Addis Ababa University School of Graduate Studies

Department of Economics

Macroeconomic Determinants of Foreign Direct Investment in Ethiopia:
(A Time Series Analysis)

By

Yonas Fantaye

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ADDIS ABABA, ETHIOPIA

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Acronyms

ADLI - Agricultural Development Led Industrialization

AfDB- African Development Bank

AGOA-African Growth and Opportunities Act

COMESA-Common Market for Eastern and South Africa

CPI- Consumer Price Index

CUTS- Consumer Unity and Trust Society

EIC- Ethiopian Investment Commission

EPA- Ethiopia Privatization Agency

EPRDF -Ethiopian People Democratic Republic Front

ESA- Ethiopian Statistical Agency

FDI -Foreign Direct Investment

FDRE -Federal Democratic Republic of Ethiopia

GDP- Gross Domestic Product

GDPPC -Gross Domestic Product per Capita

IMF-International Monetary Fund

MNCs -Multinational Companies

NBE -National Bank of Ethiopia

OECD -Organization for Economic Cooperation and Development

ODA-Official Development Assistance

RIOs - Regional Investment Offices

SAP-Structural Adjustment Program

SADC -South African Development Communities

SSA- Sub-Saharan Africa

TFP-Total Factor Productivity

TNCs -Trans-national Companies

UNCTAD - United Nation Conference on Trade and Development.

VECM - Vector Error Correction Model

WDI- World Development Indicators

WIR -World Investment Report

Declaration

I, the undersigned, declare that this project paper (Macro Economic Determinants of FDI in Ethiopia: A time series Analysis) is my original work and has not been presented for Master's degree in any other university, and that all sources of material used for the project have been duly acknowledged.

Declared by:

Name: Yonas Fantaye Wondemagegnhu

Signature: ……………….

Date: ……………………..

Confirmed by (Advisor)

Name: Adane Tufa (PhD)

Signature: …………………

Date: ………………………

Place and date of submission: …………………………

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Abstract

This paper gives an analysis on Macroeconomic determinants of Foreign Direct Investment (FDI) in Ethiopia based on a time series data using the period from 1982 to 2014G.C. It is also examines the trend of FDI inflows to the country. The study also discusses why Ethiopia is conducive for Foreign Direct Investment and the area of opportunity.

In order to point out the main macro level factors that can highly affect the inflow of FDI in Ethiopia and to know how much these factors affect FDI leading to an oscillating trend. The study took the macro level data in Ethiopia, such as, infrastructure development, potential economic growth, macroeconomic stability, human capital development and Trade openness. In addition, the study gives an extensive account to the theoretical explanation of FDI based on both macro and micro perspectives.

Findings show that, in the long run explanatory variable such as infrastructure development, potential economic growth and Trade openness are found positively related and statistically significant while Inflation Rate and Human Capital (illiteracy level) are negatively related and statistically significant. Its parallel with the hypothesis of growing economy attracts more FDI and higher illiteracy level hampers FDI inflows. On the other hand, in the short run tele per 100, Gross Fixed Capital Formation, Openness and Potential Economic Growth become negatively related and they are statistically insignificant where as illiteracy rate and inflation are positively related and statistically significant.

In general, the major implication of this study is that, in Ethiopia foreign direct investment is more determined by sufficient infrastructural activities, higher economic growth, and macroeconomic stability, educated human capital and unrestricted trade in the long run. Hence, in order to increase the inflow of FDI, it is very crucial to concentrate on the mentioned macro economic sectors.

CHAPTER ONE: INTRODUCTION

Background of the Study

The global economic integration which gained momentum since the beginning of the 1990s has led to a significant flow of foreign direct investment towards developing countries. Following the decline in official development aid (ODA) flows, many developing countries are increasingly aware of the role of foreign direct investment (FDI) as an engine of growth in their economies.

Foreign investors can contribute to growth of a country by providing a package of financial capital, transfer of technology, sharing risks in large projects, job opportunity, information, goods and services that can make a country more competitive in the world market. (Krifa-Schneider, 2010).

Foreign Direct Investment can be defined as an investment made by a firm or an entity based in one country, into a firm or entity based in another country. According to the World Bank, foreign direct investment is defined as "an investment made to acquire a lasting management in an enterprise operating in a country other than that of the investor." According to the IMF (1993) Balance of payment manual, an investment by a foreign investor is regarded as FDI if the direct investor holds at least 10 percent of the ordinary share or voting power of a firm.

Multinational companies (MNCs) are usually attracted to a particular country by the comparative advantage that the country or region offers. For instance, multinational companies may establish foreign subsidiaries in one country to take advantage of its lower labour costs or its large market size. In general Dunning (1993) identified three possible motives for FDI:

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 labour.

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 economics of scale and scope and diversification of risk.

The above three motives of FDI are categorized under economic determinants of FDI. Besides these economic determinants, there are also two other crucial determinants of FDI: *host country FDI policy framework and business facilitation.*

FDI flows to developing economies increased by 2 per cent to reach their highest level at $681 billion in 2014, accounting for 55 per cent of global FDI inflows. Five of the top 10 host economies now are developing ones. However, the increase in developing country inflows is, overall, primarily a developing Asia story. FDI inflows to that region grew by 9 per cent to $465 billion, constituting the lion's share of total FDI in developing economies. Africa's overall inflows remained flat at $54 billion, while those to Latin America and the Caribbean saw at 14 per cent decline to $159 (World Investment Report, 2015)

Africa has never been a major recipient of FDI flows and so lags behind other regions of the world. But, as a percentage of global FDI flows, Africa's share increased to 4.4 percent, from 3.7 per cent in 2013. Slow global economic growth may make the faster growing African economies relatively more attractive.

Compared to other parts of Africa, the performance of East African countries in attracting foreign direct investment is becoming improved, its FDI flows increasing by 11 per cent from 2013 to 2014. (World Investment Report, 2015)

Statement of the Problem

Many scholars have been conducted different researches to analyze the determinants of FDI inflows to developing countries. But there is a dearth of literature targeted to analyze the Economic determinants of FDI. Various empirical literatures show that there is no single list of determinants attributed to every region or country to attract foreign investment in the world. Aseidu (2004) support this argument, by explaining the fact that determinants in East Asia and Latin America do not apply to African countries.

A large number of countries around the world spend enormous resources and time in designing and implementing policies that would attract FDI to their respective territories. Various factors including social and political stability of the country, macro economic factors (such as size and growth of market and the cost of production); trade regime in a country and privatization programs may determine the inflows of FDI.

World Investment Report (2010) identifies the factors that influence future FDI inflow globally from 2010 onwards is that macroeconomic factors, firm level factors, risks and uncertainties. Macroeconomic factors include gross domestic product, gross fixed capital formation, the interest rate and commodity prices. Firm level factors are profit and liquidity position (cash holding). Yet, risks and uncertainties such as instability of global financial system (high inflation and instable exchange rate) may affect FDI inflow negatively (UNCTAD 2010).

In our Country, the gap between domestic investment and savings has become improved but not quite significant this is may be due to the low levels of income and domestic savings. FDI as a source of capital and other business know-how is therefore desperately essential to finance growth and development. Between 1990 and 1997, gross domestic investment as a proportion of GDP rose from 12 per cent to 19 percent, while gross domestic savings remained at the same rate (Getinet and Hirut A, 2006).

Likewise, Ethiopia, in an attempt to accelerate economic growth and development, encouraged FDI through the introductions of different incentive packages and liberalization of investment policies especially post 1991.

Few researches have been made what determine FDI inflows in Ethiopia, but I didn't find particularly on macroeconomic determinants aspects of FDI. Asiedu (2002, 2003 and 2004), Haile A and Hirut. G (2006), Daniel T. (2009), Solomon M. (2009), Abiyot D. (2014) Asmelash Berhane (2015), Tesfanesh Zekios (2012) and Hailu (2010) are among the major contributors in developing empirical literature on the determinants of FDI in Ethiopia.

Therefore, the question is what are the Economic factors that determine FDI inflows to Ethiopia? By doing time-series analysis data from 1982 to 2014 G.C, it is important to find out which Macroeconomic determinants are the most significant.

Objective of the Study

The main objective of this project paper is to identify and examine Macroeconomic factors that determine the inflows of FDI in Ethiopia for the period 1982 – 2014.

Significance of the study

Evidence from a wide range of empirical studies suggests that FDI determinants differ across regions and between developed and developing host economies (Dunning, 1980; Nigh, 1985; Katrakilidis, Tabakis, & Varsakelis, 1997).

Most of previous studies were focused on the general determinants of Foreign Direct Investment in Ethiopia (based on Economic, Business Facilitation and Policy Frame work) .Now a days, it is important to notice that, determinants of FDI are studied through classifying at the micro-level and macro-level theories.

The micro-level theories of determinants of FDI try to provide answer the questions why 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. The macro-level determinants deal with the host countries situations that determine the inflow of FDI. (Solomon M, 2008). So that, this Project paper will be an attempt to address the major determinants at aggregate level of FDI and macro-level characteristics of the investment environment.

It will also give information for Government to prepare and perform a better policy frame work in a favor of FDI inflows. Furthermore, this project will Contribute to our knowledge and understanding of the issue, and enrich the subject/field of study with recent and tangible data and evidences.

Limitation of the study

The apparent limitation of the study is that it concentrates on macroeconomic variables than sectoral FDI .Disaggregated research might reveal impacts of sector level variables which helps policy makes better. Lack of data at different levels is the main reason for using aggregate FDI data .

