



ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS

**FOREIGN DIRECT INVESTMENT AND ETHIOPIAN ECONOMY,
DETERMINANT AND IMPACT ANALYSES**

BY

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JUNE, 2018

ADDIS ABABA, ETHIOPIA

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COLLEGE OF BUSINESS AND ECONOMICS

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**A THESIS SUBMITTED TO COLLEGE OF BUSINESS AND ECONOMICS
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APPROVED BY BOARD OF EXAMINERS

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DECLARATION

I, Mr. Fitsum Yohannes, have been student of Executive Masters of Business Admin (EMBA) in the College of Business and Economics (CBE), Addis Ababa University since the year, 2008. I do here by declare that the thesis entitled, “Foreign Direct Investment and Ethiopian Economy (Determinant and Impact Analysis”) for the Master’s Degree in this University, is my own piece of original research work.

This thesis is submitted for the Executive Master of Business Administrations (EMBA) Degree in the Department of Management, CBE, under the direct supervision and guidance of my Principal Advisor Dr Yitbarek (Assistant professor) the manuscript of the thesis has been thoroughly scrutinized by him. I also assert that this thesis has not been submitted earlier for the award of any other degree or diploma anywhere else.

With Best Regards,

Candidate Name: Fitsum Yohannes

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CERTIFICATION

This is to certify that Mr. Fitsum Yohannes has been a student of Executive Master of Business Administration (EMBA) in the College of Business and Economics (CBE), Addis Ababa University since the year, 2008

With regard to the thesis entitled, “Foreign Direct Investment and Ethiopian Economy: A Determinant and Impact Analyses for the Executive Master of Business Administration (EMBA) in the Department of Management, CBE, We certify that he has carried out the research work under my direct supervision and guidance. The manuscript of the thesis has been thoroughly scrutinized in view of the requirements of the regulations of the University.

This thesis does not contain any conjoint research work with us or with anyone else. The final copy of the thesis which is being submitted to the university office has been carefully read for its material and language and he has completed his research work. To the best of my knowledge, the entire thesis comprises the candidate’s own piece of original research work. Thus, the thesis is worthy of consideration for the award of the Executive Master of Business Administration (EMBA)

With high regards,

Principal Advisor

Name Dr Yitbarek (Associate professor)

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ABSTRACT

Considering the empirical and literature debates and gaps on determinant and impact of FDI, the main objective of this study was to investigate the SR and LR determinants and impacts of FDI on the Ethiopian economy on real GDP, Domestic Investment, and Employment. The study used an Autoregressive Distributed Lag Model with a Bound Test for Co-integration in analyzing the multivariate time series data which covers from 1992-2017 in exploring the SR and LR relationship of the variables. Findings of the study for the determinants show, in the long run, domestic investment, exchange rate, trade openness and human capital have a positive relationship with FDI inflows. On the other hand, rate of inflation has a negative relationship with FDI. In the long run all variables are statistically significant except rate of inflation. In the short run, FDI inflow of the previous year has a negative and significant effect on FDI and lagged human capital and lagged trade openness are found positive and significant effect on the FDI inflow. Finding of the study for the impact shows, in the short run and long run FDI inflows have a positive impact on domestic investment and real GDP. The impact of FDI on employment is positive and highly significant in the long run although it is insignificant in the short run. The results in this study imply the need for proper management of the inflationary pressures on the economy which affects FDI inflows negatively. So, the nation's monetary authorities develop and implement measures that will effectively manage all inflation, and sustained at levels that will guarantee increasing the level of inflow of FDI.

Key Words: FDI, Employment, real GDP, Determinant, Impact

List of acronyms and Abbreviations

ARDL	=Auto-Regressive Distributed Lag Model
DI	= Domestic Investment
EMPT	= Employment
EIA	= Ethiopian Investment Agency
EPA	= Ethiopian Privatization Agency
FDI	= Foreign Direct Investment
GDP	= Gross Domestic Product
LFDI	=Lagged Foreign Direct Investment
LR	= Long run
MNE	= Multi National Enterprise
MNE	= Multi National Enterprise
OLSM	= Ordinary Least Square Method
OP	= Openness
Real GDP	= Real Gross Domestic Product
R&D	= Research and Development
SR	= Short run
UNCTAD	= United Nations Conference on Trade and Development

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

Foreign direct investment (FDI) plays an important role in economic growth. the growth of international production is driven by economic and technological forces . It is also driven by the ongoing liberalization of foreign direct investment and trade policies . In this context, globalization offers an unprecedented opportunity for developing countries to achieve faster economic growth through trade and investment. In the period 1970s, international trade grew more rapidly than FDI, and thus international trade becomes more important economic activities than others. This situation changed dramatically in the middle of the 1980s, when world FDI started to increase sharply. In this period, the world FDI has increased its importance by transferring technologies and establishing marketing and procuring networks for efficient production and sales internationally through FDI, foreign investor's benefits from utilizing their assets and resources efficiently, while FDI recipients benefits from acquiring technologies and from getting involved in international production and trade networks. FDI provides much needed resources to developing countries such as capital, technology, managerial skills , entrepreneurial ability , brands , and access to markets . These are essential for developing countries to industrialize, develop, and create jobs attacking the poverty situation in their countries. As a result, most developing countries recognize the potential value of FDI and have liberalized their investment regimes and engaged in investment promotion activities to attract various. Globalization and regional integration arrangement can change the level and pattern of FDI and also it reduces the trade costs. However, FDI, flows to developing countries started to pick up in the mid-1990s largely as a result of progressive liberalization of FDI polices in most of these countries and the adoption of generally more outward-oriented policies.

1.2 Statement of the problem

Investment in general is seen as one of the most important variables in driving economic growth and development. In particular, foreign direct investment is conceived to serve as a good vehicle to encourage and spread business opportunities both in developing and industrialized economies thereby enhancing economic development. It has been argued in numerous studies that FDI contributes positively to economic development in host economies. This is particularly true where FDI brings visible financial resources and fills the gap between desired investment and domestically mobilized savings.

The current government of Ethiopia has realized the inadequacy of the domestic capital and opened several economic sectors to foreign investors. The government has also issued several investment incentives, including tax holidays, duty free importation of capital goods and export tax exemption to encourage foreign investment. Furthermore, EIA has been established to service investors and streamline the investment procedures (UNCTAD, 2002)

The determinant factor to attract FDI depends on the country specific condition and the crucial role of FDI in terms of enhancing capital formation, spillover effects, competition, linkage, technology transfer, and thereby curing development problems has led to the development of several theoretical and empirical literature studies. Mixed empirical evidence is prevalent Tang et.al (2008). Some scholars argue that FDI has an adverse effect on development. They argue increased FDI does not always contribute to upgrading but sometimes may even act to reduce the host country's long run potential, leading to a crowding-out effect whereby domestic firms are displaced or outcompeted by foreign-owned MNEs, hence affecting economic development negatively. Such conflicting evidence is not an exception in the Ethiopian economy.

As a result the study will try to analyze the determinant factors and impact of FDI on Ethiopian economy and added knowledge that is expected to narrow the gap of the debating issue.

1.3. Research Questions

The study was conducted with the following basic research questions.

- What are the factors that affect FDI inflow in to the country?
- Does FDI have a positive or negative impact to the economic growth of the country mainly through improvement of Domestic investment, Employment and real GDP

1.4. Research Objectives and Research Hypothesis

1.4.1. General objectives

The general objective of this study is to identify the determinant factors and to evaluate the impact of FDI in the Ethiopian economy for the period 1992-2017.

1.4.2. Specific objectives

- To identify the short run determinants of FDI flows in Ethiopia
- To identify the long run determinants of FDI flows in Ethiopia
- To evaluate the short run impact of FDI on the Ethiopian economy
- To evaluate the long run impact of FDI on the Ethiopian economy

1.5 Significance of the Study

These studies incorporate the two main dimensions (i.e. determinants and impact) of FDI which will be significant to both academicians and policymakers in the following way; first, it will add to the knowledge of the researchers in this field of study and secondly, it will serve as a guide to both policy makers and academicians. The study will also serve as an input for policy package that are aimed in improving the countries FDI flows and will give additional information to the existing practice and theory and also expected to initiate other interested bodies to undertake a better and detailed study in the area and would also provide strong evidence to policy-makers to work for a better institutional quality for growth and development.

1.6 Definition of Key Terminologies and Concepts

1.6.1 Conceptual Definitions

- Foreign Direct Investment (FDI): it is the process whereby residents of one country (the source or home country) acquire ownership of assets for the purpose controlling of production, distribution and other activities a firm in other country (the host country) for getting new economic advantages abroad
- Host country: a country which give a permission of investment to those who are not nationalists; in our case Ethiopia.
- Home country: the country where the foreign investor is coming from.

1.6.2. Operational Definitions

- FDI flow: conceptually FDI flow means the total of inflow and outflow of foreign investment. But in this paper whenever you get “FDI flow” it means to indicate only the inflow part.
- Impact: the meaning of this term in this paper is to identify the ratio of FDI in economic growth of the country.
- Determinants: factors that could affect the flow and decision of foreign investors either positively or negatively through time.

1.7. Scope of the Study

The scope of the study is delimited with its title, conceptually, geographically, duration and methodologically which is described as follows. The geographical scope of the study is delimited to the political boundary of the Federal Democratic Republic of Ethiopia, FDRE, declared in 1991. Areas and countries other than this boundary are not subject of this study. The duration that covered under this study was delimited to the time period between 1992-2017 only. Investment factors that are happened out of this time period are not subject of this study. The conceptual Scope of the study; as it can be easily understood from the title of the research; the study has two main parts. These are analyzing the determinant factors of FDI, and evaluating the impact of FDI on economic growth. In analyzing the determinant factors of FDI flow; FDI was treated as dependent variable and the six factors (lagged FDI, openness, Human capital, macroeconomic stability (proxied with inflation and exchange rate), and domestic investment considered as independent variable. In evaluating the impact of FDI on the economic growth; the researcher took three dependent variables which include the real GDP, Domestic investment, and Employments and FDI as independent variable. The methodological scope of the study that the researcher were used includes; an Auto Regressive Distributive Lag model for analyzing the determinant factors of FDI flows and for evaluating impact of FDI to economic Growth.

1.8. Limitations of the Study

All studies are faced with various limitations and this study is no exception to the phenomena. The limitations of the study include:

- The study used only eight main variables in analyzing determinant and impact of FDI which can limit the strength of the decision as compared to using more of variables.
- In conducting interviews the researcher faced difficulty in getting the vital information as a result of confidentiality from development Bank of Ethiopia due to that unable to analyze the performance of FDI projects financed by DBE
- At various stages, the study may suffer due to inadequacy of time series data from related agencies.

