



COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ECONOMICS

Title: IMPACT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH IN ETHIOPIA

A Senior Essay Submitted to the Department of Economics for the Partial Fulfillment for the Requirement of Bachelor of Degree of Arts in Economics

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JUNE, 2019

WOLKITE, ETHIOPIA

DECLARATION

I **Urgessa Firomsa** declare that this thesis entitled: *“Impact of Foreign Direct Investment on Economic Growth in Ethiopia”* is outcome of my own effort and study and that all sources of materials used for the study have been appropriately acknowledged.

To the best of my knowledge, this study has not been submitted for any degree in this University or any other University. It is offered for the partial fulfillment of the Bachelor degree of art in economics.

By: **Urgessa Firomsa**

Signature-----

Date-----

ADVISORS' APPROVAL SHEET

This is to certify that the thesis entitled “*Impact of Foreign Direct Investment on Economic Growth in Ethiopia*” submitted in partial fulfillment of the requirements for the Bachelor degree in Economics, of the Department of Economics, and has been carried out by **Urgessa Firomsa**, under my/our supervision. To the best of my knowledge, is an original work and not submitted earlier for any degree either at this University or any other University.

Therefore I recommend that the student has fulfilled the requirements and hence here by can submit the thesis to the department.

Advisor: Amsalu (MSc)

Signature _____

Date: June 18, 2019

ACKNOWLEDGEMENTS

First and foremost I glorify the ALMIGHTY TRIUNE GOD, for gifting me wisdom and understanding in my life journey. Next my deepest gratitude extends to my advisor Amsalu.B, (MSc) for his priceless guidance and constructive advices and comments to accomplish this work.

Lastly, not the least I am also much grateful to my family. My deepest and warmest appreciation goes to my brothers, Bikila Firomsa (MSc), Tolossa Firomsa (Lawer) and Dabalo Firomsa (BA) for their constructive advices and financial support in all academic achievements.

ABSTRACT

The aim of the study to investigate the Impact of Foreign Direct Investment on economic growth in Ethiopia by using annual time series data from the periods of 1982 to 2018. To achieve this objective the Descriptive and Econometric analysis were processed. The Ordinary Least square (OLS) method approach was employed to assess the model in the long run .The empirical results points out that as foreign direct investment has a positive and significant impact on the economic growth of Ethiopia. Beside this other variables such as gross capital formation, gross domestic saving and infrastructural level also have positive and significant contribution on the economic growth and enhance the growth of the country. Error-correction model (ECM) has been used to support the existence of a stable long-term relationship and confirm a deviation from the long-term equilibrium. The finding of error-correction model revealed that there was a deviation of the actual growth of the country from its equilibrium value that eliminated every years and indicates a short run deviation of growth from the long run equilibrium. In doing so, the Diagnostic and Unit root tests were conducted to guard the model from spurious results. Based on the finding of the study the researcher recommended that all concerning bodies to be utilized properly and wisely the opportunity of foreign direct investment out comes as it continues to increase the economic growth and motivate them as they enter in to the country for investment.

Keywords: Economic Growth, Foreign Direct Investment.

Table of Contents

DECLARATION	i
ADVISORS' APPROVAL SHEET.....	ii
ACKNOWLEDGEMENTS.....	iii
ABSTRACT	iv
LIST OF FIGURES	vii
LIST OF TABLES	viii
ACRONYMS	ix
CHAPTER ONE: INTRODUCTION	1
1.1. Background of the study	1
1.2. Statement of the Problem.....	3
1.3. Research Questions	5
1.4. Objective of the study	6
1.4.1. General Objective	6
1.4.2. Specific Objective.....	6
1.5. Hypothesis of the study	6
1.6. Significance of the study	7
1.7. Scope of the study	7
1.8. Organization of the paper	7
1.9. Limitation of the Study.....	7
CHAPTER TWO: LITERATURE REVIEW.....	8
2.1. THEORETICAL LITERATURE	8
2.1.1. Explanation and Concept of Foreign Direct Investment	8
2.1.2 Theories of Foreign Direct Investment.....	9
2.1.3 Theories of Economic Growth	10
2.1.4. The Interaction between Foreign Direct Investment and Economic Growth.....	10
2.2. EMPIRICAL LITERATURE	11
2.2.1, Trends of FDI in SSA Countries.....	12
2.3. Conceptual frameworks	16
CHAPTER THREE: METHODOLOGY OF THE STUDY	17
3.1 Type of Data	17
3.2 Source of Data	17