Organization of the Paper

The project paper has six chapters. After a brief introduction in chapter one, chapter two provides a critical review of literature. Chapter Three, presents the current performance of Ethiopian Economy and discuss the existing FDI policy frame work. Chapter Four provide the Methodology i.e. method of analysis, data type, technique, model specification. Chapter Five provide, econometric analysis result and discussions. The final chapter provides summary, conclusion and some recommendation.

CHAPTER TWO: LITERATURE REVIEW

Theoretical Literature

Basic theoretical discussion on the determinants of FDI might start with posing a simple question as to why a foreign investor will invest in other countries. The decision to invest in a foreign country by a foreign investor fundamentally depends on the return on investment, which is profit (Kinda, 2010). Profit (Π) is the difference between total revenue (TR) minus total cost (TC). In functional form, Π can be written as

$\Pi = f (P, Q, TC)$ -------- (1)

$TC = IC + OC + HC,$

P = Price of the output (Q) which is mainly determined in the competitive market;

Q = Output

TC = Total cost

IC = Input cost, such as cost of labor, land, interest rate, cost of raw materials, electricity, gas, water

OC = Operation costs. It includes both financial and time costs, such as money and time required to get and business/export-import license, money and time required to get gas, water, electricity, land and transaction and transportation costs.

HC = Hidden cost.

It is the difference between the time and money costs declared by the government and time and money actually paid by the investors. It also includes hassle costs.

Profit will be higher in a country where foreign investors can operate their business at a low cost and can produce at full scale in a competitive price. It means the variables that determine profit can equivalently determine the inflow of FDI to a particular country. It allows us in writing the following reduced form function:

$FDI_{it} = f (P, Q, TC)$ ------------- (2)

Substituting the TC= IC +OC+ HC into equation (2) we can re-write it as follows:

$FDI_{it} = f (P, Q, IC, OC, HC)$ ------------- (3)

Subscripts i and t stands for the individual country and year respectively.

The size of the economy and its growth rate might critically affect the inflow of FDI to a particular country. Large and fast growing economy can offer economies of scale and also can reduce the transportation and product marketing cost as products will be mostly sold in the host economy. In fact, UNCTAD (1998, 2000) classifies a group of foreign investors who mainly invest to foreign countries to serve the domestic market. This market seeking foreign investors thus prefers to invest in countries with large domestic market and in countries which are growing at a faster rate. It is however, difficult to imagine that market seeking foreign investors will invest in foreign countries completely to serve the host economies. Rather it might be case that foreign investors might also export a portion of their product to other countries as well besides selling in the host economy. It means a country with small domestic market, but well-linked and open to the global market through international trade can also provide scale economies similar to the countries with large domestic market, to the foreign investors. Thus, openness to global market might significantly determine the inflow of FDI. Probably, due to openness, a few small economies, such as Hong Kong and Singapore receive substantial amount of FDI (e.g., UNCTAD, 2009). Thus, it is reasonable to postulate the following theories.

Theories of FDI

Theories of FDI can be split into 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 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. The macro-level determinants deal with the host countries situations that determine the inflow of FDI.

Micro-level Theories of FDI

The Early Neoclassical and Portfolio Investment Approaches

According to the early neoclassical approach, 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). "The portfolio approach to FDI reacted to this early theory of FDI by emphasizing not

only return differentials but also risk" (Almayehu, 1999). However, the movement of capital is not unidirectional. Capital moves from countries where return on capital is high to countries where return on capital is low and vice versa.

The Product Life Cycle Theory of FDI

This theory was first developed by Vernon in 1966. A new product is first produced and sold in home market. At the early stage, the product is not standardized. i.e. per unit costs and final specification of the product are not uniform. As the demand for the product increases the product will be standardized. When the home market is saturated, the product will be exported to other countries. The firm starts to open subsidiaries in locations where cost of production is lower, when the competition from the rival firms intense and the product reaches its maturity.

Therefore, FDI is the stages 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, 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. In other words, there are transactions that should be "internalized" to reduce transaction costs and hence increase profitability. 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 kind of economically useful knowledge can be called technology. Mostly, technologies or knowhow can be sold and licensed. However, sometimes, there are technologies that are embodied in the mind of a group of individuals and 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. In addition, a number of problems may arise if an output of a firm is an input to other firm in other country. For instance," if each has a monopoly position, they may get into a conflict as the buyer of the input tries to hold the price down while the firm that produces input tries to raise it"(p.173). Nevertheless,

these problems can be avoided by integrating various activities within a firm rather than subcontracting the activities (Krugman and Obstfeld, 2003).

The Eclectic Theory of FDI

John Dunning developed an eclectic theory of FDI, which is called *OLI paradigm*. O, L and I refer ownership advantage, location advantage and internalization conditions, respectively.

Operating in a foreign country market has many costs and these "costs of foreignness" 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 (TNCs) 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), Laar(2004)).

Macro-level Determinants of FDI

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

The size of Domestic Market

The size of the domestic market is a fundamental determinant of FDI. The wealth and development of a country can be used as proxy to measure the size of the domestic market. Most commonly, per capita income (PCI), which is an indicator of effective demand, is used to measure the size of local market. In addition to PCI, the GDP of a country and the population

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size are also used as an indicator to measure the size of local market. However, if a firm is export-oriented and not market seeking, the size of domestic market will not be an important determinant of FDI (Root and Ahmed, 1979). A large market can help firms producing tangible products to achieve scale and scope economies. The domestic market growth rate which is measured in terms of population and GDP growth rate also determines the inflow of FDI into a country (UNCTAD, 1998).

Natural Resources

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

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. 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 Labor Cost

As noted by neo-classical economists 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 out-put labor ratio (labor productivity) also determines the inflow of FDI.

Inflation

Through its effect on the cost of inputs and the price of outputs, inflation reduces the real return on investment and firms' competitiveness. Hence, countries that pursue policies that reduce 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 (Birhanu, 1998).

Exchange Rate Variability

Frequent and erratic changes in exchange rate of the domestic currency affect the inflow of FDI (Goldberg and Klien, 1997). Exchange rate devaluations have a twofold role in explaining variations in FDI. On the one hand, the real value of foreign investors' capital increases when the host country's currency is devalued. On the other hand, frequent and continuous declines in the value of host country's currency would decrease FDI inflow, as it creates high uncertainty (Accolley et al, 1997).

Foreign Debt

Excessive 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. Excessive foreign debt may signal imminent fiscal crises and foreshadow the future economic situation in a county (Serven and Solimano, 1992).

Fiscal Deficit

The fiscal deficit of a government, whether it is financed through printing additional bank notes or through taxation (which equally leads to inflation), decreases the real return on investment (Serven and Solimano, 1992). Moreover, 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. On the other hand, expansionary fiscal policy may be important for the expansion of public sector investments on infrastructure (UNCTAD, 1998). In general, 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 (Accolley et al, 1997).

Geographical Proximity

Jinayu (1997) noted that in the current global economic structure, geographical proximity and cultural and linguistic affinities are becoming one important determinant of foreign direct investment. The IFC&FIAS (1997) study as well confirmed that FDI from developed to developing countries are influenced by geographical proximity. For instance, while Japanese firms tend to open subsidiaries in China and newly industrialized Asian countries, the West European firms tend to open their subsidiary in East Europe.

Political Stability

The economic process of a country and in particular the inflow of FDI into a country can be disrupted by unsettled, implicit or explicit, internal or external political disputes and crises. Without stable political conditions, whatever the economic environment may be, a county's effort to create a more hospitable environment for oversea investors cannot be fruitful. Political instabilities can delay FDI until the storm weathers away or diverts away for good (Birhanu and Kibre, 2003).

Legal and Regulatory Framework

While stable, transparent and reliable legal and regulatory frameworks promote both domestic and foreign investment, an inefficient and ineffective legal system is an impediment to enforce laws and contacts. (Birhanu and Kibre, 2003).However, UNCTAD (1999) indicated that an efficient and transparent legal system, and in particular LDCs, does not automatically make a country more attractive for FDI.

Privatization

Privatization provides a concrete vehicle for TNCS to invest in a country. It has generated substantial amounts of FDI in many developing economies. Sound privatization programs have three main characteristics: political commitment, business orientation, and transparency. Large scale privatization programs send a signal to foreign investors that a government is taking steps to create a climate conducive to FDI. Thus, FDI in privatization of infrastructure enterprises (e.g. telecommunications) and industrial enterprises would have great impact on other FDI flows (IFC & FIAS, 1997).

Regional Integration (Access to Regional Markets)

Regional trade agreements can play an important role in terms of enhancing FDI inflows to member countries, through creating access to regional markets. Thus, strong regional integration through trade agreements can influence the investment decisions of TNCs. Mwilima (2003) point out that regional integration is a determinant of market-seeking FDI. The benefits of regional integration depend on a respective country's domestic market size, level of infrastructure development and availability of skilled and cheap labor force compared to other member countries.

Investment Promotion Strategy and Incentive Structure

Investment incentives are FDI policy instruments used to attract foreign investors. These include tax reductions & exemptions, special tax allowances, financial incentives such as low interest loans, subsidies as well as grants. Investment guarantees (e.g. guarantees for repatriation of capital and transfer of profits, and guarantees for provision of foreign currencies) can also be seen as an incentive to attract TNCs. Bilateral and multilateral investment treaties are also an incentive to increase investment, through creating a predictable investment climate, thereby improving direct foreign investors confidence (Birhanu and Kibre, 2003). However, investment incentives are not substitutes for other determinants like infrastructure and market size. This clearly indicates that the effectiveness of investment incentives is highly determined by the host country's level of development (UNCTAD, 2000).

