP: Export as Percentage of GDP (Measures of Openness)

INF: Annual rate of Inflation based on consumer price index (Measure of Inflation).

EXR: Exchange Rate

GFCF: Gross Fixed Capital Formation (as percent of GDP) (Measure of infrastructure)

ILR: Illiteracy Rate of human capital (percent of people aged 15 and above)

The model employed can also given by:

$$FDI_t = \alpha + \beta_1 RGDP C_t + \beta_2 EXP_t + \beta_3 INF_t + \beta_4 EXR_t + \beta_5 GFCF_t + \beta_6 ILR_t + \Sigma_t (2)$$

Where:– α is constant

- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are coefficients of independent variables

- Σ_t is error term

An important consideration to be made in relation to estimate the model given in equation (2) is to do with the existence of spurious regression. Granger and Newbold (1974) have shown that results based on models such as the one given in equation (2) may give rise to “spurious regression”. Spurious regressions occur when results from the model show promising diagnostic tests statistics even where the regression analysis has no meaning (Gugarati, 2003). Because of this problem, the first step in any time-series analysis is to test for the stationary variables.

3.2 Test for Stationary and Co-Integration

Test for stationary: stationary time-series is said to exist if the mean and variance are constant over time while the value of the covariance between the two time periods and not the actual time at which the covariance is computed (Gugarati, 2003). If the time series is non-stationary, the mean, variance or covariance will not be constant and one is likely to end up with spurious regression where statistical inference on the basic of the classical regression model will be invalid. For the purpose of testing the stationary of the time-series used in this study, Dickey-Fuller (DF) and Augmented Dickey-Fuller (ADF) tests have been conducted.

Test for co-integration: After testing our time-series for stationary, the next step of our time-series analysis is testing for co-integration. Variables are said to be co-integrated if a long-run equilibrium relationship exists among them. Engle and Granger (1987) argue that for such relationship to exist, the error terms of the model should be stationary.

The stationarity and co-integration tests that I have conducted suggest that model (2) should be estimated using different variables. The final short run model estimated therefore has the following form:

$$\Delta FDI_t = \alpha + \beta_1 \Delta RGDP Ct + \beta_2 \Delta Expt + \beta_3 \Delta INFt + \beta_4 EXRt + \beta_5 \Delta GFCFt + \beta_6 ILRt + \Sigma \dots (3)$$

Based on this short-run model, the regressions have been carried out to examine the determinants of FDI. Therefore, the next section should be analyzing the results of regressions.

CHAPTER FIVE

5. RESULT AND DISCUSION

Before going to results and discussion directly, we should give highlights about the stationary and co-integration tests of each variable as follows:

5.1 Unit Root Test

For the purpose of testing the stationary of the time-series used in this study, Dickey-Fuller (DF) and Augmented Dickey-Fuller (ADF) tests have been conducted.

Table5.1: Augmented Dickey-Fuller (ADF) Test for Unit Root

Variable	ADF Test at level		ADF Test at 1st difference	
	Constant	Constant +Trend	Constant	Constant +Trend
	Actual value (t-cal)	Actual value (t-cal)	Actual value (t-cal)	Actual value (t-cal)
LFDI	-0.48	-2.59	-10.92*	-10.82*
LGFCF	0.44	-3.03	7.91*	-8.03*
LEXR	-0.18	-2.77	-3.94*	-3.97*
RGDPC	0.03	1.81	1.75	3.63*
INF	-4.24*	4.24*	-8.66	-8.55
LEXPOR	-2.36	-4.45*	-5.69*	-5.76*

--	--	--	--	--

Note

- ✓ t critical without trend at 1%=-3.66 and 5%=-2.96 with trend and intercept at 1%=-4.28 and at 5%=-3.56
- ✓ * represents significant level at 1%. And ** represent significant level at 5%.

The above table indicates the unit root test result of the variable using Augmented Dickey-Fuller (ADF) test. For this test Akaike information criterion test was used to select the maximum lag length. From those variables inflation and export orientation are stationary at level while foreign direct investment, gross fixed capital formation, exchange rate and real GDP per capita are stationary at first difference either constant or constant with trend at 1% and/or 5% level of significance.