3.3 Method of Data Analysis.....	17
3.4. Model Specification	17
3.5. Explanation of Dependent and Independent Variables.....	18
3.5.1. Description of Dependent Variable.....	18
3.5.2. Description of Independent Variables and its expected sign.	19
3.6. ECONOMETRIC CRITERIA.....	20
3.6.1 Unit root test	20
3.6.2. Diagnostic Tests	21
3.6.3. Co integration test	21
3.6.4. Error correction model.....	22
CHAPTER FOUR: RESULT AND DISCUSSION	23
4.1. Descriptive Analysis.	23
4.2. TRENDS OF THE VARIABLES.....	24
4.2.1 Trends in Growth of GDP.....	24
4.2.2. Trend of foreign direct investment inflow in Ethiopia	25
4.2.3. Trends of Independent variables in the model in% of GDP in Ethiopia	28
4.3. UNIT ROOT TEST OF STATIONARY.	29
Table 4.2. Augmented Ducky-Fuller (ADF) unit root testing:-.....	29
4.4. Co-integration Tests.....	30
4.5. ECONOMETRICS ANALYSIS	31
4.5.1. Long run estimation result.	31
4.5.2. Hypothesis of the study.....	34
4.5. Diagnostic tests.....	34
4.5.1. Normality test.	35
4.5.2. Test for Multicollinearity.	35
4.5.3. Test of heteroscedasticity.	35
4.6. Short Run Error Correction Model.....	35
CHAPTER FIVE: CONCLUSION AND RECOMMENDATION	38
5.1 CONCLUSION	38
5.2. RECOMMENDATIONS.....	39
References	40

LIST OF FIGURES

Figure 1.1.....Trends of FDI in SSA Countries.

Figure 4.1Trends in Growth of GDP as % of GDP, 1982-2018.

Figure4.2:Trends of foreign direct investment inflow in Ethiopia in 1982-2018.

Figure 4.2.1Trends of foreign direct investment projects shared by region.

Figure 1.2.2Trends of FDI inflow by countries origin

LIST OF TABELS

Table 4.1 Summary of Descriptive analysis

Table 4.2.....Results of log run regression analysis.

Table 4.3.....Augmented Ducky-Fuller (ADF) unit root testing.

Table 4.4.hypothesis of the study.

Table 4.5..... ..Results of short run Error Correction model estimation result.

ACRONYMS

ADF	Augmented Dickey–Fuller
ECA	Economic Commission for Africa
EICS	Ethiopian Investment Climate Statement
EIA	Ethiopian Investment Agency
ECM	Error Correction Model
FDI	Foreign direct investment
GCF	Gross capital formation.
GDP	Gross domestic product
IMF	International Monetary Fund
LDCs	Least Developed Country's.
MOFEC	Minister of Finance and Economic Corporation of Ethiopia
NBE	National Bank of Ethiopia
OLS	Ordinary Least square
TRO	Trade Openness
UNCTAD	United Nations Conference on Trade and Development
WB	World Bank.

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

Foreign direct investment is one of the key economic features of the modern globalized world. It plays an important role in economic growth. It is also an increasingly important channel for resource flows between the industrial and developing countries. Several real and potential benefits discernible from these flows that include technological spillovers, job creation, improved managerial skills and productivity. Given the capital deficient nature of least developed countries and the benefits accruable from these activities, and it is essential for growth and development. It affects economic growth of developing countries positively through transfer of capital, know-how, and technology (Li and Liu, 2005).

Agrawal and Khan (2011) study that FDI acts as a vehicle for the transfer of advanced manufacturing technologies from the Developed countries (DCs) to the Less Developed countries (LDCs) and increases competition in the host country's markets. FDI helps the host countries improve their foreign exchange reserves (or balance-of payments position) by increasing exports, brings along with it the management know-how needed to run the facilities. It provides the financial resources needed by the host country and enhances the training and employment opportunities for the people of the host country.