As regards investment promotion, "some economists argue that, if countries would only get their investment policies right, investors would search out all worthwhile investment opportunities" (IFC& FIAS, 1997:49). In reality, not all prospective investors search for opportunities; as a result, investment promotion is vital particularly in least developed countries (LDCs). Image building, investment generation and investors servicing are the three main elements of successful investment promotion. Investment promotion agencies can help the investment process if they indentify sectors and clusters of activities where comparative advantages exist and where new ones can be developed (IFC&FIAS, 1997).

Other Determinants of FDI

In addition to the mentioned macro-level determinant of FDI, numerous other factors are mentioned as host country determinants of FDI in the literature. 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).

Empirical Evidences

Most empirical evidences show that huge FDI inflow to the host country is attributed to the economic growth of that country. Using Cobb-Douglas production function and 47 African countries for the period of 1990-2003, (Sharma and Abekah, 2007) estimated the effect of FDI on the economic growth of Africa. Their result indicates that FDI has a positive effect on the growth of GDP in African countries. The key result shows one percent rise in the ratio of FDI to GDP leads to a rise in the growth of GDP by 0.71 percentage points. The study further indicates, FDI is more productive than Gross Domestic Capital Formation (GDCF) in Africa. Similarly, using an extended Cobb Douglas production function in 39 SSA countries for a period of 1980 -2000, the study found a statistically significant coefficient of 0.11 for the region (Seetanah and Khadaroo, 2007). The dynamic estimate shows a positive link between FDI and economic performance in the region. However, the result suggests, FDI's effect on the economy is relatively low compared to other studies done on different developing regions around the world.

Adams (2009) reviewed various empirical studies on the relationship between FDI and economic growth in SSA countries and concludes that FDI is a necessary but not a sufficient condition for economic growth. He indicates that FDI contributes to economic growth through augmentation of domestic capital, enhancement of efficiency through the transfer of new technology, marketing and managerial skills, innovation and best practices. The review noted that FDI has both benefits and costs and its impact is determined by the country specific conditions. The paper identifies the increase in FDI inflow into SSA has not led to a corresponding increase or positive effect on economic development of the region. Adams cited, the most important recipient of FDI in SSA in the 1990's in terms of GDP (22%) was Lesotho, but economic growth decelerated over the same period. On the other hand, while FDI flows to Botswana declined, the economy continued to grow. However, Adams went on to say, this is not to suggest that FDI is not needed

in the SSA region, but rather FDI's growth enhancing effect is possible only when it stimulates domestic capacity of the host country.

Borensztein et al. (1998) empirically estimated the effect of FDI on economic growth of industrial as well as 69 developing countries, and the channels through which FDI may be beneficial for growth. The authors went further to see whether FDI affects growth by itself or through the interaction with other terms. All regressions for this study were based on panel data for two decades (1970-1989). The main result indicates FDI has a positive overall effect on economic growth, though the magnitude of this effect depends on the stock of human capital available in the host country. The result shows each percentage point increase in the FDI-to-GDP ratio increase the rate of growth of the host economy by 0.8 percentage points. However, the authors emphasized, the higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital, i.e. 0.83. The paper indicates inclusion of an interaction term between FDI and human capital improved the overall performance of the regression. It yielded a coefficient that is positive and statistically highly significant. All countries with secondary school attainment of 0.45 years of schooling (for male population above 25 years) would benefit positively from FDI. It indicated strong complementary effects between FDI and human capital on the growth effect of income and that the direct effect of FDI may be quite different for countries with different level of human capital. For countries with very low level of human capital, the direct effect is negative. Moreover, the paper indicates, FDI has the effect of increasing total investment in the economy more than one for one, which suggests the predominance of complementarily effect with domestic firms. In other words, FDI crowds-in domestic investment. Simply put, the paper concluded that FDI contributes to economic growth through capital formation and technology transfers.

With the hypothesis, all FDI's are not beneficial to the host country economy, Alfaro and his colleagues examined how FDI affects growth in primary, manufacturing and service sector and found great variance. Using cross-country data from 1981 - 1999 with sample of 47 developing and developed countries, the finding indicates, in general, FDI has an ambiguous effect (Alfaro, 2003). FDI inflow in the primary sector has a negative effect on economic growth, whereas the FDI inflow to manufacturing sector has a positive effect. And its effect in the service sector was unclear. In a follow up study, Alfaro and his team examined whether countries with better

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financial system can exploit FDI more efficiently and they found out countries with well-developed financial market gain much from FDI (Alfaro et al., 2004).

A time series study on impact of FDI in China and India shows a positive impact in economic growth. According to the suggested result, growth in India and China is mainly depending on trade liberalization policy by each country made in 1990s and the consequent upsurges inflow of foreign capital to both these countries. In 1975, China was at equivalence with India in GDP, yet 33% lower in its GDP per capita ($146 versus $220). But over the years China developed more rapidly than India and surpassed India in terms of GDP per capita in 1984. The study also investigates the reasons how china has grown more rapidly than India by utilizing FDI (Agrawal and Khan (2011)).

After analyzing the data from 11 countries in East Asia and Latin America, using econometric techniques such as unit root and co integration tests, Ram and Zhang (2002) provides evidence that FDI promotes economic growth in countries with a liberalized trade regime, and a workforce with higher job skills and education. According to Ram and Zhang (2002), FDI provides ready access to the world markets and acts as a conduit for the host country to participate in the globalization process (Ram and Zhang (2002)).

Borensztein, De Gregorio, and Lee used cross-country data for 1970–79 and 1980–89 to study the FDI to growth connection and the possible complementarities between FDI and the host country's human capital. They investigated that the higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital and suggested that "FDI contributes to economic growth only when a sufficient absorptive capability of the advanced technologies is available in the host economy." (Borensztein, De Gregorio and Lee (1998)).

De Mello (1999) used both time series and panel data to estimate the impact of FDI on capital accumulation, output and Total Factor Productivity (TFP) growth in the recipient country economy. The author included a sample of 15 developed and 17 developing countries for the period 1970 to1990. The time series estimations suggest the effect of FDI on growth or on capital accumulation and TFP varies greatly across the countries. The panel data estimation indicates a positive impact of FDI on output growth for developed and developing country sub-

samples. The paper concludes FDI contributes to the economic growth of a country through skill acquisition, encouraging adoption of new technology and knowledge transfer.

Njoupouognigni (2010) investigated the long run relationship between FDI, foreign aid and economic growth in SSA countries over the period of 1980 to 2007.The paper used panel data of mean group (MG), pooled mean group estimator (PMG), and dynamic fixed effect (DFE). The result shows a strong positive impact of FDI on economic growth in SSA countries. It indicates, although the effect of FDI on economic growth is positive and statistically significant, human capital remains the key factor that can foster economic growth in SSA countries.

Haile & Assefa (2006) analyzed determinants of FDI in Ethiopia using a time series data (1974-2001) and concluded that growth of real GDP, export orientation and liberalization promote the inflow of FDI while macroeconomic instability and poor infrastructure deter the inflow of FDI. Their paper concluded that, liberalization of the trade and regulatory regimes, stable Macroeconomic and political environment, and major improvements in infrastructure are essential to attract FDI to Ethiopia.

Naudé and Krugell (2003) covered the period 1970-1990 in their cross-country analysis on whether institutions and geography matter as determinants of FDI in Africa. They concluded that geography does not have a direct influence on FDI flows to Africa. They used a number of specifications on policy instruments to demonstrate that neither market seeking nor re-exporting motives for FDI seem to dominate. In critically reviewing the claims of earlier studies on the dominance of economic policies, they concluded that good policies are only significant if they are made by good institutions. As an institutional measure, political stability proved to be a significant determinant of FDI.

Yasin (2005) examines the possible link between Official Development Assistant (ODA) and FDI flow to SSA countries. The study uses panel data from 11 SSA countries for the period 1990 -2003. The empirical finding from the study indicated that ODA has positive and significant effect in the flow of FDI to the region. Adding to existing evidence, the result has indicated trade openness, the growth rate in labor force, and the exchange rate of the recipient country's currency have a significant positive effect on FDI flows. On the other hand, other factors like growth rate in GDP per capita, index of political repression, and index of the composite risk of the recipient

country are statistically insignificant. Among others, an important policy implication suggested by the paper includes formulation of policies to enhance the economic and political relationships with donor countries.

Breslin and Samanta (2008) endeavored to establish a relationship between corruption and FDI in 11 African countries, covering the period 1995-2004. No conclusive evidence was found that corruption has an effect on FDI inflows.

Gohou and Soumare (2012) examine the relationship between FDI and poverty reduction (welfare) in Africa using sample of 52 African countries for the period of 1990 to 2007. Unlike most other studies, this paper used FDI net inflows per capita and the United Nation Development Program's Human Development Index as the principal variables. The result indicates FDI has positive and significant effect on poverty reduction in Africa. It pointed out FDI has a greater impact on welfare in poorer countries than it does in wealthier countries. Relatively, while FDI has positive and significant effect on poverty reduction in Central and East Africa, it is not significant in North and Southern Africa. The relation was found to be ambiguous in West Africa.

Asiedu (2003), used panel data for 22 countries in sub-Saharan Africa over the period 1984-2000 to examine the impact of political risk, the institutional framework and government policy on FDI flows. She concluded that macroeconomic stability, efficient institutions, political stability and a good regulatory framework have a positive effect on FDI on the continent. In her study, she also refers to several investor surveys that revealed that, firstly, factors that attract FDI to Africa are different from those that work in other regions, and, secondly, that the region is also structurally different from the rest of the world (Asiedu, 2003:4). Asiedu (2004), again, covering the period 1980-1999, concluded that despite the fact that Africa has reformed its institutions, improved its infrastructure and liberalized its FDI regulatory framework, the initiatives have been less significant than those implemented in other developing countries, making SSA less attractive for FDI inflows.