5.2 Testing for Co-Integration

Having tested time-series for stationary, the next step is testing for co-integration. In order to check for the existence of long run relationship in the model, an Engle Granger co-integration test was used to check whether a long run relationship among the variables present or not. There may be more than one co-integrating relationship among co-integrated variables. Enger Granger test provides estimates of all such co-integrating equations and provides a test statistic for the number of co-integrating equations.

Table 5.2: Co-integration test

Null Hypothesis: RESID01 has a unit root		
Exogenous: Constant		
Lag Length: 0 (Automatic - based on SIC, max lag=9)		
	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.475239	0.0000
Test critical values: 1% level	-3.600987	
5% level	-2.935001	
10% level	-2.605836	
*MacKinnon (1996) one-sided p-values.		

From the co-integration test result on table 5.2 above, the value of t-statistic tells as there is a long run relationship between variables and these variables can move together in the long run.

5.3 Long Run Model

Table5.3: long run model test

Dependent Variable: LLFDI				
Method: Least Squares				
Date: 06/02/16 Time: 05:12				
Sample: 1974 2015				
Included observations: 42				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LGFCF	0.867683	0.451041	1.923734	0.0628
EXPOR	-2.043356	0.519960	-3.929836	0.0004
EXR	-0.199430	0.082551	-2.415854	0.0212
RGDPC	1.150517	1.706180	0.674324	0.5047
INF	-0.001433	0.010814	-0.132475	0.8954
ILR	-46.36462	8.742138	5.303579	0.0000
@TREND	0.612233	0.108445	5.645550	0.0000
C	-45.88544	8.826058	-5.198860	0.0000
R-squared	0.915374	Mean dependent var	6.217947	
Adjusted R-squared	0.897951	S.D. dependent var	1.804442	
S.E. of regression	0.576430	Akaike info criterion	1.905717	
Sum squared resid	11.29722	Schwarz criterion	2.236702	
Log likelihood	-32.02005	Hannan-Quinn criter.	2.027036	
F-statistic	52.53851	Durbin-Watson stat	1.722306	
Prob(F-statistic)	0.000000			

In the table 5.3 above the long-run OLS estimation result shows that in the long run model foreign direct investment is determined by 91.5% of R-squared by the independent variables. So, in the long –run model the dependent variable FDI is highly determined by the independent variables. The 89.7% Adjusted R-squared (coefficient of determination) also measures the proportion or percentage of the total variation in the dependent variable explained by the regression model. The value of Durban-Watson 1.72 states that there is no serial correlation

between the variables in the long run. As shown in the above table exchange rate, export orientation and illiteracy rate variables are significance at 1% and 5% level.

The regression result in the above table also shows that coefficients of inflation, exchange rate, export orientation and illiteracy rate are negative while real GDP per capita, gross fixed capital formation and export orientation have a positive relationship with the dependent variable FDI. Moreover, exchange rate, export orientation and illiteracy rate are significant while real GDP per capita, gross capital formation and inflation are insignificantly affect FDI inflows. This implies that when RGDPC and GFCF increase by one unit each, FDI positively affected by 1.15 and 0.86 amounts respectively. Here, the finding suggests that, the improving market size and the growth of infrastructure in Ethiopia affects FDI inflows positively even though it is not significant. The reason that makes insignificant may be there was a serious problem in both RGDPC and infrastructure during the former regime. Not only for the former regime, even though there is an improvement, the gap of the market size and the infrastructure very chronic today to attract FDI.

On the other hand inflation, when exchange rate, export orientation and illiteracy rate increase by one unit, FDI negatively affected by 0.001, 0.19, 2.043 and 46 amounts respectively.

Finally, from the results of the above long-run table the following long-run equation model for FDI can be derived as:

$$FDIt = \alpha + \beta_1 RGDPC + \beta_2 EXPt + \beta_3 INFt + \beta_4 EXRt + \beta_5 GFCFt + \beta_6 ILRt + \Sigma_t \dots (1)$$

$$FDIt = -45.88 + 1.15 RGDPC - 2.043 EXPt - 0.001 INFt + 0.19 EXRt + 0.86 GFCFt - 46 ILRt + \Sigma_t \dots (2)$$

5.4 Short Run Dynamics

In addition to the long-run relationship, short-run relationship between variables should be checked. Error Correction Model (ECM) has been used to find out the short run dynamics. When the error term is stationary, the variables are co-integrated in the linear combination of those variables; and when the variables are co-integrated, they share a long-run relationship over time.