As a result of these benefits, many developing countries, like Ethiopia, are now actively seeking for promoting FDI by trying to create a favorable environment for it. Some of the measures taken include economic and political reforms aiming at macroeconomic and political stability, investment in infrastructure and human capital and liberalization of trade (Haile and Assefa, 2006).

Ethiopia carried out major economic reforms in 1992. The country introduced and increased ingenuousness by undertaking trade liberalization, removing trade barriers and promoting the inflow of FDI. In the United Nations Conference on Trade and Development's (UNCTAD) World Investment Report 2014, foreign direct investment (FDI) projects globally could increase to 1.7 trillion USD in 2015 and 1.8 trillion USD in 2016. In 2013, 54 percent (778 USD billion) of the total global FDI flow went to developing countries: Africa saw a 4+ percent increase in FDI inflow, although developing Asian countries continued to be the region with the highest FDI inflow, Ethiopian economic report,(1992).

In East Africa, FDI increased by 15 percent to 6.2 billion USD because of rising flows to Ethiopia and Kenya. This is due to the increasing integration of developing countries into international trade and the global market as it is accompanied by a dramatic influx of foreign capital into developing countries in the form of FDI. The attitude of many developing countries towards the importance of FDI has changed remarkably and they have taken steps to ease restrictions on FDI inflow. These countries' supportive policies towards FDI base themselves on the assumption that FDI increases the country's output, productivity and technology transfer (Damoi et.al, 2006).

Considering the benefits of FDI for growth and development, most African countries have undertaken various policy reforms to create conducive investment environment in order to attract a considerable amount of FDI. However, although the African continent has made notable efforts to attract FDI, the inflows of FDI are very small compared to other developing nations. For instance, among the FDI inflows to developing countries between the periods 2005 to 2010, African share was only around ten percent and also characterized by uneven distribution among countries in the region (UNCTAD, 2015).

In recent years, Ethiopia has started encouraging the flow of FDI by improving the investment climate and by providing different incentive packages. In the 1992 reform creates conducive environment for private investment and opens the door for foreign investors to participate in domestic investment. The revised Investment Code of 1996, as well as the Investment Proclamation give incentives for development-related investments and have gradually removed most of the sectorial restrictions on investment (EICS, 2015).

Some areas of investment are reserved for domestic investors only. According to Ethiopia's regulation on Investment Incentives and Investment Area Reserved for Domestic Investors (2012), banking service, insurance, postal service, supply of electrical energy, telecommunication service, and broadcasting are some areas reserved for domestic investors. (Getnet and Hirut 2006). In order to create a favorable investment climate, the government of Ethiopia extended various kinds of incentive in industrial development zone. Accordingly, the government also established the Ethiopian Industrial Zones Corporation under the Ministry of Industry in 2012 to supervise the construction and regulation of the zones (EICS, 2015).

1.2. Statement of the Problem

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

For the past two decades, Ethiopia has experienced rapid and stable economic growth. According to the report from UNDP (2014) average GDP growth rate of 11% has been registered in the last two decades. Agriculture, industry and Service have registered an average annual growth rate of 8.4%, 10% and 14.6% respectively. From several factors which accounted for economic growth, foreign direct investment is the one which can relieve the transfer of technology that have extensive effects for the entire economy to developing countries. Following the 1992 reform of Ethiopia the FDI inflow has shown a gradual increase, rising from two percent of total investment in 1995/96 to 59 percent in 1997/98.

There are controversial arguments regarding the impact of foreign direct investment on the economic growth of host countries. Although some argue that foreign direct investment is taken as a way out to boost economic growth and development in developing economies, others are concerned with its negative impact on host country. According to the latter group foreign direct investment (FDI) can destroy local capabilities and extract natural resource without adequately compensating poor countries. Despite this during the past decades countries are recognizing the important role of FDI on economic growth and start to liberalize their FDI regime (Velde, 2006).