Hailu (2010) empirically estimates the demand side determinants of the inflow of FDI into Africa using a data set of 45 countries for the period of 1980 to 2007. He concludes that natural resource, labor quality, trade openness, market accession and infrastructure condition have

positive and significant effect on the flow of FDI into Africa. The study further finds government expenditure has a negative effect on the flow of FDI into the region. Similarly, private domestic investment also has negative effect, indicating there is no crowding effect. Other factors such as government fiscal policy have shown association with FDI inflow.

Morisset (as cited by Naudé & Krugell, 2003:5) finds that more FDI flows to countries with larger local markets and/or natural resources. She concludes that aggressive liberalization, modern investment codes and strong economic growth are important prerequisites for increased flows of FDI to Africa.

There are eleven countries in the categories of "least FDI recipient'' and these countries Share common characteristics that none of them are oil exporting countries and all of them except Swaziland are less developed countries (LDCs) and the size of their economies is very small. For instance, in 2006, the Egypt's GDP is six times greater than the eleven countries GDP. As per their political environment is concerned 4 out of 11 are suffering from severe military conflict and ethno – linguistic fractionalization.

CHAPTER THREE: FDI IN ETHIOPIA

3.1 Overview

The history of endeavors to industrialize Ethiopia dates back to the beginning of the 20th century, when foreign nationals who had settled in urban areas realized Ethiopia's demand for manufactured goods, and began to establish manufacturing firms in Ethiopia (Yohannes, 1999:305). However, Befikadu (1983:100) noted that until 1957 there had been no documented strategy for industrialization of Ethiopia except the declaration of the ten-year industrial development programme of 1945, which consisted of only the general guidelines.

Immediately after the over thrown of Emperor Hailesilase in September 1974, a military junta called derg was establish from several division of the Ethiopian armed forces. The government installed a socialist command economic system where market system was deliberately repressed and socialization of the production and distribution process followed. This led Ethiopia into the Socialism system where discriminatory market economy and private property. At this time land, private large and medium scale enterprises were nationalized. The land reform measure that was undertaken in 1975 was one of the major policy reforms that took place immediately. Land was nationalized and private ownership of land ceased. The government also nationalized and subsequently re organized private banks, insurance companies, transports companies, and medium and large scale manufacturing enterprises. In this period according to (Astatike and Assefa, 2005), average GDP growth was about 2% and average per capital GDP was negative. The derg did not give any opening for privatization to domestic and foreign investors, so the gap between domestic investments and saving remained wide in the pre-1991 period.

The economic performance of the pre 1991 period was characterized in three phases.
- The first phase of the regime, 1974-1978, economic performance was poor due to the emerging of new polices and the nationalization measures.
- The second phase of the regime, 1978-1980, the economy began to recover and the growth rate increased. This period was characterized by stability and benefited from good weather. Agriculture product was increased.

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

In this period, 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. (Haile and Assefa, 2006)

In post 1991 Ethiopian Peoples' Revolutionary Democratic Front (EPRDF) thrown the Derg regime and has governed Ethiopia ever since. EPRDF replaced the command system to free market system and undertaken many macroeconomic reforms. The government implemented a series of re-form measures like deregulation, privatization, liberalization of foreign ex-change market, elimination of export tax except for coffee, lowering of maxi-mum import duties from 230% to 60% 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. (Haile and Assefa, 2006).

3.2 Over all analysis of FDI in Ethiopia

The government has also adopted agriculture-led industrialization program, rural development policy and strategy, industrial development strategy and other sectoral policies and strategies, with a focus on productivity growth on small farms and labor-intensive industrialization with the view that agriculture centered development will bring about a fast economic growth. Economic growth during this period (1992-2015) has improved with an average rate of 8.9%. GDP per capita has also grown by 3% per annum reaching US$550 in 2012/13 and the rate of inflation declined from 21% in 1992 to less than 10% in March 2014.

In 1991 the regime 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 national (ADBG (2000)). Under SAP the country become more attractive for FDI and made the domestic investors competitive.

The main objectives of the government were increasing the role of the private sector in the economy and the privatization program was started in February in 1994. Since then, Ethiopian Privatization Agency (EPA) has become the lead agency in carrying out the process of privatization of public enterprises. On the other hand, In recognition of the role of private sector in the economy, the government has revised the investment code five times in the last twenty four year (1992-2013) to make the investment climate attractive. As a result of the implementation of the above mentioned reforms, policies and strategy, agricultural and industrial production, investment and export trade has improved.

Due to the investment friendly environment created through the introduction of investment guarantee schemes and incentives, the inflow of foreign direct investment has been increasing over the last twenty four years but it is still small relative to other African countries. Out of the total investment project licensed between 1992-2012 FDI's shares is about 15.8%. China, India, Sudan, Germany, Italy, Turkey, Saudi Arabia, Yemen, the United Kingdom, Israel, Canada and United States are the major sources of FDI.

Ethiopia has over 89.4 million peoples and thus potentially one of the largest domestic markets in Africa. By virtue of its membership of the Common Market for Eastern and Southern Africa (COMESA), embracing 19 countries with a population of over 400 million, Ethiopia also enjoys preferential market access to these countries. In addition to this, Ethiopia qualifies for preferential access to European Union market under the EU's Everything-But-Arms (EBA) initiative and to USA markets under the African Growth and Opportunities Act (AGOA). Accordingly, most Ethiopian products can enter into these markets quota and duty free. Furthermore, a broad range of manufactured goods from Ethiopia are entitled to preferential access under the Generalized System of Preference (GSP) of the USA. No quota restrictions are placed on Ethiopian exports falling under 4800 products currently eligible under the GSP.

The Ethiopian economy is based on agriculture, which in 2012/13 contributed approximately 42.9% of the gross domestic product (GDP) and 90% of foreign currency earnings. The country

is among the top performing economies in Sub-Saharan Africa. In the first four years of growth and transformation plan (GTP) implementation, the GDP had grown on average by about 10.1 percent per annum Out of the total landscape of the country, which covers 1.14 million square kilometers, over 74.3 million hectare of land is arable out of which only about 18 million hectares are currently utilized (45% of the total area).

As of recent years, foreign direct investments (FDI) inflow has been increasing throughout Africa in general and in some selected countries in particular. The continent's FDI inflow share has grown by 5.6% within the last five years. At a regional level, the sub-Saharan African region also witnessed a booming FDI influx. Foreign direct investments inflows into this particular region have grown by 22% within the previous five years according to the World Bank.

In addition to the natural potential, doing business in Ethiopia is easier than in other African states. According to a 2013 survey conducted by the World Bank, Ethiopia ranks 7th out of all African countries in terms of the ease of doing business.

Ethiopia concluded investment promotion and protection agreements with 18 countries across the globe. Furthermore, the country signed double taxation avoidance treaties with countries such as China, India, Turkey, the UK, France, Russia, Kuwait Israel, Egypt and South Africa all to facilitate the inflow of FDI into Ethiopia.

As for the incentives, "the government offers various packages of incentives in terms of tax breaks and import duty exemptions. They also offer service facilitation for investors when they arrive. There is an efficient service in terms of issuing the licenses to start the businesses.

A foreign investor is required to have 200,000 USD of minimum capital in a given project and if it is in partnership with a local investor, the capital requires of him is 150,000 USD per project. The minimum entry capital required of a foreign investor investing in areas of architectural, engineering works or related technical consultancy services, technical testing and analysis and publishing work is US$100,000 where the ownership is fully foreign owned. If it is made jointly with domestic partner(s) the minimum capital required for the foreign investor is US$50,000. If the investor reinvests his/her profits or dividends, or exports at least 75% of the products, there is no minimum capital requirement. For those foreign companies that increase their production

capacity by 50%, the country also entitles them to income tax exemption for up to six solid years especially in sectors which are given a priority by the government: leather, textiles, food industry, pharmaceuticals and agriculture.

Among the major factors that are hindering the country's FDI inflows is poor logistics. However, the country is working very hard to improve the conditions on this front. Among others, Ethiopia Investment Commission has begun to provide different services for incoming investors in order to reduce the cumbersome bureaucracy. In the past, it was a must to visit a number of offices to get different services such as banking, telecom, immigration as well as electricity. To address this problem, Ethiopian Investment Commission set up an office that serves as a 'one stop' investment center.

3.3 Distribution of FDI by Sector

Natural resource is the chief determinant of FDI in Africa, particularly in least developed African countries. Nevertheless, the natural resource base of Ethiopia is not attractive for foreign investors, as Ethiopia does not have sufficient stock of minerals and petroleum, the most important natural resources that attract FDI in Africa.

By using the decisive natural resource which is land in proper manner together with the relatively cheap labor force Ethiopia is planning to become member of middle income country in 2025. In doing so, the private sector and FDI are treated as a motor in the industrial development strategy and because of the record Ethiopia achieved for consecutive ten years average economic growth of 9.5% it become to be among the ten countries in the world that grows at a fastest rate.

After the overthrow of the Derg regime and the establishment of investment beauro in 1992 until 12 march 2015 a total of 4987 foreign investors established a project in Ethiopia and among these 2117 (42.45%) of the project is in the manufacturing sector with a capital of 74,124,768,850 birr, 2016 (40.43%) in the service sector with a capital of 19,610,532,250 birr and 854 (17.12%) in agriculture and mining sector with capital of 11,205,962,580 birr.

In terms of employment creation from the period 22 August 1992 – 12 March 2015 (G.C) a total of 624,310 peoples are employed among them 254,988 are permanent and 369,322 are temporarily employed. The agricultural sector share of employment is higher which is a total of 390,576 both permanent and temporary (62.56% of the total employment), the manufacturing sector follows with a total of 136,848(2). (21.92%) and the service sector 96,886 (15.52%).