1.9 Organization of the paper

This study consists of five chapters. The first chapter deals the general introduction part of the study, which consists of background of the study, statement of the problem, research questions, research objectives, research hypothesis, significance of the study, Definition of key terminologies and concepts, scope of the study, and limitation of the study. Chapter two presents the theoretical and empirical literature review regarding the research area of “Foreign Direct Investment and Ethiopian Economy, Determinant and Impact Analyses” and the third chapter discuss the research methodology. The research analysis and interpretation are presented in chapter four. The last chapter draws conclusions and recommendations.

CHAPTER TWO

REVIEW OF LITERATURE

2. Introduction

Attracting foreign direct investment (FDI) has become an important policy element for developing countries to pursue growth. There has been less theoretical disagreement on FDI's potential positive impact on hosting country's economic development. FDI is often regarded as an amalgamation of capital, technology, as well as managerial and marketing skills. In fact, it is suggested that spillovers or the external effects from FDI are the most significant channels for the dissemination of modern technology. In case FDI is considered as a key ingredient for economic growth in developing countries.

Although the theoretical controversies are somehow little, empirical studies have not been able to generate consistent evidence for significant and positive spillover effects from FDI. While many researchers find that there exist significant positive spillovers from foreign direct investment, some others find no or statistically insignificant spillovers effects. Therefore, this chapter reviews the theories of determinants and impacts of FDI and empirical studies accompanying these theories.

2.1 Theoretical Review

2.1.1. Definitions of FDI and Main Concepts

The theoretical explanations of FDI largely stem from traditional theories of international trade that are based on the theory of comparative advantage and differences in factors endowments between countries. Multinational companies are usually attracted to a particular country by the comparative advantage that the country or region offers. FDI is the process whereby residents of one country (the source or home country) acquire ownership of assets for the purpose controlling of production, distribution and other activities a firm in other country (the host country) for getting new economic advantages abroad (Morgan et al, 1997)

FDI according to World Bank World Development Indicators (2012) FDI are defined as “the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors.”

According to various researches and studies FDI has the following three broad purposes.

Market seeking or (horizontal) FDI: In this case the main aim of FDI is to provide goods and service to local and district market. The motive for horizontal FDI attracted by the size and growth of national and regional markets, export- oriented which sells their product to non-local markets, and government initiated FDI which are motivated to invest in specific sectors based on the incentives of the government (Accolley et al, 1997).

Resource (asset seeking) FDI: This type of FDI is carried out when the investing firm’s aim is to get access to the resources in the host country which are not obtainable in home country. Examples of these resources are natural resources, raw materials or low cost labor.

Efficiency seeking FDI : Under this type of foreign direct investment the investor will invest to get an advantage when there is a common governance of geographically dispersed activities, especially in the presence of economies of scope and scale and diversification of risk.

FDI is not just only a capital movement. In addition to capital, a controlled subsidiary often receives direct input of managerial skills, technology and other tangible and intangible assets. Unlike portfolio investors, FDIs have substantial control over the management of foreign subsidiary. According to the IMF (1993) Balance of payment manual, an investment by a foreign investor is considered as FDI, if the direct investor holds a minimum of 10 percent of the share or voting power of the firm.

There are different types of FDIs like Greenfield investment, cross border merger and acquisition, and reinvested earnings. Greenfield investment refers to the establishment of a new firm that in turn enables to create productive assets in a host country. Usually, it is financed by capital coming from the investor’s country. Selling of local productive assets to a foreign

investor is referred as international or cross border merger and acquisition. Reinvested earnings refer part or all of the profit that is not repatriated to the investor's country but reinvested in the host country (UNCTAD, 1998).

2.2. Determinants of FDI

The theories for determinants of FDI can be categorized into two groups as micro and macro-level theories.

2.2.1 The micro-level theories of determinants of FDI

The micro-level theories of determinants of FDI deal with the questions why companies prefer opening subsidiaries in foreign countries rather than exporting or licensing their products, how they choose their investment locations and why they invest where they do. These theories include

The Early Classical Theory of FDI which states interest rate differentials are the main reason for the firms to become MNCs (Harrison et al, 2000),

The Product Life Cycle Theory of FDI developed by Vernon in 1966 in which it states that a product first produced and sold in a home country until it saturates then leads to open subsidiary in other nation at maturity of the home country;

The Internalization Theory of FDI developed by Krugman and Obstfeld in 2003 which states that the difficulty of marketing and pricing know how forces companies to open a subsidiary in a foreign country instead of selling the technology.

The Eclectic Theory of FDI developed by John Dunning in 1980 which is called the OLI paradigm which looks the advantages of ownership (O), location (L) and internalization (I).

2.2.2 The macro-level determinants of FDI

The macro-level determinants of FDI dealt with the host country's situations that affects the inflow of FDI, like market size, growth rate of the economic, GDP, infrastructure, natural resource, the political situation, availability of low labor cost and skilled manpower, inflation, exchange rate variability, foreign debt, fiscal deficit, geographical proximity, legal and regulatory framework, privatization, regional integration (access to regional markets), investment promotion strategy and incentive structure contract law, the socio-economic image, accessibility of investment fund, governance, human resource development, degree of openness, urbanization, coherent and stable macro & sector policies etc.

2.3 Economic Impact of FDI

The main theoretical perspectives that have been used to explain the impact of FDI on host country economic development can be divided into two groups: the modernization (based on neoclassical and endogenous growth theories) and dependency theories. This division is not only meant for illustrative purpose but mirrors the very real divisions existing amongst the theories.

2.3.1 Dependency Theory

Is rooted in the Marxist thought dependency scholars argue that developing economies suffer negative consequence from foreign investment as a result of profit repatriation, declining reinvestment and income inequality. Accordingly, FDI inflows to the “periphery” distract local firms, stifle technological innovation and “crowd out” domestic firms (Dixon and Boswell, 1996). Similarly, Dixon and Boswell (1996) argue that foreign investment has an initial positive effect on growth in the beginning but in the long run the reliance on foreign investment exerts a negative impact on growth. The infrastructure and institutions that develop with foreign investment support further foreign investment and negative externalities/spillovers such as unemployment, over-urbanization, and income inequality. Likewise, according to Moran (1978), foreign investors pervert or subvert host country political processes by co-opting the local elites and/or by using their influence in their home countries. It is argued the benefits of FDI are poorly distributed between the MNC and the host country, and MNC draws off an economic surplus that could have been used to finance international development. Throughout the 1970's and 1980's,

economist predominantly supported the dependency theory of FDI and its impact on economic development in developing countries.

2.3.2 Neoclassical

The neoclassical growth theory in contrast, which dates back to Solow (1956) and Rostow (1995), assign an important role to FDI as a growth-enhancing factor to developing countries. In the growth model by Rostow (1956), FDI is seen as a way of meeting the capital and technological transfers required for economic transformation. Solow (1956) emphasizes on the increased foreign capital and progress in technology as important variables in output growth, hence development. Moreover, according to this theory, economic growth comes from two sources, factor accumulation, and total factor productivity growth. As a result, FDI plays a twofold function by contributing to capital accumulation and by increasing total factor productivity (Lucas, 1990). Likewise, in the neoclassical growth models FDI promotes economic growth by increasing the volume of investment and/or efficiency but FDI affects growth only in the short run because of diminishing returns to capital in the long-run. Capital moves in response to changes in interest rate differentials between countries or regions. Multinational companies are viewed as arbitrageur of capital from countries where return is low to countries where it is high. Accordingly, investment decision depends solely on rate of return, domestic and foreign direct investments are viewed as perfect substitute (Lucas, 1990).

2.3.3 Endogenous

Endogenous growth literature on the other hand explains how FDI contribute to economic growth through labor training and skill acquisition not human capital, open trade regimes, and well developed financial markets. In the endogenous growth model, several channels are at work at which FDI can effect economic growth. First, via increased of capital formation to the recipient country through introduction of new inputs and technologies. Second, via accumulation of knowledge and skills, this is stimulated through management and labor tanning. Third, via competition, FDI rise competition in the host country industry by overcoming entry barriers and reducing the market power of existing firms (Gorg, 2000). This further can be related to growth enhancing effect of FDI through spillovers. Spillovers take place from non-market transactions when resources, especially knowledge are extended without a contractual relationship, so-called

externalities. In the literature, it is common to distinguish between linkages and spillovers. Linkages are a precondition for spillovers to occur. Although MNCs might, perhaps, be effective at ensuring that firm-specific assets and advantages do not spillover or at least will try to minimize technology leakages. The theoretical literature identifies four means in which spillovers can take place, and thereby, enhance productivity and economic development in recipient countries. The so-called four channels are; imitation, skill acquisitions, competition and export. The extent, however, depends on the complexity level of products and processes, for instance, simple manufacturing and process, managerial and organizational innovation are said to be easier to imitate than production that is more complex. Any upgrading to local technology occurring from imitation might lead to positive spillover effect. The second spillovers channel is skill acquisitions, it can arise when MNCs invest in training local employees, then local workers who have carried out this knowledge move to domestic firms, thereby generate productivity improvement due to adaptation of new technology/knowledge. The third channel is where spillovers take place through competition, it is argued that FDI enhance competition in the economy it enters and thereby put pressure on domestic firms to use existing technology more efficiently, thus, yielding productivity gain in the host country. Finally, spillovers arise via export, if domestic firms learn to penetrate export market from MNCs through collaboration or imitation (Greenaway et al., 2004). Furthermore, Nunnekampe and Spatz (2003) argued that the conclusive evidence to support the growth enhancing aspect of FDI in developing countries is hard to come by. They argued that the growth impact of FDI is vague because of aggregate data and previous studies did not differentiate between the different types of FDI (resource, market, and efficiency seeking FDI) and their stability under different host economy circumstances.

All in all, modernization theory scholars, on one hand, argue that FDI raises income level and provides employment opportunities to the host country thereby boosting overall economic growth. On the other hand, dependency theory scholars argue that MNCs may prevent economic development by squeezing out local entrepreneurs, by worsening the distribution of income, by reducing consumer welfare and introducing inappropriate consumption pattern in the host countries. Alternatively, favorable effects of FDI is not a given fact, it perhaps depends significantly on host country enabling environment, political and macroeconomics stability, institutional capacity, infrastructure and educational system. Thus, there are numerous factors that condition FDI impact such as, the right policy framework, absorptive capacity of recipient

country, MNC investment motives, MNC entry strategies or the extent to which MNC interact with local firms and industries (Hansen et.al. 2006; Hansen et.al. 2011).

2.4. Empirical Review

The comprehensive literature pertaining to empirical findings the main determinants ,impact and the rationale to what extent that FDI is necessary for sustained economic growth and development of any economy in this era of globalization are categorized under the following heads: (1). Global studies (2). Studies conducted in Africa (3). Studies conducted in Ethiopia

2.4.1 Global studies

2.4.1.1. Determinant Related Studies

Even though many empirical studies were conducted globally to identify the factors that determine the flow of FDI, the factors which were identified as determinants of FDI greatly varied from study to study and from country to country (UNCTAD, 1998). Batra et al (2003) argue that the determinants of FDI to Africa are different from the determinants to the other parts of the world. Asiedu (2004) agrees with this argument and states that the lessons from East Asia and Latin America countries do not apply to African countries. The foreign investors generally collect information separating to five adequate conditions for investment which include competitiveness of human capital; adequacy cost of doing business; access to markets; the diversity of the market; and the extent of available state aid (Zbida, 2011).