There are several studies conducted on the impact of FDI on economic growth. According to Carp (2012) capital flows has significant influence on the host country. Financial markets, host country absorptive capacity, human capital and technology are the main channels through which the effects are transmitted. This argument is also supported by Fortanier (2007) whose finding proves that the growth consequences of FDI differ by country of origin, and that the effects of country of origin also vary depending on the host country characteristics. In contrast, there are also studies which provide the negative impact of FDI to economic growth. Work by Forte (2009) are among those studies that found the crowd out effect of FDI to local enterprises and show the negative impact of FDI on economic growth (Denisia, 2010)

The crucial role of FDI in terms of enhancing capital formation, spillover effects, competition, linkage, technology transfer, and there by incurring development problems has led to the development of several theoretical and empirical literature studies. Some scholars argue that FDI has an adverse effect on growth. 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 where by domestic firms are displaced or outcompeted by foreign-owned multinational enterprises hence affecting economic growth negatively (Tang et. al., 2008). Such conflicting evidence is not an exception in the Ethiopian economy. In spite of limited research on the effects of FDI on macroeconomic variables, recent empirical finding shows a negative association between FDI and economic growth in Ethiopia (Wondoson, 2011).

There are many studies done on the impact of FDI on economic growth of Ethiopia. From those Meskerem (2014), studied the impact of foreign direct investment on the economic growth in Ethiopia with the inflation rate trade balance, foreign direct investment, government expenditure and the findings show that the foreign direct investment has positive impact on the economic growth and statistically insignificant.

Remla,(2012),studies the impact of foreign direct investment on the Ethiopian economic growth and the empirical result obtained show that FDI has negatively affecting the Ethiopian economic growth by using foreign direct investment, trade liberalization, government expenditure, inflation rate and gross domestic saving are major variable used in his study. While those studies undertaken in this area were failed to address as the contributions of foreign direct investment has encourage and pushing economic growth forward and sustain it. Further more comprehensive analysis that includes important variables that has great contributions on the economic growth and FDI inflows to the country such as human capital, infrastructural level, labor force are lacking. This paper attempts to consider these gaps and try to address the impact of foreign direct investment on Ethiopian economic growth over the period 1982- 2018 and fill the time gaps not covered by others.

1.3. Research Questions

In general this study was answered the following major research questions;-

- What is the relationship between the FDI and economic growth?
- Does labor force, human capital, infrastructure, gross capital formation, openness and domestic saving encourage the gross domestic productivity of the country?
- What looks likes the trend of FDI in the country?

1.4. Objective of the study

1.4.1. General Objective

The general objective of the study was to analyze the impact of foreign direct investment on economic growth in Ethiopia.

1.4.2. Specific Objective.

The specific objectives of the study are:

- ✓ To investigate the relationship between the of FDI and economic growth in Ethiopia.
- ✓ To examine the contributions of labor force, human capital, infrastructure, gross capital formation, openness and domestic saving on the economic growth.
- ✓ To assess the trend of FDI in the Country

1.5. Hypothesis of the study

Based on the theoretical aspects and the real feature of the country, the impact of foreign direct investment was described by the following hypothesis:

First, regarding the relationship of variables;

H₀: There is negative relationship between the foreign direct investment and economic Growth in the Country.

H₁: There is positive and significant contribution of foreign direct investment on the economic growth.

Second, regarding the nature of time series from;

H₀: Ordinary list square model is not appropriate and

H₁: Ordinary list square model is appropriate

Third, regarding to the variety of tests for unit roots or stationary of time series;

H₀: Each time series contains a unit root.

H₁: Each time series is stationary.

1.6. Significance of the study

There are many studies conducted on the impact of FDI on the economic growth of Ethiopia. Thus, this study was contributed to the existing literatures by analyzing both the separate impact of FDI on economic growth. This study also analyses and depicts the Impact of the FDI inflows on the Ethiopian economic growth and it identifies the growth opportunities that are created due to FDI inflows in to the country and the trends of FDI in Ethiopia. In fact, the significance of the study can be to use the findings as one source of information related to FDI and economic growth in the country. In addition, it is a point to fill the gap of literature on the topic.