Table 5.4: Short Run model

Dependent Variable: LLLFDI				
Method: Least Squares				
Date: 06/02/16 Time: 05:37				
Sample (adjusted): 1977 2014				
Included observations: 38 after adjustments				
Convergence achieved after 41 iterations				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLGCF(-2)	2.717179	5.350092	0.507875	0.6154
EXPOR(1)	-0.619537	0.603805	-1.026055	0.3133
EXR(1)	0.118969	0.134970	0.881452	0.3853
RGDPC	-1.357977	5.376132	-0.252594	0.8024
INF(-1)	-0.001633	0.011926	-0.136931	0.8920
ILR	-14.58566	8.417492	-1.732780	0.0938
ECM(-1)	-0.447672	0.179567	-2.493058	0.0186
C	8.815738	15.09812	0.583896	0.5638
AR(1)	0.718131	0.165508	4.338956	0.0002
R-squared	0.941850	Mean dependent var	5.928054	
Adjusted R-squared	0.925808	S.D. dependent var	2.220822	
S.E. of regression	0.604911	Akaike info criterion	2.035924	
Sum squared resid	10.61161	Schwarz criterion	2.423773	
Log likelihood	-29.68256	Hannan-Quinn criter.	2.173918	
F-statistic	58.71343	Durbin-Watson stat	2.217498	
Prob(F-statistic)	0.000000			
Inverted AR Roots	.72			

The results of short run dynamics of the variables are reported in table 5.4 above. According to the result, the Error Correction Model of our short run model is also statistically significant, and the coefficient of ECM (-1) is a negative sign. It is another proof that short run relationship exists among the variables. The value of coefficient of ECM (-1) is negative which is (-0.44) and

it is a better speed of convergence; and the whole system can get back to long run equilibrium by 44.76% speed of adjustment.

The final short run model estimated therefore has the following form:

$$\Delta FDI_t = \alpha + \beta_1 \Delta RGDP C_t + \beta_2 \Delta Expt + \beta_3 \Delta INF_t + \beta_4 EXR_t + \beta_5 \Delta GFCF_t + \beta_6 ILR_t + \Sigma \epsilon_t \dots (3)$$

$$\Delta FDI_t = 8.8 - 1.35 \Delta RGDP C_t - 0.6 \Delta Expt - 1.001 \Delta INF_t + 0.11 EXR_t + 2.7 \Delta GFCF_t - 14.58 ILR_t + \Sigma \epsilon_t \dots (4)$$

5.5 Model Fitness

R-Squared (correlation coefficient), the measure of correlation between dependent and independent variables, with 0.91 values well explained the model. Therefore the regressor and the regressand are highly correlated that shows the strength of the model. Adjusted R-Squared (coefficient of determination) which is the most commonly used measure of the goodness of fit of a regression also measures the proportion or percentage of the total variation of the independent variable explained by the regression model. The value 0.89 depicts that 89 percent measures the proportion or percentage of the total variation of the independent variable explained by the regression model, which is nice explanation.

The value of Durbin Watson Statistics, which is a better test for detecting the existence of serial correlation, is 1.7 and 2.2 in the long run and short run respectively. In both long run and short run model the study shows that there is no a problem of serial correlation.

The second test for serial correlation is the Breusch-Godfrey (BG) or Lagrange Multiplier (LM) Test. The basic idea is to regress, the residuals from the OLS regression on all of the independent variables and on the lagged values of the residuals. As shown in annex 1, the BG test shows there is no problem of serial correlation using the null hypothesis:

H_0 = There is no problem of serial correlation, and the alternative hypothesis

H_1 = At least one has a problem of serial correlation.