Hooda (2011), conducted a study to analyze the determinants of FDI in Indian economy found that exchange rate, R&D expenditure, trade GDP, reserve GDP, and financial position of country have a positive effect in attracting FDI. According to Herzer et al, (2006), the impact level of FDI on growth seems to depend on economic and political conditions in the host country, such as the rate of per capita income, the human capital base, the level of openness in the economy, and the extend of the development of domestic financial markets

2.4.1.2. Economic Impact Related Studies

Since the middle of 1980s, the FDI becomes more important in the world economy. Their growth rate and importance have been over both of the world trade and the international financial transactions. Also this means, that FDI has become increasingly a leading power in the world economy, and dominant element of the world economic integration, by the other name globalization (UNCTAD, 2002).

A study by Zhang (2001) on 11 developing countries of Latina America found that a significant benefit of FDI to recipient countries is due to technology transfer and spill over efficiency. They scrutinize the 11 Latin America countries using co-integration and Granger causality test. In their analysis, they found that FDI has a positive impact only in five of the eleven countries. The author indicated that the benefits does not happen automatically instead depends on host country absorptive capacities, liberal trade policy, human capital, and export-oriented FDI policy. Likewise, Bengoa and Sanchez-Robes (2003) found that FDI has a significant positive effect on economic growth of developing countries. In order for a positive effect to be achieved from FDI, the host country must have an adequate level of human capital, economic stability and liberalized capital market.

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 investigate 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)).

By increasing capital stock, FDI can increase country's output and productivity through a more efficient use of existing resources and by absorbing unemployed resources (Zbida, 2011). Different types of FDI lead to varied types of spillovers, knowledge transfers and tangible and intangible capital flows (Hooda, 2011). Moreover FDI stimulates the development and propagation of technological skills through MNCs, internal transfers and through linkages and spillovers among firms (Borensztein et al, 1998). FDI also helps to increase local market competition, introducing modern job opportunities and encourage market access for the developed world (Noorbakhsh et al, 2001) all of which should ultimately contribute to economic growth in recipient countries.

A study conducted by OECD, (2000) on the impact of FDI on china's economy comes across with the following conclusions. The international effects of chains FDI includes; increases comparative advantages, building dynamic specializations, domestic firms have lagged behind, regional disparities have increased, positive impact on china's balance of payments. The domestic effect of the chains FDI includes, important source of capital, has created jobs, has upgraded skills, has paid higher wages, has raised factor productivity and increased technology transfer, has modified china's industrial structure, has increased domestic competition.

However, many have found that FDI has negative effects on the growth prospects of the recipient economy. FDI may not lead to growth rate because MNCs tend to operate in imperfectly competitive sectors. As a result, FDI may force out domestic savings and investment. Moreover, FDI may have a negative impact on the external balance because profit repatriation will tend to affect the capital account negatively. It is also at times associated with dominance investment, poor employment, income inequitably and greater external dependency (Ramirez, 2000).

2.4.2. Studies Conducted in Africa

2.4.2.1. Determinant Related Studies

Although the reasons for the increase in private capital flows to low-income countries varied, on the “domestic economic fundamentals/pull side” they included privatization and deregulation; improvements in general investment environment, including trade liberalization and cutting costs of doing business; and broader considerations such as political and macro - economic stability. On the “external/push side,” private capital flows to low-income countries were closely related to the business cycle upswing and the heightened risk appetite of foreign investors (ACR, 2011).

Srinivasan, (2002) found that certain African countries have been able to attract FDI, not because of natural resource availabilities, rather through their significant improvement in the business environment and intentional image-enhancing campaigns. Although most African countries have undertaken substantial economic reform, Asiedu (2002) founds that the decline in African FDI as a ratio of total FDI is partly because improvements in policy environment have not been large relative to reforms in other regions.

Asiedu (2006), studied the determinants of FDI to Africa. She found that efficient legal system and low inflation promotes FDI but corruption and political instability have negative effect on FDI of Africa. Using vector- error correction model Nadu (2009), investigated the determinants of FDI of Nigeria between the years 1970 and 2006. Under this study, endowment of natural resources, openness, and macroeconomic risk factors; such as inflation and exchange rate are significant determinants of FDI flow of Nigeria.

2.4.2.2 Economic Impact Related Studies

The consensus in the literature appears to be that FDI spillovers depend on the host country’s capacity to absorb the foreign technology and the type of investment climate (Aitken et.al. 1997). A survey data from Kenya, Tanzania, and Uganda firms suggested that foreign firms are better productive, bring better management skills, made big investment in infrastructure and in the development of their workers, and are more connected to globalized markets (Todd et al, 2004).

Most studies on FDI and growth are cross-country evidences, while the role of FDI in economic growth can be triggered to specific countries. Further, only a few of the country specific studies actually took conscious note of the endogenous nature of the relationship between FDI and growth in their analyses (Aitken et.al. 1997). Zhang (2001) found that the extent to which FDI contributes to growth depends on the economic and social quality of the recipient country; and conclude that the impact FDI on the growth of a given economy is subject to country and period specific.

Sukar and Hassan (2011) investigated “the effects of foreign direct investment on economic growth: the case of sub-Sahara Africa” by using 25 years panel data over the period 1975-1999. Thus, they found marginally significant positive effect of FDI on economic growth.

Recently, Sala and Trivin (2014) studied on the “Openness, Investment and Growth in Sub-Saharan Africa”. They used OLS regression and GMM method to estimate the dynamic growth model from panel data (1980-2009). The finding was that globalization (trade openness) and FDI have significant effect on economic growth in the past three decades.

Admas (2009) analyze by his study on impact of foreign direct investment (FDI) and domestic investment (DI) on economic growth in Sub-Saharan Africa for the period 1990– 2003 that DI positively and significantly correlated with Economic growth. His study also found that FDI initially has negative effect on DI and subsequently positive effect in the latter periods for the countries studied.

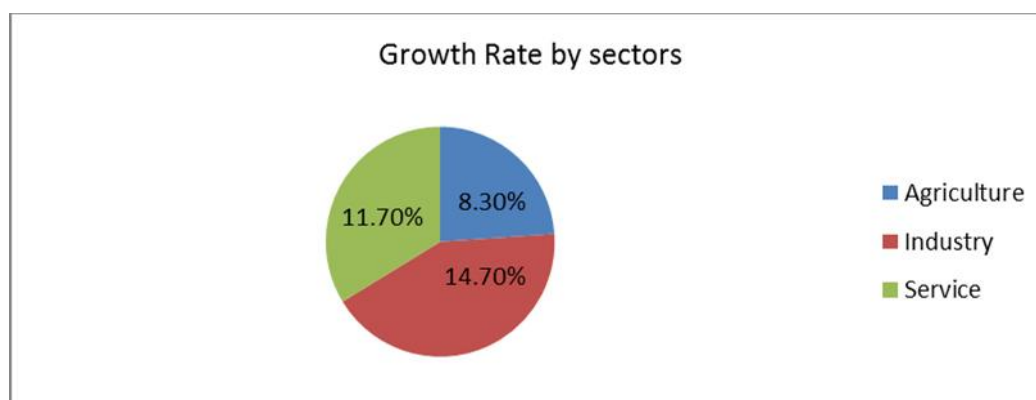
2.4.3 Overview of Ethiopian Economy and FDI

Recent developments in the Ethiopian Economy show a shift from the agriculture sector to the industry and service sector. Ethiopia is now experiencing both new opportunities and new challenges. The Ethiopia government has been engaged in a major effort to transform the economy to a middle income economy by the year 2025 and for that the country implemented Growth and Transformation Plan.

Numerous macroeconomic reforms have been implemented with the objective of achieving macroeconomic stabilization and growth since 1991. The macroeconomic reforms include privatization of state owned enterprises, liberalization of trade policy, reduction of import tariff rates, elimination of non-tariff barriers, devaluation and deregulation of price & exchange rate controls (UNCTAD, 2002).

Following the growth and transformation plan and strategic reforms, the Ethiopian economy has shifted to a higher growth trajectory since 2003/04. This has been sustained, and as per Ethiopian Economics association report (2017) during the reporting fiscal year 2015/16, Ethiopian GDP measured at current market prices stood at 1.5 trillion birr. With an estimate of 91.2 million people and Ethiopia's per capita GDP was estimated to be 16,753.4 Birr which is equivalent to 794USD at official exchange rate. During the last thirteen years (i.e. 1996-2008(EFY)) the economy has registered rapid and sustainable growth. Accordingly, in this period the annual average growth rate of GDP was 10.6%. The Agriculture, industry and service sectors annual growth was 8.3%, 14.7%, and 11.7 % respectively.

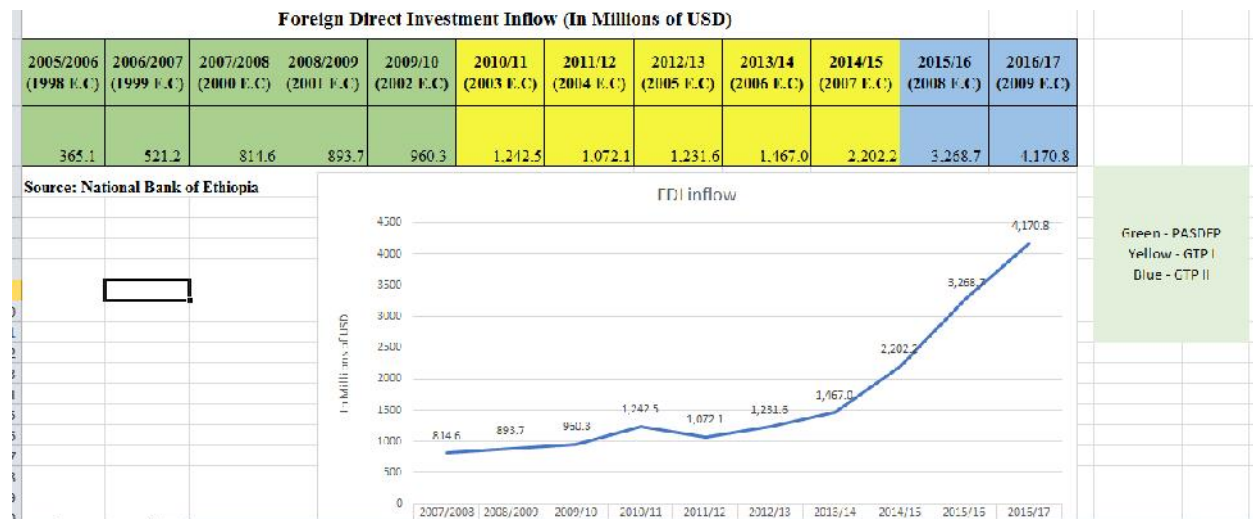
Figure 2.1 Growth rate by sectors



2.4.3.1 Inflow of FDI

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

Table 2.1 Inflow of FDI



2.4.3.2. Determinant Related studies

The study with regard to determinant of FDI on the case Ethiopia is very limited .Getinet and Hirut (2006), investigates the determinants of FDI by using time series analysis for the years between 1974 and 2001.This study provides an extensive account of the theoretical explanation of FDI as well as reviews the policy regimes, FDI regulatory framework and institutional set up in the country over the study period. It also attempts empirical analysis to find the determining factors of FDI in Ethiopia. The output shows that export orientation, growth rate of real growth domestic product and trade liberalization have positive impact on FDI flow of Ethiopia. However, macro - economic instability and poor infrastructure have negative impact on FDI of Ethiopia

2.4.3.3 Impact Related Studies

It is serious problem to find previous study that identifies the impact of FDI in the Ethiopian economy. The study conducted by Selamawit(2015) on economic development provides evidence that there is a positive and significant relationship between FDI and real GDP growth, a moderate positive association between export performance and FDI and a negative and insignificant association between FDI and spillovers in Ethiopia.