1.7. Scope of the study

The study focuses on analyzing the impact of FDI on the economic growth in Ethiopia at national level and it deals with relationship between FDI and Ethiopian economic growth, even though the problem is global. The study tried to explore the impact of foreign direct investment on Economic growth in Ethiopia. The study used to cover 37 years annual data period from year 1982 to 2018.

1.8. Organization of the paper

This paper was organized into five chapters. The first chapter is background, statement of the problem, objective of the study, hypothesis of the study, scope and limitations of the study. The second chapter contains reviews of the theoretical and empirical literature of the study and conceptual frame work. Chapter three was discussed the methodology, data sources and type, and model specification. The fourth parts include the descriptive and Econometrics analysis and the last chapter is containing the, conclusion, recommendation and policy analysis.

1.9. Limitation of the Study.

This study is dealing with secondary data, that might cause or lead to inherit the errors done when those data was collected and problem of data inconsistency as reported from different institution .Lack of fund, the researcher is private sponsored so was faced some challenges of getting adequate finance of some research materials and document like pamphlets, journals and internet bundles are expensive. Even if the researcher faced such above constraints and others, the researcher has been successfully accomplished the paper as much as possible.

CHAPTER TWO: LITERATURE REVIEW

2.1. THEORETICAL LITERATURE

Foreign Direct Investment is believed to begin in the late nineteenth century. The Victorian and Edwardian eras saw the creation of many of the great vertically integrated multinationals that would be recognized today as colonial plantation companies such as Lever Brothers investing in West African vegetable Oil plantations, Cadbury's in Cocoa, Dunlop in rubber. The UK as the great imperial power of the time, dominated world international business with over 45% of the world's total stock of the FDI in 1914. Following the World II, the FDI leadership passed over to the US, with companies such as General Motors, Ford Chrysler and IBM, developing manufacturing bases around the world.

By 1960, US counted over 48% of the world investment. However; the significant entrant in international scene has been Japan. In 1960, Japanese firms accounted for less than 1% of the world accumulated FDI. By 1989, the Japanese share was over 12%, against 29.5% for the US and 15% for the UK. In 1990s there was a significant change in the trend of FDI. This is because FDI flowing to the developing countries surged to 30%-40% compared with just 15% and 18% in 1980s. However, the majority of the FDI went to countries of the Asia- Pacific region. Major countries namely the US, UK, and Japan, accounted for this bulk outward investment (Buckley, 2000).

2.1.1. Explanation and Concept of Foreign Direct Investment

Different scholars and international institutions give different definitions of foreign direct investment. For the purpose of this study the definition by the International Monetary Fund is used. Accordingly, Foreign Direct Investment is defined as: A category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy (IMF, 2011).

Foreign direct investment is not just 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, direct foreign investors have substantial control over the management of foreign subsidiary. In fact, balance of payment accountants define FDI as any flow of lending to, or purchase of ownership in, a foreign enterprise that is largely owned by the residents (usually firms) of the investing country (Agosin and Ricardo, 2000).

2.1.2 Theories of Foreign Direct Investment.

The Foreign Direct Investment (FDI) theories can be classified broadly into two categories. One is at the macro level and the other is at the micro level. Again at the macro-level, we have capital market theory, Dynamic macroeconomic theory, FDI theories based on exchange rates, FDI theories based on economic geography, gravity approach to FDI and FDI theories based on institutional analysis. At the micro-level, we have the theories like Existence of firm specific advantages (Hymer), FDI and oligopolistic markets, Theory of internalisation, and Electic FDI theory (John and Dunning, 2007)

The Micro level FDI theories provide the answers of why MNCs prefer opening subsidiaries abroad rather than exporting or licensing their products, how MNCs choose their investment locations and why they invest where they do (Woldemeskel, 2008). FDI and oligopolistic markets said that in a two-tier oligopoly model, there are two foreign investors one produces intermediate products and other produces final products. The two investors decide independently whether or not they will enter a host country. The entry of either of the firms incurs some fixed costs and generates technological spillover for the local firms of the same sector and reduces the marginal cost of production (Lin and Saggi, 2010).