5.6 Diagnostic Checking

The next section is applying the necessary diagnostic tests on the model to check the problems of normality, heteroskedasticity, and model specification and multi-collinearity problems. The results of these tests are reported in Annex1. If this number of F-statistic is larger than the critical Chi-square value from the table there is a problem with heteroskedasticity. But, the result in this table indicates that there is no problem of heteroskedasticity because the value of critical Chi-square is greater than F-statistic. And the residuals obtained from our long run model are normally distributed using normality test (Jarque-Bara test of normality) stats that we test the hypothesis. Our model is well specified according to Ramsey's RESET test. The test statistics and probabilities from Breush-Godfrey Serial Correlation LM Test and White Heteroskedasticity test indicate respectively that there is no problem of serial correlation and heteroskedasticity. The ARCH test also negates or cancels out the presence of autoregressive conditional hetroskedasticity: presence of autoregressive conditional hetroskedasticity.

Stability Test: By applying Custom test I can check whether the model is stable or not. The graph of this model passes through between two upper and lower lines; this indicates that model is stable. The graph is attached in the appendix part.

CHAPTER SIX

6. CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

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

RGDPC has a positive but insignificant impact on FDI flows in Ethiopia. This conclusion is nearly similar to the following market hypothesis i.e., multinational firms are attracted to a larger market, measured by RGDPC, in order to utilize resources efficiently and exploit economies of scale (Charkraborti 2001), even though our finding shows insignificant effect, it may be from our shallow market.

Physical infrastructure also has a positive but insignificant effect on the contribution on FDI inflows in Ethiopia. This finding is nearly similar to the following finding even though our finding shows insignificant effect, i.e., the availability of well-developed infrastructure will reduce the cost of doing business for foreign investors and therefore countries with good infrastructures are expected to attract more FDI (Mouriset, 2001).

The level of inflation has insignificant but negative impact on the FDI inflows in Ethiopia. This finding is similar to the former findings such as Getnet and

Hirut (2005) examined determinants of FDI in Ethiopia over the period 1974-2001, using a time series analysis, their empirical analysis showed that macroeconomic instability (measured by inflation) has a negative impact on the FDI inflows in Ethiopia. According to Solomon (2008) inflation reduces the real return on investment and firm's competitiveness. Therefore higher and unpredictable inflation will decrease the inflow of FDI.

Exchange rate has negative and significant impact on FDI inflows in Ethiopia. This result nearly similar to the following finding i.e., Goldenberg and Klien, 1997 found that frequent and erratic changes in exchange rate of the domestic currency negatively affect the inflow of FDI.

Export orientation has significant and negative impact on FDI inflows in Ethiopia. This finding is not similar to many other findings like, Asiedu (2002) found that openness to trade rewards with more investments. In our case this may be the result of different obstacles and challenges that faces in the investment environment such as poor infrastructure, high transportation cost, worse bureaucracy, etc., which make the export sector incompetent and not profitable in the international market. This makes foreign investors have no interest to come to Ethiopia and participate in the investment sector even though there are improvements in recent times.

Finally, illiteracy rate has significant and negative impact on FDI inflows to Ethiopia. This result is similar to the former results like the more educated the population is, the more likely it is for a country to attract more FDI

(Lewis1999). Fayyaz et al., (2012) also concluded that availability of skilled labor force encouraged the FDI inflows.

6.2 RECOMMENDATION

In foreign direct investment, there are many factors that determine the overall performance of FDI inflows. Based on the findings of the study, the following recommendations are provided as follows:

Even though the market size affects FDI inflows positively but it is insignificant because of low market size. As we know in Ethiopia today there are above 20 million people live below poverty line. This people cannot play a functional role in the market, even from those who live above poverty line large number of the population has no role in the market because of their low-income. So, the Ethiopian government should change this environment by alleviating poverty through fast, sustainable and continuous growth momentum. Not only growth but also fair distribution of income should be taken in to consideration.

GFCF constitutes all kinds of infrastructure development. Even though GFCF have a positive effect on FDI, it is insignificant. As we saw in the previous sections different findings in the literature, infrastructure has a positive and significant effect on FDI inflows. Here in our case the source of insignificant impact may be the poor infrastructure performance of the country. Because of poor infrastructure and other factors as mentioned in the sub-topic of the regional distribution of FDI, above 74.78% of FDI is invested in Oromia region and Addis Ababa city. This shows as FDI is restricted mainly in areas where a better infrastructure. So, the Ethiopian government should improve the country's infrastructure above the rate at which he is doing now both in type and distribution.