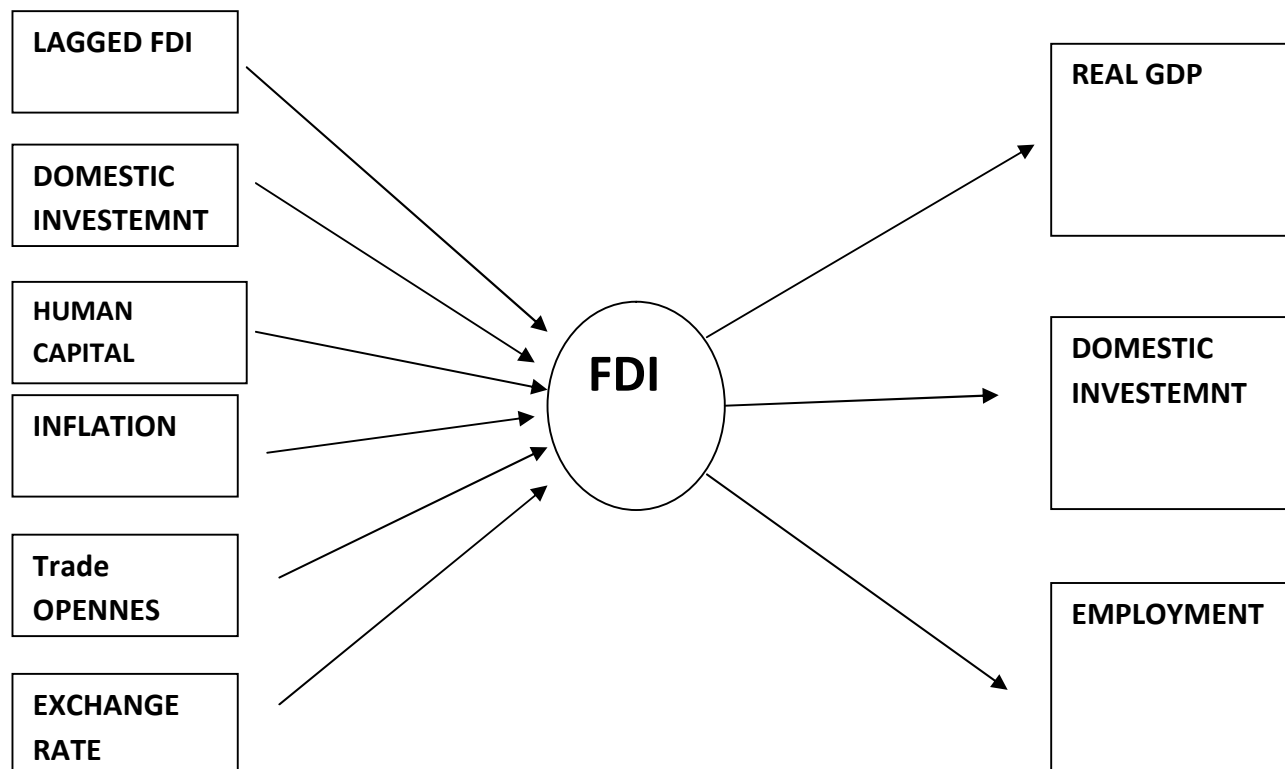
Apparently, developing countries need to have reached a certain level of development in education, technology, infrastructure and health before being able to benefit from a foreign presence in their markets. Imperfect and underdeveloped financial markets may also prevent a country from reaping the full benefits of FDI. Weak financial intermediation hits domestic enterprises much harder than it does MNEs (OECD, 2009).

It is serious problem to find previous study that identifies the impact of FDI in the Ethiopian economy.

2.5. Conceptual Frame Work

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

Figure 2.2. **Conceptual frame work of FDI and Economy**



2.6 Research Hypothesis

The following hypotheses were tested in the study

Hypotheses for determinants

Ho: Lagged FDI, Domestic investment, Human capital, Inflation, Exchange rate, and trade Openness do not have a long run effect on attracting FDI

Hypotheses for impact analysis

Ho: FDI flows do not have positive impact on real GDP, Domestic investment, and Employment of the nation

CHAPTER THREE

METHODOLOGIES OF THE STUDY

3.1. Research Strategies and Designs

International business research in general and that of FDI in particular favor quantitative methods over qualitative approach. Given that the aim of this research is to explain and to understand the relationship between different variables in order to assess the determinant and impact of FDI in Ethiopian economy, thus the research strategy adopted for this research was basically quantitative approach and explanatory research design fit this purpose.

3.2. Data Type and Source

The study used quantitative data types and secondary data source. The secondary data were collected from National bank of Ethiopia (NBE), Ethiopian investment commission (EIC) and from Ministry of finance and Economic Development (MOFED). It is a time series data which were collected for the period 1992-2017.

3.3 Methods of Data analysis

The time series data that are collected in person from different sources were focusing at analyzing the two objectives. In analyzing the determinants and impacts; taking the characteristics of the data availed at hand; the researcher adopted an **Auto-Regressive Distributive Lag (ARDL) Model** with a **Bound test for Co integration** from Pesaran (2001).

Requirements for the Application of Autoregressive Distributed Lag Model (ARDL) Approach to Co-integration Testing

Irrespective of whether the underlying variables are integrated $I(0)$ or $I(1)$ or a combination of both, ARDL technique can be applied. This helps to avoid the pretesting problems associated with standard co-integration analysis which requires the classification of the variables into $I(0)$ and $I(1)$. This means that the bound co-integration testing procedure does not require the pre-

testing of the variables included in the model for unit roots and is robust when there is a single long run relationship between the underlying variables,

If the F-statistics (Wald test) establishes that there is a single long run relationship and the sample data size is small or finite, the ARDL error correction representation becomes relatively more efficient.

If the F-statistics (Wald test) establishes that there are multiple long-run relations, ARDL approach cannot be applied. Hence, an alternative approach like Johansen and Juselius (1990) can be applied. That is, if the various single expression/equation of the underlying individual variable as dependent variable shows a feedback effect(multiple long run relationships) between the variables, then a multivariate procedure need to be employed.

If the trace or Maximal eigenvalue or the F-statistics establishes that there is a single long-run relationship, ARDL approach can be applied rather than applying Johansen and Juselius approach.

Advantages of ARDL Approach

Since each of the underlying variables stands as a single equation, endogeneity is less of a problem in the ARDL technique because it is free of residual correlation (i.e. all variables are assumed endogenous). Also, it enable us analyze the reference model.

When there is a single long run relationship, the ARDL procedure can distinguish between dependent and explanatory variables. That is, the ARDL approach assumes that only a single reduced form equation relationship exists between the dependent variable and the exogenous variables (Pesaran, Smith, and Shin, 2001).

The major advantage of this approach lies in its identification of the co-integrating vectors where there are multiple co-integrating vectors.

The Error Correction Model (ECM) can be derived from ARDL model through a simple linear transformation, which integrates short run adjustments with long run equilibrium without losing long run information. The associated ECM model takes a sufficient number of lags to capture the data generating process in general to specific modeling frameworks.

3.4. Model Specification

An autoregressive distributed lag model is considered as

(ARDL(1,1) model: $y_t = \mu + \alpha_1 y_{t-1} + \beta_0 x_t + \beta_1 x_{t-1} + \dots + u_t$

Where y_t and x_t are stationary variables, and u_t is a white noise.

- To study the determinant factors of FDI, the following model was framed

FDI = f [lagged FDI, DI, EXCHANGE RATE, INFLAT, HUMAN CAPITAL and OPEN]3.1

$$\ln FDI_t = \beta_0 + \beta_1 \ln LFDI_{t-1} + \beta_2 \ln DI_{t-2} + \beta_3 \ln Exch\ rate_{t-3} + \beta_4 \ln Inflat_{t-4} + \beta_5 \ln Human\ cap_{t-5} + \beta_6 \ln Open_{t-6} + \varepsilon_t \dots$$

- To measure the impact of FDI on Ethiopian economy through DI

DI = f [FDI, EXCHANGE RATE, INFLAT, HUMAN CAPITAL and OPENESS].....3.2

$$\ln DI_t = \beta_0 + \beta_1 \ln LFDI_{t-1} + \beta_2 \ln Exch\ rate_{t-2} + \beta_3 \ln Inflat_{t-3} + \beta_4 \ln Human\ cap_{t-4} + \beta_5 \ln Open_{t-5} + \varepsilon_t \dots$$

- To measure the impact of FDI on the Ethiopian economy through its effect EMPLOY

EMPLOY = f [FDI, DI, EXCHANGE RATE, INFLAT and OPENESS]3.4

$$\ln employ = \beta_0 + \beta_1 \ln LFDI_{t-1} + \beta_2 \ln Exch\ rate_{t-2} + \beta_3 \ln Inflat_{t-3} + \beta_4 \ln DI_{t-4} + \beta_5 \ln Open_{t-5} + \varepsilon_t \dots$$

- To measure the impact of FDI on the Ethiopian economy through effect to REAL GDP

REAL GDP = f [FDI, DI, INFLAT, EXCHANGE RATE, HUMAN CAPITAL AND OPENESS]3.5

$$\ln REAL GDP_t = \beta_0 + \beta_1 \ln LFDI_{t-1} + \beta_2 DI_{t-2} + \beta_3 \ln \ln inflat_{t-3} + \beta_4 \ln Exch\ rate_{t-4} + \beta_5 \ln Open_{t-5} + \beta \ln Human\ cap_{t-6} + \varepsilon_t \dots$$

3.5. Description of the Variables

By considering the overall reviews of empirical and theory the main variables that can have great influence on FDI are estimated to be the following; and they are be tested in the main study.