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

FDI inflows to Ethiopia showed an increase in absolute terms from an annual average of $131.6 million between 1995 and 2000 to $404.1 million in the year between 2001 and 2006, although there are fluctuations due to the political instability in those periods. And also, the percentage share of FDI inflow to GDP rose from the 1995-2000 average of 1.57 to 4. As shown in Figure 1, during the Ethio-Eritrea war (1998-2000) the inflow of FDI had fallen to a large extent. Besides, in 2005, during the country's election crisis time, the FDI flows declined to $265 million from $545 million in the preceding year of 2004. Recently, the FDI inflow to Ethiopia has been unable to revive for three years in a row, since the global financial crisis hammered the world economy in 2008. FDI inflows have declined continuously from an annual average of 242 million dollar between 1995 and 2004 to 184 million dollars in 2010.

Figure1. FDI inflows (as % of GDP)

FDI
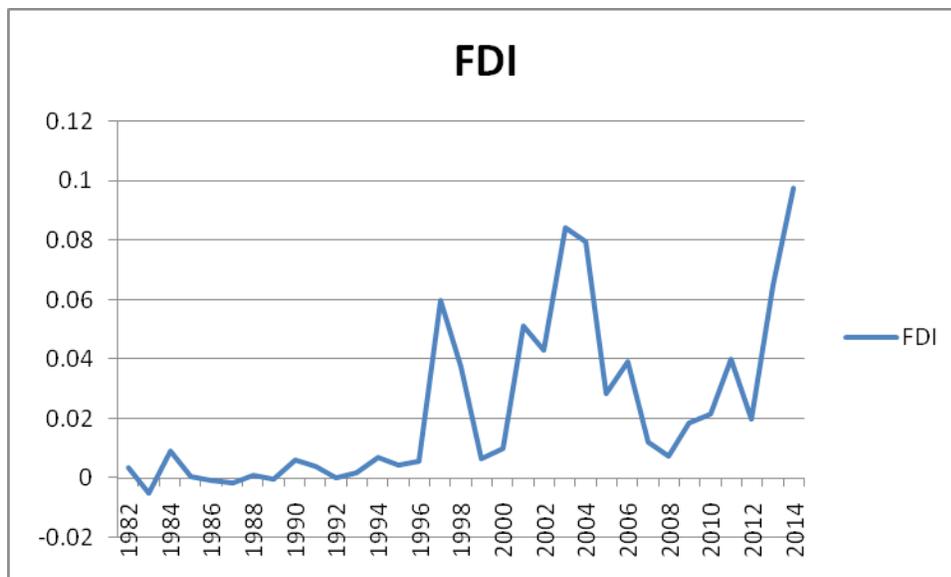
Source: UNCTAD, 2015

Moreover, despite the improvements in the overall economic contexts, Ethiopia's share of FDI inflows to Africa remains below 2 percent (UNCTAD 2011). Inauspiciously the share of FDI in the Ethiopian gross fixed capital formation has declined from an annual average of 14.8 percent over the 1995 to 2004 to a meager 3.2 percent in 2010. The figure also shows that the percentage share of FDI to GDP remains the least, as it was recorded 9.76 in 2014, which was the highest over the past 20 years.

3.4 Why should investors prefer Ethiopia?

The Ethiopian economy continued its strong expansion in FY14 with real GDP growing by 10.3 percent. At the same time, inflation has remained in single digits for the last two years. On the fiscal side the budgetary stance at the general government level has been cautious. In an effort to adjust for the rising cost of living, the FY15 budget incorporated an increase in public sector salaries through a supplementary budget in the middle of the fiscal year. Goods exports showed positive growth in 2013/14 but rates remained far below their historical growth; furthermore, export growth fell into negative territory again—after an earlier dip in 2013/14—in the last quarter of 2014 and first quarter of 2015(4th Ethiopia Economic Update,2015).

According to Ernest and Young study (2014), Ethiopia's inflow of investment of FDI since 2003 Ethiopia received 1.6% of Africa's total FDI for new projects and 0.8% of capital invested since

2007. Nearly 43% of capital invested into Ethiopia went into manufacturing activities. From 2007-2012 among 69 projects Food and tobacco (18%), financial services (13%), textiles (10%) , automotives (7%) and metals (6%) are the major sector beneficiaries of FDI projects. From 2007- 2012 most capital is invested from 4,833 million USD to real state (30%), food and tobacco (16%), coal, oil and natural gas (12%), communication (8%), textile (8%), and other sectors take (28%). Since 2007 Ethiopia's top five investors for FDI capital with a total of 4,833 million USD are UAE (42%), USA (16%), India (12%), Germany (9%), china (8%), and other investors (29%).

In Ethiopian FDI outlook, conducted by oxford Economics and E&Y analysis (2014), in terms of natural resource Ethiopia will be attractive for FDI by 2018 given its gold reserve and the potential for commercial development in natural gas, iron ore, and oil reserves. The labor force also is attractive by 2018 because working population is growing rapidly and cost of labor remains low. Market size will have average FDI attractiveness potential given the small economy in absolute terms but sustained and rapid growth, coupled with a large population makes this a market with significant potential. Infrastructure will be attractive in 2018 because of the rapidly improving infrastructural development with substantial investments being made. Bureaucracy and political environment ranked as average FDI attractiveness stage in 2018.

According to African project Access, business monitor international (2014), Ethiopia's active infrastructure projects up to July 2013 ranks 15th in Africa by number of projects and 17th by capital allocation. From these power plants and transmission grids has a project number of six with capital value in (US$m) 3,827, commercial construction takes 5 projects with (US$ M) 147, railway and project with (US$M) 4,368, Airports 2 project with (US$M) 133, industrial construction 2 projects with (US$M) 751 and roads and bridges 2 projects with (US$M) 194.

In general the trend in the past two or three years has been encouraging .for example Ethiopia attracted 953 million $ in FDI in 2013 which is the highest ever in the history of the country. However, though this is a good achievement the trend must increase rapidly since Ethiopia has the 4th largest GDP in sub-Saharan Africa.

The FDI has started to go in to diversified sectors including manufacturing. The analysis indicated that investors are starting to invest to those sectors where Ethiopia has competitive and

comparative advantage. On the other hand, the source of countries that the FDI come is becoming diversified until recently Ethiopia was highly dependent on FDI from the newly emerging economies such as China, Turkey, and India. However, recently there is a growing interest from western developed economies. Example, in 2012 the 2 largest FDI were from UK and Netherland represented by Diageo and Heineken. This shows that the growing interest in investing in Ethiopia.

According to Zemedeneh (2014), In comparison to the Africa countries the share is small. But Ethiopia's dream is to become one of the major manufacture hubs of Africa but several other Africa countries also aspire to do that .So, one way to win in the battle is by making the business operating environment smooth and efficient other task is investing in infrastructure the progress in this aspect is significant progress. For instance, in power supply Ethiopia has the lowest electric tariff in the world which is around 4 US cents per KW/hr. So the investor in manufactory sector will seriously consider this aspect. The other comparative advantage Ethiopia has is Chip and abundant labor. Ethiopia average monthly labor manufacture cost is around 60 to 80 $ per month where as in China it is as high as 600$ .Hence, this is the reason China industries are setting up industry in Ethiopia.

Generally, the country has been registered two digit growth rates but we still need to do a lot in attracting FDI. There are policies, which need to be reviewed by the government. There are still many sectors of the economy that were closed to foreigners that need to be opened up. Ethiopia discourages foreign investment in sector such as mobile phone network, banking, insurance, electricity among others. These deters not only FDI flows in to the country but also FDI flows to other sector as they are a majored indicators of the government overall openness to foreign investor. On the other hand, the inefficient government bureaucracy, corruption, the terribly slow judicial process in adequate infrastructure facilities, lack of skilled work force and the limited purchasing power of the people are the other factors that hinder FDI flows in to the country.

CHAPTER FOUR: DATA SOURCE AND METHODOLOGY

4.1 Data set and source of data

4.1.1 Data Set

There are many empirical and theoretical literatures that suggest ways to enhance the inflow of FDI and among them this study try to test which macroeconomic variable has high capacity to influence the inflow. In doing so, this study takes time series data on a number of macro-economic variables that determine the inflow of FDI in Ethiopia.

4.1.2 Source of Data

This paper was entirely dependent on secondary data. The major data sources are Ministry of Finance and Economic Cooperation (MoFEC), Ethiopia Investment Commission (EIC), Central Statistics Authority (CSA), National Bank of Ethiopia (NBE) and country reports published by the United Nations Conference on Trade and Development (UNCTAD) and The World Bank development Indicator.

FDI Percentage change in GDP is the measurement variable used to assess the determinant in the study. Both quantitative and qualitative methods of data analysis are used. The econometric method employs co-integrated vector autoregressive (VAR(P)) technique. Vector Error Correction Method (VECM) will be employed for short-run modeling and Johansen co-integration method will be used for Long-Run relationships among the variables by using time series data from 1982-2014(G.C).

4.2 Definitions of variables

According to World Bank development indicator (2015), FDI is defined 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, BOP in current U.S. $; net FDI inflows as percent of gross capital formation; net FDI inflows BOP in current U.S $ and net FDI inflows as percent of GDP. In line with the approach used in the FDI literatures (Adeisu, 2002, Quazi, 2005, Abiyot, 2013 etc.), the dependent variable used in this study is the net foreign direct investment inflows as a percentage of GDP.

The choice of independent variables is constrained by data availability, as is mostly the case with time-series data in developing countries. For example, time-series data on some of the factors such as tariff rates, trade taxes, real wages, corruption index and political stability index that are used in some studies of this nature are not readily available for Ethiopia over the (entire) study period. Notwithstanding this constraint, this study uses the following variables that are commonly used in studies of FDI.