Even if the impact of inflation is insignificant, it has a negative relationship with FDI. Moreover, exchange rate has both negative and significant effect on FDI inflows in Ethiopia. So, the government should focus on the macro-economic environment that strengthens the economy and builds confidence for potential investors. In order to develop this economic the government should take the necessary steps through the adoption of sound fiscal and monetary policies. This in turn makes the inflation and exchange rate stable economic condition for the FDI inflows to Ethiopia.

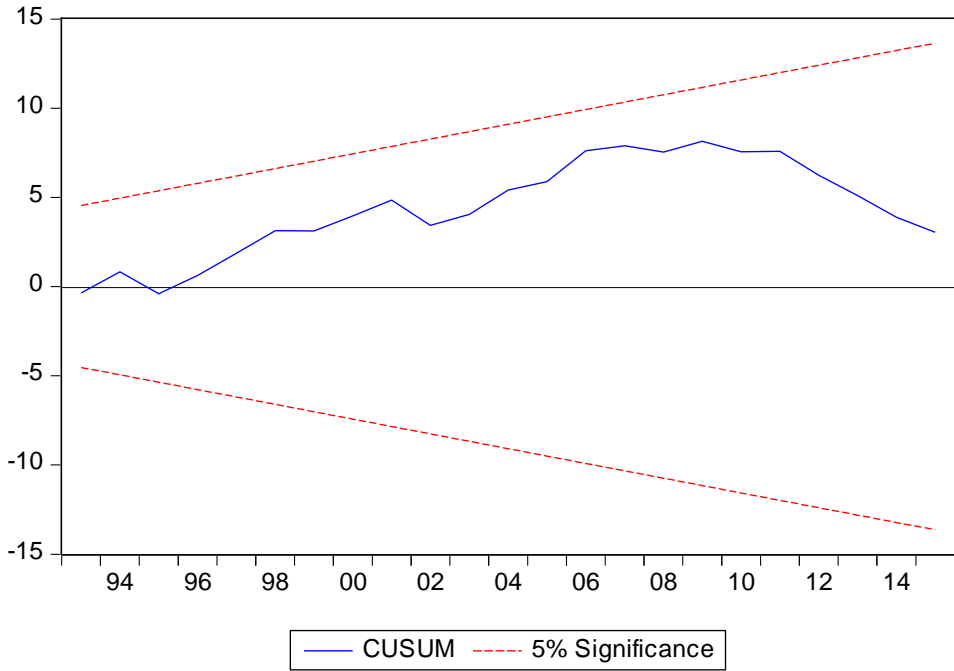
Export orientation has significant and negative impact on FDI inflows. Here, in my opinion, in Ethiopia there are a lot of obstacles and challenges in the investment environment as mentioned before such as poor infrastructure, high transportation cost, worse bureaucracy, etc. which make the export sector incompetent and not profitable in the international market. This makes foreign investors have no interest to come to Ethiopia and participate in the investment sector. Therefore, Ethiopian government should take different additional measures and implement seriously to improve the investment environment to make the export sector effective and profitable.

Finally, illiteracy rate has significant and negative impact on FDI inflows. Here, we can understand that educated and well trend human capital has vital role for FDI inflows. Therefore the government should keep it up the education and training programs by giving high attention for quality education.

Annex 1: Diagnostic checking

<p>Normality Test (Jarque-Bera Statistics)</p>	<p>Jarque-Bera Statistics = 0.58</p>		<p>Probability = 0.74</p>
<p>Serial Correlation (Breush-Godfrey Serial Correlation LM Test)</p>	<p>F-Statistics=0.87</p>	<p>Critical chi-square = 0.31</p>	<p>Probability = 0.31</p>
<p>ARCH Test (Autoregressive Heteroskedasticity Test)</p>	<p>F-Statistics=0.14</p>	<p>Critical chi-square=0.69</p>	<p>Probability = 0.70</p>
<p>Heteroskedasticity Test (White Heteroskedasticity Test)</p>	<p>F-Statistics=0.64</p>	<p>Critical chi-square=10.13</p>	<p>Probability = 0.68</p>

Figure 1: Stability test



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