- **Openness:** the ratio of trade (imports + exports) to GDP is usually used as measure of openness of an economy. This ratio is additionally usually interpreted as a measure of trade restriction. The impact of openness on FDI depends on the kind of investment. When investments are market seeking, trade restrictions, will have a positive impact on FDI.
- **Macroeconomic stability:** Inflation rate and exchange rate are used as proxy variables of macroeconomic stability.
- **Lagged FDI:** foreign investors are also interested in countries with an existing concentration of different foreign investors. And by reviewing the above literature the possible economic impact of FDI is going to expressed by its effect on net export performance (the cumulative difference in export and import), by transferring new technology, by developing new human capital, by growth of domestic investment, by its ability to attract additional foreign investors, by its contribution to macroeconomic stability are some of the many. But they will be analyzed in detail in the main study.

- **Domestic Investment (DI):** Domestic investment is measured as the difference between total investment and FDI. Domestic investment is seen as one of the major driving forces of economic growth.

3.5.1 Expected signs of variables

Table.2.2 Expected signs of variables of the study

Variables	Descriptions	Expected signs(+/-) SR/LR
Lagged FDI	Previous year FDI flow	+/-
Domestic Investment	Annual domestic investment	+/+
Openness	Ratio of trade to GDP	-/+
Inflation rate	Annual inflation rate	-/-
Exchange rate	Real Exchange rate	+/-
Real GDP	Nominal GDP/GDP deflator	+/+
Human capital	Annual secondary school enrolment	+/-

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1. Descriptive summery of key variables

A national data is collected on the targeted dependent and independent variables that covered the period of 1992-2017. The descriptive summery of these variables which includes the mean, maximum, minimum, st. dev values of these variables for the period.

The summary of descriptive statistics enables us to present data in an easily understandable manner. For instance, the central tendency (mean, median) measures the position and distribution of data. Likewise, the measure of dispersion describes the variability of data. Descriptive statistics do not, however, allow us to make conclusions beyond the data we have analyzed or reach conclusions regarding any hypotheses we might have made. They are simply a way to describe our data.

Table 4.1: summary of descriptive statistics

	lnDI	LnHuman cap	lnFDI	INFLAT	lnOPEN	Exchange Rate
Mean	14.25505	14.84462	14.37561	9.238265	4.935916	10.71038
Maximum	15.31924	16.56	16.45060	55.24131	6.335673	6.335673
Minimum	12.04335	13	10.95564	-10.77339	2.823436	2.823436
Std,Dev	0.663551	1.063929	1.572848	13.45912	0.915394	0.915394

Source: The output of Eviews version 9

As shown in table 4.1 above indicates the study had 26 observations and 6 variables for analysis. The annual capital inflow of FDI ranges between 10.95 and 16.45 indicating the minimum and the maximum capital flows, in 1992 and 2017 respectively. The average capital of FDI is Birr 14.37 and each observation is deviated from this average by the value of 1.57 over the given study period. The domestic investment (DI) ranges between a minimum value of 12.04 in 1992 and maximum value of 15.31 in 2017. This variable has a mean value of 14.25 with a deviation of 0.66 from the mean over the study period. The mean of the rate of inflation is 9.23 with the

deviation from the mean by 13.45. The rate of inflation has minimum value of -10.77 and maximum value of 55.24.

4.2. The determinants of FDI

The first objectives of this study are to examine the determinants of Foreign Direct Investment (FDI) in Ethiopia. The study shows various major variables which deter or encourage investment in Ethiopia. They are the previous year FDI, the domestic investment, real GDP, rate of inflation, employment and trade openness. Taking the FDI as dependent variable and the other as independent variables a correlation and regression analysis are conducted as their results are revealed below.

4.2.1. Empirical Analysis

To investigate the relationship between FDI and the five variables, we express FDI as a linear function of the variables such as domestic investment, real GDP, rate of inflation, employment and trade openness. All variables, except rate of inflation are in natural logarithm. The estimating equation takes the form,

$$\text{LnFDI} = \alpha_0 + \alpha_1 \text{LnDI} + \alpha_2 \text{LnInt rate} + \alpha_3 \text{Inflat} + \alpha_4 \text{LnHuman cap} + \alpha_5 \text{LnOpen} + \dots$$

4.2.1.1 Variance Inflation Factor

The variance inflation factor (VIF) is the ratio of variance in a model with multiple terms, divided by the variance of a model with one term alone. It quantifies the severity of multicollinearity in an ordinary least squares regression analysis. It provides an index that measures how much the variance (the square of the estimate's standard deviation) of an estimated regression coefficient is increased because of collinearity.

For any predictor orthogonal (independent) to all other predictors, the variance inflation factor is 1.0. VIF_i thus provides us with a measure of how many times larger the variance of the *i*th regression coefficient will be for multicollinear data than for orthogonal data (where each VIF is 1.0). If the VIF's are not unusually larger than 1.0, multicollinearity is not a problem. An

advantage of knowing the VIF for each variable is that it gives a tangible idea of how much of the variances of the estimated coefficients are degraded by the multicollinearity.

Use to describe how much multicollinearity (correlation between predictors) exists in a regression analysis. Multicollinearity is problematic because it can increase the variance of the regression coefficients, making them unstable and difficult to interpret.

Use the following guidelines to interpret the VIF:

Table 4.2: Guidelines of the variance inflation factor

VIF	Status of predictors
VIF = 1	Not correlated
$1 < \text{VIF} < 5$	Moderately correlated /tolerable
VIF > 5 to 10	Highly correlated

Table 4.3: Variance Inflation Factor

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	7.811914	1062.048	NA
DI	0.020102	556.5133	1.157043
EXCH RATE	0.054132	1170.326	3.434834
INFLAT	5.30E-05	1.869032	1.254398
HUMAN CAP	0.010643	122.5948	2.694958
OPEN	0.049716	170.1169	4.445837

Source: The output of Eviews version 9

4.2.1.2 ADF Unit Root Test Results

Before conducting the ARDL bounds test, it is useful to check whether the variables are not second order stationary (meaning $I(2)$) which may lead to fallacious results. For this purpose, we test the stationarity of all the variables in the model to determine the order of integration for each variable.

This step is very important because based on the assumption that variables are either $I(0)$ or $I(1)$, Pesaran et al (2001), provide calculated F-statistics not valid in the presence of $I(2)$ variables (Ouattara, 2006). Therefore, in the ARDL procedure, the use of unit root tests is needed to check out that there is no integration of order 2 or beyond among the variables. Table 4.4 in the appendix presents the stationarity results. It shows that the levels of integration of variables are either $I(0)$ or $I(1)$.

As can be seen from appendix Table 4.4, unit root tests confirm that foreign direct investment, domestic investment, real GDP, and employment are not stationary at levels, they are integrated of order one, $I(1)$ and trade openness and rate of inflation are integrated of order zero, $I(0)$. Thus, we can use co integration analysis for the existence of a long run association between the variables. If the variables are co integrated, there exists a long run relationship between them. On the other hand, if the variables are not co integrated, there exists no long run relationship between relevant variables.

4.2.1.3 Long run dynamics (ARDL Bound test for co-integration)

Autoregressive Distributed Lag (ARDL) approach to co-integration helps in identifying the co-integrating vector(s). That is, each of the underlying variables stands as a single long run relationship equation. If one co-integrating vector (i.e. the underlying equation) is identified, the ARDL model of the co-integrating vector is re parameterized into ECM. The re parameterized result gives short-run dynamics (i.e. traditional ARDL) and long run relationship of the variables of a single model. The re-parameterization is possible because the ARDL is a dynamic single model equation and of the same form with the ECM. Distributed lag Model simply means the inclusion of unrestricted lag of the regressors in a regression function.

The unrestricted error correction model (UECM) for the ARDL bound test can be written as:

$$\begin{aligned} \Delta \ln FDI_t = & \beta_0 + \beta_1 \ln FDI_{t-1} + \beta_2 \ln DI_{t-2} + \beta_3 \ln Exch\ rate_{t-3} + \beta_4 \\ & \ln Inflat_{t-4} + \beta_5 \ln Human\ cap_{t-5} + \beta_6 \ln Open_{t-6} + \sum_{i=1}^j \alpha_{1i} \Delta \ln FDI_{t-i} + \\ & \sum_{i=0}^k \alpha_{2i} \Delta \ln DI_{t-i} + \sum_{i=0}^l \alpha_{3i} \Delta \ln Real_GDP_{t-i} + \sum_{i=0}^m \alpha_{4i} \Delta \ln Inflat_{t-i} + \\ & \sum_{i=0}^n \alpha_{5i} \Delta \ln Employ_{t-i} + \sum_{i=0}^o \alpha_{6i} \Delta \ln Open_{t-i} + \\ & \varepsilon_t \dots\dots\dots \end{aligned}$$

Where Δ is the first-difference operator, $\ln(.)$ is the logarithm operator and ε_t is the whitenoise disturbance term. The coefficients β_i ($i = 1, 2, \dots, 6$) measure the long run effect, whereas the coefficients α_i ($i = 1, 2, \dots, 6$) measure the short run dynamics of the model. The structural lags j, k, l, m, n, o are to be determined by using minimum Akaike Information Criterion (AIC).

The ARDL approach to cointegration involves three steps for estimating long run relationship (Pesaran and Pesaran, 1997; Pesaran et al., 2001). The first step in the ARDL bounds testing approach is to estimate the above equation by ordinary least squares in order to test for the existence of a long-run relationship among the variables by conducting an F-test for the joint significance of the coefficients of the lagged levels variables.

Null hypothesis

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0 \quad (\text{no co-integration or no long run relationship})$$

Alternative hypothesis:

$$H_1: \text{At least one } \beta_i \neq 0 \quad (\text{co-integration or long run relationship exists})$$

The F-test statistic has a non-standard distribution which depends upon (i) whether variables included in the autoregressive distributed lags model are $I(0)$ or $I(1)$, (ii) the number of regressors, (iii) whether the ARDL model contains an intercept and/or a trend, and (iv) the sample size. Thus, the computed F-statistic is compared with two asymptotic critical values tabulated in Table CI (iii) of Pesaran et al. (2001). Table CI (iii) provides Critical Value bounds for all classifications of the regressors into purely $I(1)$, purely $I(0)$ or mutually co-integrated. According to Pesaran et al. (2001), the lower bound critical values assumed the explanatory

variables are integrated of order zero, or $I(0)$, while the upper bound critical values assumed that are integrated of order one, or $I(1)$. Therefore, if the computed F-statistic is greater than the upper critical bounds, the null hypothesis should be rejected and we conclude that there is a long-run relationship between the selected variables. If the calculated F-statistic is below the lower critical bounds, the null hypothesis cannot be rejected and there is no long-run relationship between them. On the other hand, if the computed F-statistic falls inside the critical values bounds, the test is inconclusive unless we know the order of integration of the underlying variables.