*Market Size***:** the market size hypothesis states that multinational firms are attracted to a larger market in order to utilize resources efficiently and exploit economies of scale (Chakrabarti, 2001) (Javorcik et al., 2011; Al-Sadig, 2009),. Market size has been represented by real per capita GDP and growth rate of real GDP (as market growth potential). Growth rate of real GDP per capita is used in the regression as measures of market size as a proxy variable. According to the literature we expect real GDP per capita will 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***:** there is a widespread perception that macroeconomic stability shows the strength of an economy and provides a degree of certainty of being able to operate profitably (Balasubramanyam, 2001). Inflation rate is used as proxy variables for macroeconomic stability. Low inflation rate is expected to have a positive impact on FDI.

Trade Openness: The ease of capital movement to and out of the country and the trade openness of the country affect the flow of FDI. The standard way of thinking is that countries with capital control and restrictive trade policies discourage business, compared with countries with liberal policies. Openness of a country could be expressed in different ways. Among others, trade restrictions, tariffs, and foreign exchange control law could be mentioned. Since the data for variables that measure capital account openness are not readily available, this study has used the ratio of trade to GDP (import plus export to GDP). As openness of an economy is believed to foster the level of FDI, the more open an economy is, the more likely it would grow and attract FDI. Thus, we expect a positive relationship between openness and level of FDI.

Infrastructure development: Infrastructure development is one of the well-recognized factors for attracting FDI. The main argument is a well-established infrastructure such as roads, airport, electricity, water supply, telephones, and internet access will reduce the cost of doing business

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

Human Capital: Large, efficient, and educated population is a requirement to attract FDI. Evidence gathered from the literature reviews has shown that the presence of skilled human capital as a pull factor for foreign MNCs. It is often said that countries with a large supply of cheap but skilled human capital attract more FDI and thus progress economically. The conventional wisdom has it that a more educated labor force can learn and adapt to new technology faster, and is generally more productive. Especially in this age of high tech, it is suggested countries that try to attract FDI should have the required human capita to run the high-tech industries. In this study expenditure on education is used as a proxy for human capital. As more developed human capital attracts more FDI, we expect a positive relationship between FDI and human capital.

Table 1. Expected signs among the variables

Variables	Proxy	Expected signs

Market(potential growth)	Real GDP growth rate (RRGDPC)	+
Openness	Ratio of Trade to GDP(TRD)	+
Inflation Rate	Annual Inflation Rate (INFL)	-
Infrastructure	Gross Fixed Capital Formation(GFCF)	+
Infrastructure	Tele per 100 individual(TELE)	+
Human Capital	Illiteracy level(percentage of people aged 15 and above) (ILLI)	-

Model specification

This study uses a model which is developed by Chan and Gemayel (2004) to examine the determinants of FDI in Ethiopia over the period of 1982 – 2014 by using Ordinary Least square method. This model analyzes the effect of number of variables on FDI and is presented as follows.

$FDI = f(X)$,

Where X includes market size, trade openness, inflation rate, infrastructure and human capital

$FDI= f$(RRGDPG, TRD, INFR,INFL,ILLIT)……………………………(I)

$FDI= f$(RRGDPG, TRD, INFL,(GFCF,TELE), ILLIT)........................... *(2)*

$FDI_t = \alpha + \beta1 \ RRGDPG_t + \beta2 \ TRD_t - \beta3 \ INFL_t + \beta4 \ GFCF_t + \beta5 \ TELE_t + \beta6 \ ILLIT_t +$

$\mathcal{E}_t$…………………… (3)

The stationary and co-integration tests that have been conducted suggest that model (3) should be estimated using the first difference variables. The final short run model estimated therefore has the following form

$\Delta ln\_FDIt = \alpha + \beta1 \ \Delta RGDPGt + \beta2 \ \Delta TRDt - \beta3\Delta \ INFLt + \beta4\Delta GFCFt + \beta5\Delta \ TELE_t - \beta6\Delta \ IllIrt$

$+\mathcal{E}_t…$ (4)

Where

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

- TRD = Ratio of Trade to GDP(import plus export percent of GDP) (measures of openness)

- TELE = Number of telephone per 100 person. (measure of Infrastructure)

- GFCF = Gross fixed capital formation (percent of GDP) (measure of Infrastructure)

- ILLIT = Illiteracy rate (percent of people aged 15 and above) (measure of human capital)

- INFL=Inflation Rate (consumer Price Index)

Stationarity and co-integration test

Regression models for non-stationary variables (mostly macro-economic variables) give spurious results. A stochastic Process Y_t is called stationary if the mean, and auto-covariance's of the series are finite and independent of time.

There are many different type of stationary test the way time series data are analyzed. In macro-level data analysis, unit root test is a common practice to accommodate non-stationary. If this behavior of macro-variables is left uncorrected, it would lead to the problem of spurious regression when there is a need to model relationships among variables. On this project, I am going to employ the unit root test for stationary of the data using the Augmented Dickey-fuller (ADF) on EVIEWs 8 software.

Those tests avoid the problem related with lagged variables and it corrects for serial correlation by adding lagged-difference terms (Greene, 2003).

If the data generating process follows the first order autoregressive process, i.e. AR (1) .The ADF test can be captured by the following specification of an equation.

The ADF test consists of estimating the following regression (Gujarati 2004).

$$\Delta y_t = \theta \cdot y_{t-1} + \sum_{p=1}^{P} \omega_p \cdot \Delta y_{t\text{-}p+1} + u_t \dots\dots\dots\dots\dots(5)$$

$$\Delta y_t = \alpha + \theta \cdot y_{t-1} + \sum_{p=1}^{P} \omega_p \cdot \Delta y_{t\text{-}p+1} + u_t \dots\dots\dots\dots(6)$$

$$\Delta y_t = \alpha + \theta \cdot y_{t-1} + \beta \cdot t + \sum_{p=1}^{P} \omega_p \cdot \Delta y_{t\text{-}p+1} + u_t \dots\dots\dots(7)$$

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Where Y_t is the variable of interest, t is the time trend, k is the lag length which is determined by a general to specific method where by a general lag structure will be allowed and the insignificant lags will be eliminated sequentially based on Shewartz Information Criterion (SIC) and u_t is a random variable assumed to be 'white noise'.

Then we test the set of hypothesis:

Ho: = 0 (i.e y_t series is integrated of order one or unit root)

Ha: < 0 (i.e y_t series is integrated of order zero or non-unit root)

Where, Ho and Ha are the null and alternative hypothesis respectively.

The Johansen (1988) procedure allows testing for the presence of more than one co-integration vector. Moreover, it permits to estimate the model without priority restricting the variables as endogenous and exogenous. It is used to determine how each endogenous variable responds over time to a shock in that variable and in every other endogenous variable. So, in order to determine the Long-run relationship among the variables co-integration analysis will be conducted using Johnson maximum likely-hood estimation method using the following general formula ,

$$Z_t = \Omega + \partial_1 z_{t-1} + \partial_2 z_{t-2} + ... + \partial_p z_{t-p} + _t .... \textbf{(8)}$$

$$Z_t = \Omega + \sum_i^p \partial_i z_{t-1} + _t .... \textbf{(9)}$$

Where, Z_t is an (nx1) vector containing the n-variables included in our model; ∂_1 is an (nxn) matrix of coefficients; Ω is a vector of deterministic terms like trends and intercepts; and ε_t are *iid* (0, Σ) vector of error terms with Σ representing the contemporaneous covariance matrix.

More over, the Granger representation theorem includes both the long run equilibrium relationships and short run dynamics (adjustment process). If some variables are co-integrated, the error correction model (ECM) will be used to show the short-run co-integration using the following general form,

$$\Delta Z_t = \Psi\Omega + \prod z_{t-1} + _t z_{t-2} + ... + _i \Delta z_{t-p-1} + _t \text{-------------------------------- } \textbf{(10)}$$

$$\Delta Z_t = \Psi\Omega + \textstyle\prod z_{t-1} - \sum_{i=1}^{p-1} {}_i\Delta z_{t-p-1} + {}_t \text{-------------------------------- (11)}$$

Where, ΔZ_t represents the first differences of the variables; ${}_i = -\sum_{i=1}^{p-1}\mathbf{a_j}$ is (nxn) coefficient matrix in the error correction term (which contains short-run parameters); and $\prod = \sum_{i=1}^{p-1}\mathbf{a_i} - \mathbf{I}$ is (nxn) matrix of long-run responses, which contains information about the long-run relationships. Further, the error terms are assumed to be Gaussian or well-behaved.

CHAPTER FIVE: MODEL ESTIMATION AND DISCUSSION

The empirical findings of the study will be analyzed in this chapter. Prior to estimating the investment model specified in the previous chapter, this chapter will first look at the time series properties of the data set by performing unit root tests using ADF tests. Several diagnostics tests were employed to assess the robustness of the estimated model on the basis of econometric criteria.

Unit Root Test

The unit root test is a common practice in macro-level data analysis to accommodate non-stationarity. If this behavior of macro-variables is left uncorrected, it would lead to the problem of spurious regression when there is a need to model relationships among variables. As explained in the methodology, formal testing for stationarity and the order of integration of each variable are primarily undertaken using different methods (mostly ADF and Phillips-Perron). The tests with the ADF and PP methods are performed with different trend assumptions (only intercept, both linear trend and intercept, and no intercept and no trend). Performing the tests under all three alternatives will identify whether only the intercept or both the trend and intercept are significant.