Hoenen and Hansen (2009) said that FDI is a defensive move in oligopolistic markets. They argued that risk-averse firms follow their main competitors to avoid any distortions in oligopolistic equilibrium. When one firm in an oligopolistic markets moves, the other firms also reacts with countermoves at both domestic and international levels In oligopolistic markets, firms follow the actions of the market leader, if FDI is a move of

the market leader then other firms also reacts by investing abroad and oligopolistic equilibrium sustains.

2.1.3 Theories of Economic Growth

Classical economists argue that economic growth depends on not only land, labour, capital, technology but also social, economic and political structure. Their main concern was the sustainability of economic growth, with the pessimism of Thomas Malthus and David Ricardo contrasting with the optimism of Adam Smith. Though, during the period 1870–1929 economists research was heavily influenced by the marginalist revolution and was therefore predominantly micro oriented, being directed towards issues relating to the efficient allocation of given resources (Ucak, 2015).

In the long run, the country's growth rate will revert to the rate of technological progress, which neoclassical theory takes as being independent of economic forces, or exogenous. Without technological change an economy can perhaps grow for a while by accumulating capital, but eventually that growth will be choked off by the diminishing marginal product of capital. With technological change, however, growth can be sustained; and indeed the economy will converge to a steady state in which the rate of economic growth is exactly equal to the rate of technological progress (Aghion and Howitt, 2009).

According to the model the trick of economic growth is simply a matter of increasing saving and investment. The Harrod-Domar model also shows that the market mechanism may not provide stable growth rate in the long run, hence they confirmed that the proposal of Keynes which capitalist system was inherently unstable is valid not only in the short run but also in the long run. This led to the birth of the neoclassical model of economic growth (Ucak, 2015).

2.1.4. The Interaction between Foreign Direct Investment and Economic Growth

Foreign direct investment may affect economic growth directly because it contributes to capital accumulation and transfer of new technologies to the receipt country. In addition, FDI enhances economic growth indirectly where the direct transfer of technology augments the stock of

knowledge in recent country through labor training and skill acquisition, new management practice and organizational practice.

Theoretically, however, in the context of new classical or endogenous growth model the effect of foreign direct investment on the economic growth of the receiving country differ in recent growth model from their conventional counter parts.

Foreign direct investment can be expected to benefit the host country by transforming resource, increasing employment opportunities, improving the balance of payment and transferring technology. Among other note that FDI brings much needed physical capital, new technology, managerial and marketing talents and expertise, international best practice of doing business as well as increased competition. This resource may have the potential to be diffused into indigenous firms there by creating more innovative and productive growth. FDI contributes more jobs to the local economy by directly adding new jobs and indirectly when local spending increases due to purchase of goods and services by the new increase in employees (Meskerm, 2014)

2.2. EMPIRICAL LITERATURE

A panel study of China, Japan, India, South Korea and Indonesia using data for 1993 to 2011, Agrawal and Khan (2011) investigated the impact of FDI on GDP Growth and report that “FDI promotes economic growth, and further provides an estimate that one dollar of FDI adds about 7 dollars to the GDP of each of the five countries”. Similarly, Rabiei and Masoudi (2012) examine FDI growth nexus in D8 countries namely; Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey. Results shows FDI have positive effect on growth in D8 countries.

The empirical relationship between economic growth and foreign direct investment for Malaysia investigated using secondary time series data that cover the period from 1971 to 2009. The study considered FDI net inflows as an indicator for FDI and Gross Domestic Product (GDP) as indicator to economic growth. The methodology used is time series vector autoregressive model. The study result shows, the existence of long-run co-integration relationship between FDI and gross domestic product (GDP). In addition, they investigated the causality analysis based on Granger causality and found a causal effect exists running from FDI to GDP, implying that FDI does influence economic growth (Mori, 2010).

2.2.1, Trends of FDI in SSA Countries.