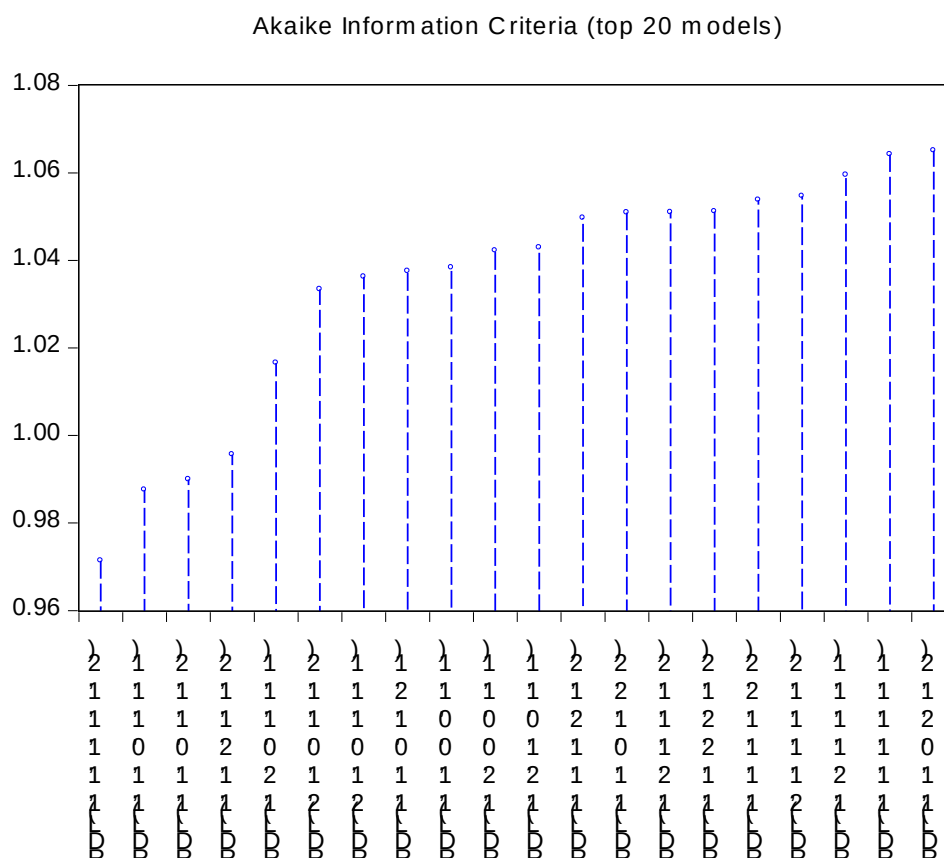
Table 4.5: Bound Test for co-integration

Bound Test for co-integration		
Significance	Value of lower Bound	Value of upper Bound
10%	2.26	3.35
5%	2.62	3.79
1%	3.41	4.68

Note: The computed F – statistic = 6.6886

Source: The output of Eviews version 9

The calculated F-Statistics for ARDL model is 6.6886 which is greater than the upper critical bound values of 4.68 ($\alpha=0.01$), 3.79 ($\alpha=0.05$), and 3.35 ($\alpha=0.10$), the null hypothesis of no co integration should be rejected in favor of the alternative hypothesis, the variables are co integrated. Therefore, there exists a long-run relationship between the six selected variables even when we use small sample critical bounds.



Source: The output of Eviews version 9

Figure 4.1: Akaike information Criteria

As the Figure 4.1 indicates the optimal lag length has been selected based on the Akaike information criterion. Therefore, ARDL(1,1,1,1,1,2) is the best lag order of the variables because AIC was used since it was a more preferred choice for the small sample size.

The Stability of the model

The stability of the long-run coefficient is tested by the short-run dynamics. Once the Error correction model has been estimated the cumulative sum of recursive residuals (CUSUM) and the CUSUM of square (CUSUMSQ) is applied to assess the parameter stability (Pesaran, 1997). The results indicate the absence of any instability of the coefficients because the plot of the CUSUM statistic and the CUSUM of square (CUSUMSQ) fall inside the critical bounds of the 5% confidence interval of parameter stability which show a consistent pattern and indicate that

model has a stable long run relation. Figure4.2 and Figure 4.3 shows the plots of CUSUM and CUSUMSQ tests have been used as proposed by Borensztein et al., (1998).

Figure4. 2: plots of CUSUM

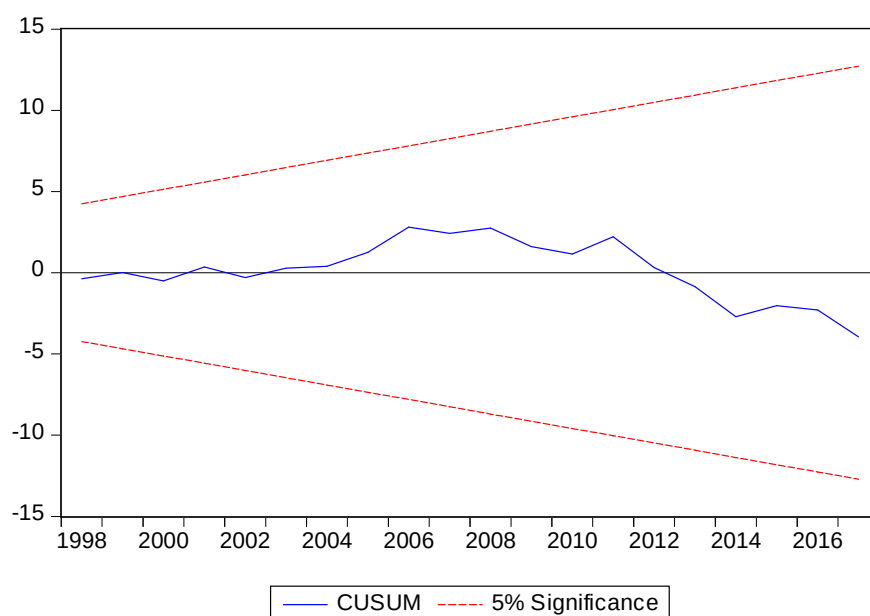
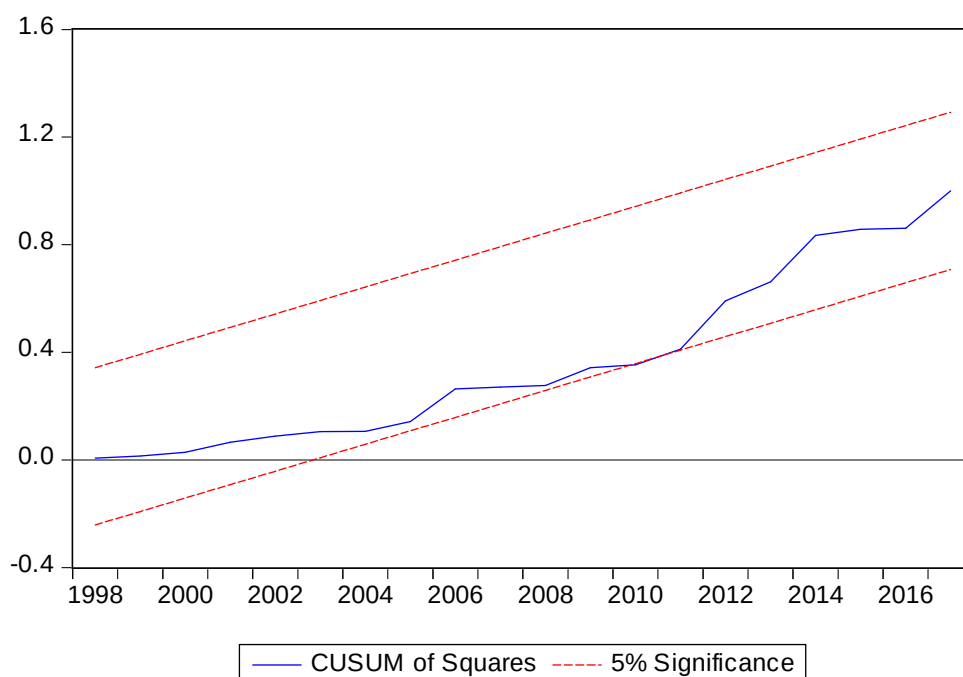


Fig 4.3: Plot of Cumulative Sum of Recursive Residuals



Source: The output of Eviews version 9

Estimated Long Run Coefficients of the ARDL Model

Table 4.6 Estimated Long Run Coefficients using ARDL Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
lnEXCH RATE	0.000787	0.123242	0.006385	0.0243
lnDI	0.395874	0.141783	2.792112	0.0113
lnHUMAN CAP	0.830585	0.103163	8.051168	0.0000
INFLAT	-0.010045	0.007278	-1.380160	0.1828
lnOPEN	0.902563	0.222971	4.047902	0.0006
R-squared	0.938155	Mean dependent var	14.37561	
Adjusted R-squared	0.922694	S.D. dependent var	1.572848	
S.E. of regression	0.437314	Akaike info criterion	1.382843	
Sum squared resid	3.824869	Schwarz criterion	1.673173	
Log likelihood	-11.97696	Hannan-Quinn criter.	1.466448	
F-statistic	60.67802	Durbin-Watson stat	2.161292	
Prob(F-statistic)	0.000000			

*, **, *** indicate the co-efficient are significant at 10%, 5%, and 1% respectively.

Source: The output of Eviews version 9

The estimated results of long run coefficients are shown in Table 4.6. The long run coefficient is an indicator of the long run relationship of the variables with the dependent variable. The sign of the coefficient of all the selected variables are positive in the long run model, except rate of inflation.

As revealed in Table 4.6, the estimated results of long-run coefficients in the long run, domestic investment coefficient is positive and significant, at the 5 percent level, determinant of FDI

inflows. Particularly, a one percent increase in domestic investment would create a 0.39 percent increase in FDI inflows, all things being considered equal.

In the long run, the human capital has the positive and significant determinant of FDI inflows. Keeping other things remain constant, a one percent change in the natural logarithm of human capital leads to a 0.83 percent increase in the natural logarithm of FDI inflows in the country.

As the table 4.6 shows, in the long run the rate of inflation and FDI inflows has a negative relationship and significant at lower level.

In the long run, the trade openness has a positive and highly significant, at the 5 percent level, determinants of foreign direct investment inflows into the economy. Other things remain constant, a one percentage increase in openness leads to a 0.90 percentage increase in foreign direct investment inflows into the Ethiopian economy. This supports the extent to which a country allows free movement of goods and services, which determines the level of FDI inflows.

In the long run, Exchange rate has a positive and significant determinant of FDI inflows. The devaluation of the domestic currency enabled the foreign investors to make significant investment having some few initial capitals. This lead to increase sum total flow of foreign capital in the form of investment.