The results from the stationarity test equations under the ADF (Table 2) demonstrate that only an intercept must be included in all variables (FDI, RGDPC, INFL, TRD, GFCF, TELE, ILLIT) in testing for stationarity, while RGDPC and INFL is tested stationary at level. A linear trend is found to be insignificant in all of the test equations. The results show that all of the variables except GDPPC and INFL included in the model are integrated of order 1, *i.e.*, I (1).

Table 2: Augmented Dickey-Fuller Stationarity Test Result

No	Variables	Test statistics under different assumption			Order of Integration
		Intercept	Trend and intercept	no trend and no intercept	
1	FDI	-1.679	-2.830	-0.776	I(1)
	D(FDI)	-5.998*	-5.978	-5.969	
	GDPPC	-3.709*	-3.591	-3.627	I(0)

2	D(GDPPC)	-7.930	-8.491	-8.761	
3	INF	-4.64*	-5.079	-0.867	I(0)
	D(INF)	-7.743	-7.585	-7.836	
4	TRD	-0.608	-1.747	0.563	I(1)
	D(TRD)	-4.502*	-5.267	-5.283	
5	GFCF	-1.461	-3.433	1.495	I(1)
	D(GFCF)	-10.134*	-4.336	-3.863	
6	TELE_100	-0.776	-2.059	0.356	I(1)
	D(TELE_100)	-5.927*	-5.895	-5.919	
7	ILLIT	-5.703	-5.561	0.587	I(1)
	D(ILLIT)	-10.571*	-6.704	-6.863	

*Note: D shows the variable is differenced once. Note: MacKinnon (1996) one-sided critical values for rejection of a unit root are used here. * shows significance at 1%.*

Co-integration test Result

Lag Order Selection for Endogenous Variables

Before going to estimate the co-integration, it is important to notice that VAR lag order selection is sensitive to the number of lags included for the endogenous variables in the estimation of the VAR, which necessitates the determination of an optimal lag order prior to the test of co-integration. The optimal lag order is determined with the sequential modified Likelihood Ratio test statistics [LR], the Final Prediction Error [FPE], the Akaiki Information Criterion [AIC], the Schwarz Information Criterion [SIC], and the Hannan-Quinn Information Criterion [HQ]). As shown in Table 3, LR, FPE, SIC, and HQ suggest an optimal lag of one,

Table 3, VAR Lag Order Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-450.3688	NA	15408.57	29.50766	29.83147	29.61321
1	-359.4356	134.9331*	1119.598*	26.8023	29.39272*	27.64671*

			26.49507		
2	-305.6736	55.49628	1405.438	*	31.35212	28.07835

From the given table above, one can easily observed that all optimal lag order selection criteria suggests that at lag one all criteria's are significance at 5% except AIC.

The Johansen Co-integration Test Result

The ADF stationarity test results demonstrate that most of the variables are stationary at first difference, and this result can be further strengthened by the Johansen Co-integration test. Thus, the presence and the number of such co-integrating relationships are evaluated with the trace and the maximum Eigen value. It may also be possible to use the Engle-Granger two-step procedure to test for co-integration. However, the Engle-Granger method tests the presence of only one co-integrating relationship and does not reveal whether there may be other such relationships.

The results from the Johansen method of co-integration rank test may also be sensitive to the deterministic trend assumption (in addition to the number of lags of the endogenous variables) in the underlying VAR structure. Because the results may vary with the alternatives, a decision must be made as to which one to choose for the purpose of further analysis. Case 2 assumes an intercept (no trend) in the co-integration equation. It should also be noted that such pre-tests and justifications would increase the credibility of the results. The VECM is estimated based on the number of co-integration rank.

Table 4: Johansen Co-integration Rank Test

Test	Null Hypothesis	Alternative Hypothesis	Eigen value	Trace test statistics	Critical value (5%)
Trace Statistics	H0: $r \leq 0$	HA: $r > 0$	0.817951128	159.7684*	125.6154
	H0: $r \leq 1$	HA: $r > 1$	0.7094134	106.9605*	95.75366
	H0: $r \leq 2$	HA: $r > 2$	0.609202284	68.64903	69.81889

Test	Null Hypothesis	Alternative Hypothesis	Eigen value	Max-Eigen statistics	Critical value (5%)
	H0: r ≤ 3	HA: r > 3	0.515846996	39.5225	47.85613
	H0: r ≤ 4	HA: r > 4	0.327954551	17.03652	29.79707
	H0: r ≤ 5	HA: r > 5	0.133625212	4.716212	15.49471
	H0: r ≤ 6	HA: r > 6	0.008660481	0.269644	3.841466
Test	Null Hypothesis	Alternative Hypothesis	Eigen value	Max-Eigen statistics	Critical value (5%)
Max Eigen Value	H0: r = 0	HA: r = 0	0.817951128	52.80788*	46.23142
	H0: r = 1	HA: r = 1	0.7094134	38.31146	40.07757
	H0: r = 2	HA: r = 2	0.609202284	29.12652	33.87687
	H0: r = 3	HA: r = 3	0.515846996	22.48598	27.58434
	H0: r = 4	HA: r = 4	0.327954551	12.32031	21.13162
	H0: r = 5	HA: r = 5	0.133625212	4.446568	14.26460
	H0: r = 6	HA: r = 6	0.008660481	0.269644	3.841466

Note: * denotes rejection of null hypothesis at 5 percent level.

Both the trace and the maximal Eigen value tests identified that at least one co-integrating relationships at 5% significance level are existed (see Table). Such that, foreign direct investment has significant long-run relationship with, trade openness, growth rate of GDP per capita, infra structure, human capital and inflation. These results also legitimize the use of the VAR and the Johansen method instead of the single-equation-based Engle-Granger two-step procedure

5.1.1 Long-run Relationship

As explained previously, there are five co-integrating relationships based on the Johansen co-integration test. This study aimed to examine the determinants of: real GDP per capita growth, trade openness, infrastructure, Human capital and Inflation with Foreign Direct Investment. The equation is solved through ad-hoc normalization. And the Johansen trace test was used to confirm the appropriateness of the selected equation.

Table 5: Johansen co-integration result FDI is dependent variables.

	GFCF	ILLIT	INFL	RGDPC	TELE	TRD
Coefficient	0.020943534	-0.004636577	-0.031333795	0.023148387	1.326816261	0.039447932
Standard Error	0.009284557	0.002134616	0.004619428	0.006684503	0.254145568	0.006690881
t-statistics	[2.25574]	[-2.17209]	[-6.78305]	[3.46299]	[5.22069]	[5.89578]

The estimation shows that, in the long run ,FDI can be explained by growth rate of real GDP per capita, consumer price index(Inflation),openness to trade (trade per GDP), infrastructure development (gross fixed capital formation and telephone per 100), human capital (illiteracy level) in Ethiopia. To understand and interpret the above result more easily we can rewrite the long run equilibrium relationship normalized on LRFDI as

LRFDI = -2.0541+ 0.021GFCF - 0.005ILLIT- 0.031INFL + 0.023RGDPC + 1.327TELE

+ 0.039TRD

As can be seen from the Table 5, the potential market indicator variable growth rate of real GDP, which measures the growth prospects of the economy/market, has a positive coefficient. This finding is in line with the hypothesis that a growing economy attracts more FDI. This regression estimation result is similar with (Abiyot D (2013), Asmelash Berhane (2015), Getinet Haile, Hirut Assefa(2006)). This result strongly support the study of Burcu Turkean, et al.(2008), that suggest economic growth stimulate growth rate of FDI inflow more than the growth rate of FDI stimulate economic growth. This result also supports the study of Gohou and Soumare (2012) that the impact of enhancement of RGDPC led more increase in FDI of developing countries as compared to developed countries. Hence, the more developed the country is the more it attract FDI that again translate to higher economic growth.

The price index (inflation) variable is negative and significant in the long-run as the expected sign. It is significant at 5 percent in all regressions. This finding implies that macroeconomic stability is an important determinant of foreign direct investment inflows to Ethiopia. (Getinet Haile, Hirut Assefa (2006))

Both of infrastructure indicators proxy variables, telephone lines per 100 people and gross fixed capital formation are found to yield a positive and significant result. This result may be explained by a better telecommunication facility and recent infrastructure performance made by the government across the country makes major determinant of FDI inflow rate to the country. However, UNCTAD (2002) pointed out that one of the specific economic challenges and constrains identified by private investors in Ethiopia is the poor infrastructure facilities, in particular in the areas of telecommunications, transport and power supply.

The human capital variable (measured by rate of adult illiteracy) yields an expected signs. This means that, an economy with high fraction of unskilled workers is likely to be much less productive and less attractive to foreign investors to Ethiopia.

I found that Trade openness has a positive and significant impact on FDI in the long run. This is expected and is consistent with previous results such as Chakrabarti's (2001) finds openness to trade, measured by exports plus imports to GDP, being positively correlated with FDI. Morisset(2000) finds that, positive and significant correlation between trade openness and investment.

5.2 Vector Error Correction Model (VECM)

After the vector autoregressive model is estimated, an optimal lag of one is chosen based on the information criteria results, and the VECM is estimated by making use of these and the results of the Johansen co-integration test. The VECM consists to explain the short-run behaviors of the models coefficients (for the short-run analysis).

Short Run Relationships

Table (6) shows the results of the D (FDI) equation in the error-correction model, from which the short-run impact of openness, infrastructure, human capital, inflation and economic growth (growth rate of GDP per capita) be able to be analyzed.