This this section will try to focus on the trend and progress of FDI in SSA countries. Morris & Aziz (2011) noted that globalization has fueled an explosion of FDI around the world. More specifically, the last couple of decades have experienced a substantial increase in the flow of FDI. SSA countries are not an exception, similar boom have been 14 witnessed elsewhere. Figure 1 shows the flow of FDI to SSA countries have significantly increased in the early 2000s and continue to increase until slowed down by the financial crisis of 2008 and later continued to pick up.

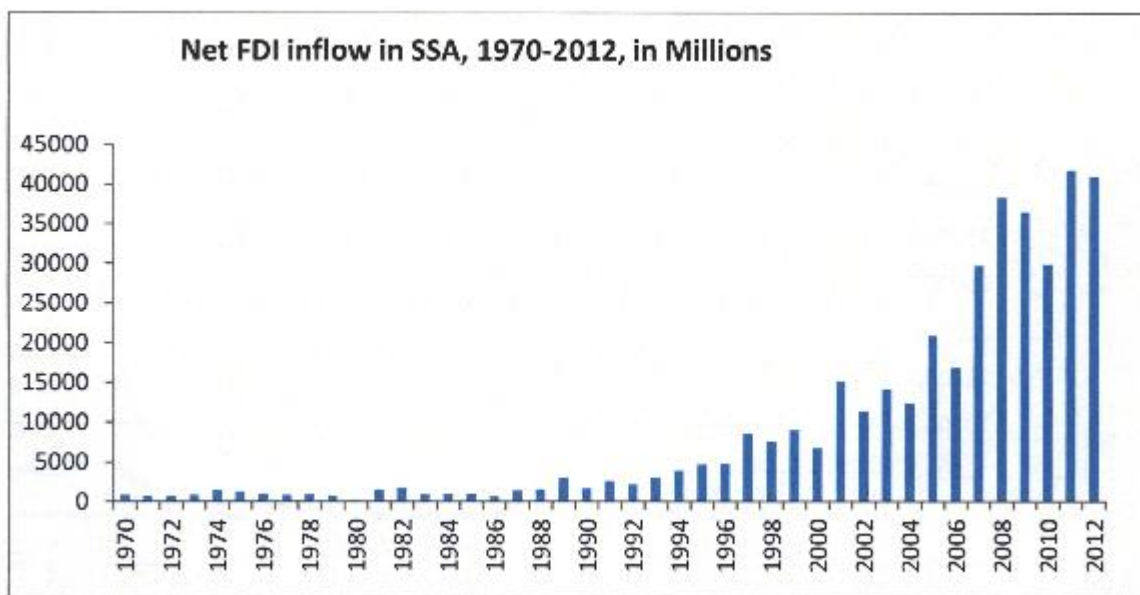


Figure 1: Source: UNCTAD; average CPI from 1970-2012 was 4.39 - U.S. Department of Labor Despite the progress, efforts by SSA countries to attract more FDI are far from adequate. When compared to other regions, FDI inflow to SSA countries lags behind significantly.

According to Shawa and Shen (2013) have examined the causal relationship between FDI, exports and GDP growth for Tanzania for the period from 1980-2012. They employ Granger causality test to accomplish their task. The co integration results reveals that there is existence of the long run association among the variables in questions. While the Granger causality results suggest that there is a causal relationship which is unidirectional running from FDI to export and no causal relation is found between FDI and GDP growth suggesting that FDI is a good predictor of export and hence FDI led growth for Tanzania might be necessary for the country to boost exports.

Kevin panel data analysis indicates the effect of FDI on economic growth in 47 African countries over the last two decades (1980–2000) and shows FDI exerts a positive impact on growth in Africa. He also explained the causes for the flow of FDI in host countries like: trained human capital and an attractive investment climate stemming from a developed infrastructure, lower country risk and stable macro environment in countries. These results confirm his hypothesis that foreign aid as well as domestic and foreign investment is effective and growth enhancing only in a good policy environment. FDI inflows are more strongly positively related to improvement in human development when FDI policy restricts foreign investors from entering some economic sectors and when it discriminates against foreign investors relative to domestic investors. The relationship between FDI and improvement in human development is also more strongly positive when corruption is low (Reiter and Kevin, 2010).