4.2.1.4 Short Run Dynamics (Error Correction Model)

Table 4.7: The Short Run Error Correction Model

Dependent Variable: D(FDI)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.680305	0.328213	-2.072755	0.0586
D(FDI(-1))	-0.840811	0.230855	-3.642153	0.0030
D(DI(-1))	0.144256	0.275587	0.523448	0.6095
D(EXC RATE(-1))	1.568159	1.802690	0.869900	0.4001
D(INFLAT(-1))	0.003625	0.007210	0.502813	0.6235
D(HUMAN CA(-1))	1.066810	0.269676	3.955898	0.0016

D(OPEN(-1))	3.149079	1.318028	2.389235	0.0327
D(OPEN(-2))	3.171142	1.299069	2.441088	0.0297
ECT(-1)	-1.354098	0.480074	-2.820601	0.0144
R-squared	0.733565	Mean dependent var	0.136567	
Adjusted R-squared	0.569604	S.D. dependent var	0.844343	
S.E. of regression	0.553928	Akaike info criterion	1.948523	
Sum squared resid	3.988866	Schwarz criterion	2.394859	
Log likelihood	-12.43376	Hannan-Quinn criter.	2.053667	
F-statistic	4.474041	Durbin-Watson stat	1.477386	
Prob(F-statistic)	0.008521			

*, **, *** indicate the co-efficient are significant at 10%, 5%, and 1% respectively.

$$***ECT = \ln FDI - 0.3958 \ln DI - 0.8305 \ln HUMAN \text{ CAP} + 0.01 \ln INFLAT - 0.9025 \ln OPEN - 0.4545 \ln EXCH \text{ RATE} - 13.8190 * C$$

Table 4.7 indicates the short run dynamics coefficients of the model. Results of the ECM model shows that the coefficient of D(FDI(-1)) is negatively associated with inflow of FDI. This relation shows that inflow of FDI is negatively correlated with previous inflow of FDI. The coefficients of D(HUMAN CAP(-1)), D(EXC RATE(-1)), D(OPEN(-1)) and D(OPEN(-2)) have positive and significant effect on inflow of FDI.

Beginning with the results for the long run, the coefficient on the lagged error-correction term (ECM) is highly significant with the expected sign, which confirms the result of the bounds test for co-integration. The larger the error correction coefficient the faster will be return to equilibrium, once shocked (Pesaran and Pesaran, 2009). The speed adjustment towards long-run equilibrium shows a highly significant value of 1.35. This implies that there is a high speed of adjustment to equilibrium after a shock. Put differently, about 135 percent of the disequilibrium from the previous year's shock converges back to the long-run equilibrium in the current year. This also confirms the existence of a stable long run relationship among variables.

4.3. The Impact of FDI on Ethiopian Economy

The second objective of this empirical study is to see the possible impact of FDI on Ethiopian economic factors. In dealing with the regression results, the analysis and interpretation focus only on the dependent variables (Real GDP, Domestic Investment and employment) and the independent variable (FDI). Since the only role of the other independent variables is balance the result of FDI; the study didn't make analysis and interpretation on the control variables.

4.3.1. The Impact of FDI on Domestic Investment

Table 4.8: The Long Run OLS Estimation of the impact of FDI on Domestic Investment

Dependent Variable: lnDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.92451	3.873567	4.627390	0.0002
lnFDI	0.708482	0.253744	2.792112	0.0113
LnEXCH RATE	0.219852	0.336077	0.654171	0.5205
INFLAT	-0.010059	0.009938	-1.012108	0.3236
LnHUMAN CAP	0.665193	0.242187	2.746603	0.0124
lnOPEN	0.672897	0.373136	1.803357	0.0864
R-squared	0.378130	Mean dependent var	14.25505	
Adjusted R-squared	0.222662	S.D. dependent var	0.663551	
S.E. of regression	0.585032	Akaike info criterion	1.964873	
Sum squared resid	6.845241	Schwarz criterion	2.255203	
Log likelihood	-19.54334	Hannan-Quinn criter.	2.048477	
F-statistic	2.432208	Durbin-Watson stat	1.322775	
Prob(F-statistic)	0.070678			

Table 4.9: The Short Run OLS Estimation of the impact of FDI on Domestic Investment

Dependent Variable: D(DI)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.130672	0.299708	0.435999	0.6731
D(DI(-1))	-0.084028	0.263338	-0.319088	0.7569
D(FDI(-1))	0.408365	0.763755	0.534681	0.6058
D(EXC RATE(-1))	-1.526972	1.738307	-0.878424	0.4026
D(INFLAT(-1))	0.002752	0.014386	0.191316	0.8525
D(HUMAN CA(-1))	-0.517931	0.722436	-0.716923	0.4916
D(OPEN(-1))	-2.110691	2.009856	-1.050170	0.3210
D(OPEN(-2))	0.248080	1.060948	0.233828	0.8204
ECT(-1)	-1.314746	1.018886	-2.290376	0.0291
R-squared	0.590635	Mean dependent var	0.036413	
Adjusted R-squared	-0.000669	S.D. dependent var	0.464631	
S.E. of regression	0.464787	Akaike info criterion	1.584645	
Sum squared resid	1.944240	Schwarz criterion	2.275816	
Log likelihood	-4.223422	Hannan-Quinn criter.	1.758473	
F-statistic	0.998869	Durbin-Watson stat	1.974786	
Prob(F-statistic)	0.515724			

As the Table 4.8 and 4.9 shows the impact of FDI on domestic investment of Ethiopia is positive effect that created on the domestic firms of the host country. Other variables are considered as control variables. While domestic investments add to the Capital Stock of an economy, FDI plays a complementary role in overall capital formation by filling the gap between domestic savings and investment and it also enhance technological knowhow transfer and improving the balance of payment of the nation in the long run. More importantly, the error correction

Coefficient has the expected negative sign and significant at 5 percent level of significance. This helps to reinforce the finding of a long run relationship among the variables in the model.

4.3.2 The impact of FDI on employment

Table 4.10: The Long Run OLS Estimation of the impact of FDI on Employment

Dependent Variable: lnEMPLOY				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12.00417	3.467831	-3.461580	0.0025
LnFDI	0.920087	0.114280	8.051168	0.0000
LnDI	0.411737	0.149908	2.746603	0.0124
LnEXC RATE	0.365705	0.254403	1.437504	0.1660
INFLAT	0.012459	0.007517	1.657390	0.1130
LnOPEN	-0.548811	0.291776	-1.880931	0.0746
R-squared	0.912507	Mean dependent var	9.103130	
Adjusted R-squared	0.890634	S.D. dependent var	1.391791	
S.E. of regression	0.460273	Akaike info criterion	1.485181	
Sum squared resid	4.237028	Schwarz criterion	1.775511	
Log likelihood	-13.30735	Hannan-Quinn criter.	1.568785	
F-statistic	41.71798	Durbin-Watson stat	1.971159	
Prob(F-statistic)	0.000000			

Table 4.11: The Short Run OLS Estimation of the impact of FDI on Employment

Dependent Variable: D(EMPLOY)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.098186	0.609017	1.803210	0.1049
D(HUMAN CA(-1))	-0.642016	1.468017	-0.437335	0.6722
D(FDI(-1))	0.130035	1.551979	0.083786	0.9351
D(DI(-1))	-0.240358	0.535112	-0.449174	0.6639
D(EXC RATE(-1))	-1.093545	3.532305	-0.309584	0.7639
D(INFLAT(-1))	0.002289	0.029233	0.078286	0.9393
D(OPEN(-1))	-0.199534	4.084103	-0.048856	0.9621
D(OPEN(-2))	-1.709997	2.155885	-0.793176	0.4481
ECT(-1)	-0.462691	2.070415	-0.223477	0.0282
R-squared	0.484106	Mean dependent var	0.085893	
Adjusted R-squared	-0.261074	S.D. dependent var	0.841037	
S.E. of regression	0.944464	Akaike info criterion	3.002723	
Sum squared resid	8.028109	Schwarz criterion	3.693894	
Log likelihood	-20.53132	Hannan-Quinn criter.	3.176551	
F-statistic	0.649649	Durbin-Watson stat	1.876779	
Prob(F-statistic)	0.767717			

Table 4.10 and 4.11 indicates the impact of FDI on employment is positive and highly significant in the long-run although it is insignificant in the short-run, revealing the time needed for this effect to appear. Other variables are considered as control variables. The positive impact of FDI on employment in Ethiopia can be transmitted directly or indirectly. The direct effects of FDI on total employment have several channels; Greenfield investments are supposed to generate jobs, as they create new jobs which did not exist before. Indirect effects appear to the extent to which FDI decides to buy local inputs where it increases local firms' demand and it has an indirect stimulating effect on employment levels.

4.3.3 Impact of FDI on real GDP

Table 4.12: The Long Run OLS Estimation of the impact of FDI on real GDP

Dependent Variable: lnREAL_GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.30150	2.428826	5.064794	0.0001
LnDI	0.095286	0.145659	0.654171	0.5205
LnFDI	0.352551	0.180467	2.953553	0.0449
INFLAT	-0.005867	0.006579	-0.891765	0.3831
LnHUMAN CAP	0.256068	0.178134	1.437504	0.1660
LnOPEN	0.899551	0.172326	5.220063	0.0000
R-squared	0.755517	Mean dependent var	12.59199	
Adjusted R-squared	0.694396	S.D. dependent var	0.696705	
S.E. of regression	0.385149	Akaike info criterion	1.128799	
Sum squared resid	2.966788	Schwarz criterion	1.419129	
Log likelihood	-8.674386	Hannan-Quinn criter.	1.212403	
F-statistic	12.36106	Durbin-Watson stat	0.891801	
Prob(F-statistic)	0.000015			

Table 4.13: The Short Run OLS Estimation of the impact of FDI on real GDP

Dependent Variable: D(REAL_GDP)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.017323	0.082419	0.210186	0.8382
D(REAL_GDP(-1))	0.007940	0.478028	0.016610	0.9871
D(FDI(-1))	0.113967	0.210030	0.542621	0.6006
D(DI(-1))	0.237207	0.072417	3.275575	0.0096
D(INFLAT(-1))	0.002475	0.003956	0.625680	0.5471
D(HUM CAP(-1))	-0.119670	0.198667	-0.602363	0.5618
D(OPEN(-1))	-0.212996	0.552703	-0.385371	0.7089
D(OPEN(-2))	-0.021200	0.291757	-0.072664	0.9437
ECT(-1)	-0.060911	0.280190	-0.217393	0.0328
R-squared	0.659016	Mean dependent var	0.105453	
Adjusted R-squared	0.166485	S.D. dependent var	0.139999	
S.E. of regression	0.127815	Akaike info criterion	-0.997349	
Sum squared resid	0.147029	Schwarz criterion	-0.306178	
Log likelihood	25.46951	Hannan-Quinn criter.	-0.823521	
F-statistic	1.338018	Durbin-Watson stat	2.418693	
Prob(F-statistic)	0.336640			

Table 4.12 and 4.13 implies the impact of FDI on real GDP has a positive and significant at 5% level of significance, other variables are considered as control variables. This shows that FDI can bring technological diffusion to the sectors in Ethiopia through knowledge spillover can enhance a faster economic growth of output via the direct transfer of technologies. FDI has in general made a positive contribution to economic development in Ethiopia when it is measured in terms of real GDP growth. It is also clear, however, that FDI could be leveraged to a much larger extent in the coming years and decades, if appropriate strategies and policies are put in place through the concerted and combined efforts of the Ethiopian government and with the active involvement of the private business sectors.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

This study analyzed the determinant factors and the impact of FDI in the Ethiopian economy for the period 1992 to 2017. The selected variables are FDI inflows, domestic investment, and Exchange rate, rate of inflation, Human capital and trade openness. We used ADF unit root to find out the order of integration of the variables. Due to the mixed-integration level of the variables (a mix of I (0) and I (1) found in the series) the ARDL approach to co integration along with ECM has been used on the time series data of Ethiopia to find out the long run relationship and short run dynamics between the selected variables. F- statistics wald coefficient restriction test confirmed the long run relationship between the variables. There are few studies where researchers have applied ARDL approach to find the determinants and impact of FDI inflows in Ethiopia.