Table 6: Vector-Error Correction Model Result

CointEq1	Dependent variables(D(FDI))			CONSTANT
	COFFICIENT	STANDARD ERROR	T-VALUE	

				0.002075
CointEq1	0.016249	0.022042	[0.73718]	
D(GFCF)	-2.76968	2.745234	[-1.00891]	
D(TELE_100)	-9.18261	19.37874	[-0.47385]	
D(ILLIT)	40.93755	9.335291	[4.38525]	
D(GDPPC)	-24.1375	4.745213	[-5.08670]	
D(TRD)	-0.15434	0.094274	[-1.63711]	
D(INF)	8.46528	2.954867	[2.86486]	

The coefficient of the error correction term for the equation is positive and significant as expected. This tells us that there is a reasonable adjustment towards the long run steady state. This guarantees that although the actual real FDI per GDP may temporarily deviate from its long-run equilibrium value, it would gradually converge to its equilibrium. The error correction term, 0.016249 shows that about 1.625 percent of the deviation of the actual FDI from its equilibrium value is, eliminated every year.

As can be seen from the above result in the short run, Growth rate of GDP per capita, openness to trade, is insignificant indicating that it doesn't have a major impact on FDI in the short run. Openness to trade has a positive and significant coefficient indicating that it has an optimistic impact in Ethiopia in the short run. In addition, infrastructure has a positive and significant coefficient implying that it is directly related to FDI the coefficients of human capital, government size and inflation were also found to be statistically insignificant.

CHAPTER SIX: SUMMARY AND CONCLUSION

At the present time the inflow of FDI in Ethiopia is increasing by an alarming rate making the country the third largest recipient in Africa according to world investment report released on 2014, evaluating the trend and analyzing the data of some periods indicate two things. Firstly, there is no consistent growth in the trend of FDI inflows. i.e., for instance in 2013 FDI was 279 million dollars but in the following year it became 953 million dollars with a 240 percent increase. The other one is the amount of FDI is easily affected by many macroeconomic

variables. Hence, it is the main intention of this paper to determine which determinant of FDI have huge role in altering the inflow of FDI so that identification of the factor helps to improve and bring a consistent growth of foreign direct investment in the country.

This study attempts to reveal the Macroeconomic determinants of FDI in Ethiopia. In addition, theoretical explanation relating to the determinants of FDI has given emphasis. I have also reviewed relevant literature pertaining to the determinants of FDI in the context of micro and macro level.

The empirical model conducted and its finding show that growth rate of (GDP per capita), trade openness (TRD), gross fixed capital formation(GFCF) and (TELE) have a significant positive impact on FDI, while illiteracy level (ILLIT) & Macroeconomic Stability(INFL) have a negative impact on FDI in the long run .

The long run positive and significant effect of potential economic growth on FDI emphasizes that the vital role of economic growth in stimulating investments by foreign as well as domestic investors. Ethiopia has had a respectable growth performance in the post 1991 period. High rate of GDP growth signal a country's economic prospects and encourage foreign investors. Keeping up the growth momentum and ascertaining its sustainability is a key to attracting more FDI. In this regard, furthering the growth performance of the economy through the creation of favorable macroeconomic environment, developing vital infrastructure, ensuring the quality of institution as well as improving the quality of human capital are some of the important measure essential to attract FDI.

The negative and significant consumer price index and illiteracy level coefficient signifies, in the long run, the importance of a more focused macroeconomic policy environment that strengthen the economy and builds confidences for potential investors. Necessary steps have to be taken to contain inflation and stabilize the economy through the adoption of sound economic policies.

Availability of adequate and efficient infrastructure service has a long run positive impact and factor that determine the ease of the transaction costs of doing business in Ethiopia. Therefore, certain level of infrastructure development is a necessary condition for the country to draw sizeable FDI.

In this regard, keeping the recent economic growth momentum through the creation of favorable macroeconomic environment, developing vital infrastructure, ensuring the quality of institution as well as promoting the quality exported value added products are some of the important measure essential to attract FDI in the long-run.

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Appendices

Appendix A: Unit-Root Test

Null Hypothesis: D(FDI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.998901067	2.12E-05
Test critical values:	1% level	-3.661660534	
	5% level	-2.960411074	
	10% level	-2.619159905	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(FDI,2)
Method: Least Squares
Date: 05/30/16   Time: 17:58
Sample (adjusted): 1984 2014
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI(-1))	-1.133449992	0.188942938	-5.998901067	1.60E-06
C	0.003581863	0.004124963	0.868338252	0.392339
R-squared	0.553755628	Mean dependent var		0.001335
Adjusted R-squared	0.538367891	S.D. dependent var		0.033663
S.E. of regression	0.022871947	Akaike info criterion		-4.65547
Sum squared resid	0.015170652	Schwarz criterion		-4.56296
Log likelihood	74.15979057	Hannan-Quinn criter.		-4.62531
F-statistic	35.98681401	Durbin-Watson stat		1.946296
Prob(F-statistic)	1.60E-06			

Null Hypothesis: D(GFCF) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC,
maxlag=8)

		t-Statistic	Prob.*
		-10.134945	
Augmented Dickey-Fuller test statistic		81	1.06E-08
Test critical values:	1% level	-3.661660534	
	5% level	-2.960411074	
	10% level	-2.619159905	

*MacKinnon (1996) one-sided p-values.
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GFCF,2)
Method: Least Squares
Date: 05/30/16   Time: 17:59
Sample (adjusted): 1984 2014
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GFCF(-1))	-1.565064557	0.154422588	-10.13494581	4.86E-11
C	1.048311154	0.694775623	1.508848497	0.14215635
R-squared	0.779831213	Mean dependent var		0.214805452
Adjusted R-squared	0.772239186	S.D. dependent var		8.048627659
S.E. of regression	3.841150648	Akaike info criterion		5.591761889
Sum squared resid	427.8787107	Schwarz criterion		5.684277193
Log likelihood	84.67230928	Hannan-Quinn criter.		-5.621919571
F-statistic	102.7171265	Durbin-Watson stat		1.694679351
Prob(F-statistic)	4.86E-11			

Null Hypothesis: D(ILLIT) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC,
maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-10.5719	0
Test critical values:	1% level	-3.66166	
	5% level	-2.96041	
	10% level	-2.61916	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ILLIT,2)
Method: Least Squares
Date: 06/14/16   Time: 17:25
Sample (adjusted): 1984 2014
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ILLIT(-1))	-1.5877	0.15018	-10.5719	0

		1		
C	-0.41606	3.85435	-0.10795	0.9148

				-0.053817
R-squared	0.793982	Mean dependent var		
				46.48374
Adjusted R-squared	0.786878	S.D. dependent var		
				9.032531
S.E. of regression	21.45926	Akaike info criterion		
				9.125046
Sum squared resid	13354.5	Schwarz criterion		
		Hannan-Quinn		9.062688
Log likelihood	-138.004	criter.		
F-statistic	111.7647	Durbin-Watson stat		2.30725
Prob(F-statistic)	0			

Null Hypothesis: D(TRD) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.48521	0.001228
Test critical values:	1% level	-3.66166	
	5% level	-2.96041	
	10% level	-2.61916	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TRD,2)
Method: Least Squares
Date: 05/30/16   Time: 18:09
Sample (adjusted): 1984 2014
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TRD(-1))	-0.82075	0.18299	-4.48521	0.000106
C	0.563866	0.638262	0.88344	0.384264

R-squared	0.409574	Mean dependent var		-0.03247
Adjusted R-squared	0.389215	S.D. dependent var		4.447361
S.E. of regression	3.475735	Akaike info criterion		5.39183
Sum squared resid	350.3413	Schwarz criterion		5.484345
Log likelihood	-81.5734	Hannan-Quinn criter.		5.421988
F-statistic	20.1171	Durbin-Watson stat		1.952385
Prob(F-statistic)	0.000106			

Null Hypothesis: D(TELE) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=8)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.92714	2.57E-05
Test critical values:	1% level	-3.66166	
	5% level	-2.96041	
	10% level	-2.61916	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TELE,2)
Method: Least Squares
Date: 05/30/16   Time: 18:11
Sample (adjusted): 1984 2014
Included observations: 31 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TELE(-1))	-1.08159	0.18248	-5.92714	1.95E-06
C	0.01523	0.019888	0.765786	0.449992

R-squared	0.547801	Mean dependent var		-0.0025
Adjusted R-squared	0.532208	S.D. dependent var		0.160057
S.E. of regression	0.109472	Akaike info criterion		-1.52396
Sum squared resid	0.347538	Schwarz criterion		-1.43144
Log likelihood	25.62137	Hannan-Quinn criter.		-1.4938
F-statistic	35.131	Durbin-Watson stat		1.74778
Prob(F-statistic)	1.95E-06			

Null Hypothesis: D(INFL) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=8)

	t-Statistic	Prob.*

Augmented Dickey-Fuller test statistic			-7.74376	3.82E-07
Test critical values:	1% level		-3.67017	
	5% level		-2.96397	
	10% level		-2.62101	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(INFL,2)
Method: Least Squares
Date: 05/30/16   Time: 18:13
Sample (adjusted): 1985 2014
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INFL(-1))	-2.21848	0.286486	-7.74376	2.50E-08
D(INFL(-1),2)	0.573347	0.176131	3.255227	0.003046
C	1.033313	2.119616	0.4875	0.629839

R-squared	0.791839	Mean dependent var	0.363454
Adjusted R-squared	0.77642	S.D. dependent var	24.46726
S.E. of regression	11.56917	Akaike info criterion	7.829204
Sum squared resid	3613.832	Schwarz criterion	7.969323
Log likelihood	-114.438	Hannan-Quinn criter.	7.874029
F-statistic	51.35367	Durbin-Watson stat	1.893439
Prob (F-statistic)	6.29E-10		

Appendix B: Stationary Time series plots

FDI

(chart with y-axis from -.02 to .10, x-axis years 82 to 14)

GFCF

(chart with y-axis from 10 to 45, x-axis years 82 to 14)

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ILLIT

RGDPC

55

TRD

TELE

56

INFL