A finding of the study for the determinants shows, in the long run, domestic investment, exchange rate, trade openness and human capital has a positive relationship with FDI inflows. On the other hand, rate of inflation has a negative relationship with FDI. In the long run all variables are statistically significant at higher level except rate of inflation which is significant at lower level. Trade openness and human capital are highly significant at 1% level of significance. While domestic investment and exchange rate are significant at 5% lower level of significance.

The ECM generated expected sign at 5 percent level of significance. In the short run, FDI inflow of the previous year has a negative and significant effect on FDI and human capital of the previous year and trade openness of the previous year and the previous two years are found positive and significant effect on the FDI inflow. Finding of the study for the impact shows, in the short run and long run FDI inflows has a positive impact on domestic investment and real GDP. The impact of FDI on employment is positive and highly significant in the long run although it is insignificant in the short run. The selected econometric model gets through all the diagnostic

Tests and confirms the absence of serial correlation, heteroscedasticity, and non-normality. CUSUM and CUSUMSQ tests confirm the stability of the model validating the applicability in policy making in Ethiopia.

5.2. Recommendation

Based empirical findings, the following measures are suggested to increase the amount of FDI inflows in the Ethiopian economy and to facilitate its contribution in the growth process.

In the short run, the study suggests FDI targeted towards the productive sector of the economy and focused more to production of capital goods against the production of consumer goods in order to enhance more domestic capital formation. Care must be taken not to allow FDI displaces indigenous industrial development.

The study suggests the need for proper management of the inflationary pressures on the economy and trade openness which affects FDI inflows negatively or positively. So, the nation's monetary authorities develop and implement measures that will ensure all inflation, and sustained at levels that will guarantee increasing the level of inflow of FDI.

In addition to their efforts to attract FDI, policymakers might consider more active measures that help to maximize the benefits of FDI in the growth process, particularly those that facilitate the development of backward and forward linkages. Thus, improving the functioning of the banking system and capital markets, educational reforms to increase the supply of appropriate labor skills, the provision of appropriate infrastructure, etc. provided so as to cut the cost of investors doing business and to enhance the technological spillover effect of FDI.

The study also suggests the policy makers design policies that FDI can be utilized as means of enhancing domestic production, savings and exports and also as a medium of technological diffusion. So, Government must target at attracting specific types of FDI that are able to generate spillovers effects in the overall economy.

Effective competition policies could help to protect domestic firms from unfair foreign firms' competition to avoid negative spillovers including the bankruptcy of potentially viable domestic firms. In particular domestic firms may need to be strengthened so that, they can compete more effectively with foreign firms and become more attractive partners for foreign firms in upstream and downstream operations.

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APPENDIX

[illegible]

Table 4.4: Stationarity results of the variables – ADF

Variables	Null- Hypotheses	Test equation	ADF-Test		
			Level	1 st difference	Order of integration
LnFDI	FDI has unit root	Intercept	-1.1768	-9.9837****	(I)
		Trend & Inrecept	-2.5354	-10.318****	(I)
LnDI	DI has unit root	Intercept	-2.9938	-5.6596****	(I)
		Trend & Inrecept	-3.0199	-5.5389****	(I)
lnExchange rate	Exchange rate has unit root	Intercept	3.4197	1.9915	(I)
		Trend & Inrecept	2.7904	-4.6795****	
INFLAT	INFLAT has unit root	Intercept	-4.1464****	-7.2429	(0)
		Trend & Inrecept	-4.5238****	-7.0836	(0)
InHuman capital	Human capital has unit root	Intercept	-2.0021	-5.2046****	(I)
		Trend & Inrecept	-2.0276	-5.1455****	(I)
InOpen	Open has unit root	Intercept	-4.8911****	-2.7339	(0)
		Trend & Inrecept	-5.3393****	-1.0933	(0)
1% level			-3.724070		
5% level			-2.986225		
10% level			-2.632604		
1% level			-4.394309		
5% level			-3.612199		
10% level			-3.243079		

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

*, **, *** indicate the co-efficient are significant at 10%, 5%, and 1% respectively.

Source: The output of Eviews version 9

ARDL Bounds Test

Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	6.688613	5

Critical Value Bounds

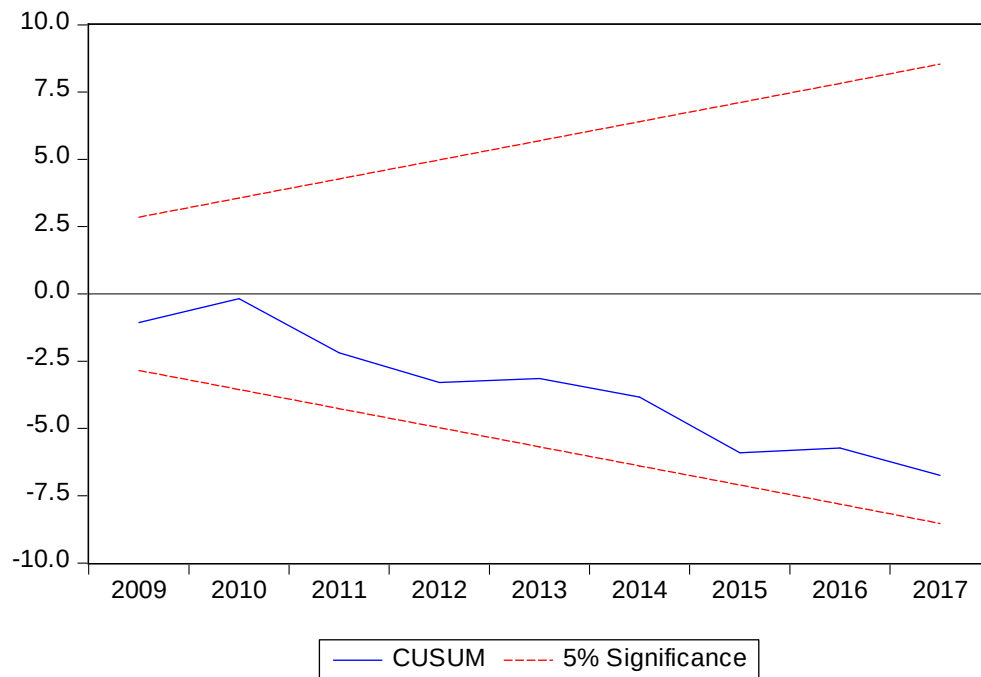
Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.009118	Prob. F(2,7)	0.9909
Obs*R-squared	0.059761	Prob. Chi-Square(2)	0.9706

Stability Diagnostics



Coefficient Diagnostics

Wald Test:

Equation: Untitled

Test Statistic	Value	Df	Probability
F-statistic	0.120041	(2, 10)	0.8881
Chi-square	0.240081	2	0.8869

Wald Test:

Equation: Untitled

Test Statistic	Value	Df	Probability
F-statistic	1.577123	(2, 10)	0.2539
Chi-square	3.154246	2	0.2066

Wald Test:

Equation: Untitled

Test Statistic	Value	Df	Probability
F-statistic	0.015023	(2, 10)	0.9851
Chi-square	0.030046	2	0.9851

Wald Test:

Equation: Untitled

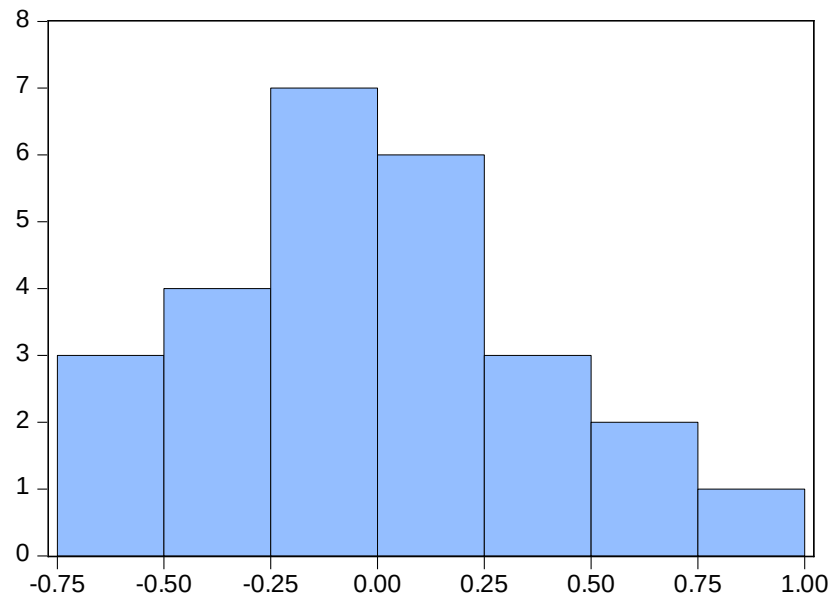
Test Statistic	Value	Df	Probability
F-statistic	3.455508	(2, 10)	0.0723
Chi-square	6.911016	2	0.0316

Wald Test:

Equation: Untitled

Test Statistic	Value	Df	Probability
F-statistic	1.336449	(2, 10)	0.3059
Chi-square	2.672897	2	0.2628

Histogram Normality Test



Series: Residuals
Sample 1992 2017
Observations 26

Mean	3.84e-17
Median	-0.025087
Maximum	0.884183
Minimum	-0.705382
Std. Dev.	0.391145
Skewness	0.414514
Kurtosis	2.695334
Jarque-Bera	0.845116
Probability	0.655368

Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.670923	Prob. F(5,20)	0.6501
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Obs*R-squared	3.734594	Prob. Chi-Square(5)	0.5882
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Scaled explained SS	1.873190	Prob. Chi-Square(5)	0.8664
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