In the case of Ethiopia even though there are several studies in the area of foreign direct investment, there are few studies on the impacts of foreign direct investment on economic growth. Remla (2012) empirically analyze the relationship between foreign direct investment and poverty for the period 1970-2009. The study uses co-integrated VAR approach. Accordingly foreign direct investment had a negative impact on economic growth and hence does not reduce poverty in the country.

According to Tibebe (2014) examines the relationship between FDI and domestic private investment using time series data over the period 1970-2012. The study shows that FDI crowds-out domestic private investment and also foreign direct investment does not have a significant effect on economic growth. According to the study in the long run economic growth have a significant positive effect on both foreign direct investment and domestic private investment.

According to Asmelash (2015) analyzes of foreign direct investment in Ethiopia using co-integrated VAR approach over the period 1974/75 to 2013/14. The study took the determinant of FDI in Ethiopia such as infrastructure development, the domestic market size and growth potential, macroeconomic stability, human capital development, openness, and external debt and evaluate as to how they affect the inflow of FDI.

The finding of the study revealed that in the long run explanatory variable such as infrastructure development, the domestic market size, human capital, openness, and external debt are found positively related and statistically significant while the inflation rate is negatively related and statistically significant. However, in the short run there exists a negative relation between the gross capital formation and inflation and they are statistically significant. Gross domestic product found to have positive significant relation with FDI.

The study also indicates that there was bidirectional causality between gross fixed capital formation and foreign direct investment and the variables of inflation, Gross Domestic Product, Debt Servicing, Openness and Human Capital does Granger- causes foreign direct investment but not the other way around.

As Meskrem (2014) investigates the impact of foreign direct investment (FDI) on economic growth in Ethiopia based on annual time series data over the period 1974 to 2011. It in particular examines how FDI affects GDP growth, both directly and also conditioning on trade liberalization that Ethiopia adopted in early 1990s. the study estimates three different growth model specifications to investigate these relationships using Ordinary Least Square (OLS) method.

Results show that two years lagged FDI has a positive and statistically significant effect on contemporary economic growth. On the other hand, FDI after trade liberalization has positive but statistically insignificant effect on economic growth. Results further show that the positive impact of domestic investment on economic growth becomes less when FDI assumes positive significant impact, implying the crowding out effect of FDI on domestic investment

To summarize, there have been some empirical evidences that investigated the impact of foreign direct investment on economic growth in Ethiopia. Remla, (2012) empirically analyze the relationship between foreign direct investment and economic growth in Ethiopia from the annual period of 1970-2009. The study uses co-integrated VAR approach. Accordingly foreign direct investment had a negative impact on economic growth. However further studies will be needed to investigate the impact of FDI on economic growth .So this study was try to show as FDI has positive impact on economic growth in Ethiopia by using OLS method for long run because of its convenience and simplicity and ECM in case of short run, also this study full fill the time gab not covered by other previous researchers.

2.3. Conceptual frameworks

The following diagram illustrates the conceptual framework of growth model in which the growth (measured in terms of the GDP) is dependent variable while the foreign direct investment (FDI), gross domestic saving (GDS), gross capital formation (GCF), Inflation rate (INF), human capital expenditure on education (Hk), infrastructure (Inf), trade openness (Tro) and labor force (Lf) are the independent variables



CHAPTER THREE: METHODOLOGY OF THE STUDY

3.1 Type of Data

The types of data used in this study was secondary data. The use of secondary data is valid for this study for the purpose of gathering background information and comparing the past experience with the current. Benefit derive by using secondary data is saving of time, Accessibility of data, saving of money, Feasibility of both longitudinal and international comparative studies and generating new insights from previous analyses with some limitations.

3.2 Source of Data

The data used in this study was annual time series data (in the period of 1982 to 2018) that was collected from MOFEC (Minister of Finance and Economic Corporation of Ethiopia) and National Bank of Ethiopia (NBE) and Ethiopian Central Statistical Authority (ECSA) for this study.

3.3 Method of Data Analysis

The data has been analyzed using STATA 13 econometrics software. The researcher was used a time series data from 1982 to 2018 in the analysis which covers the 37 years data. line with similar studies on FDI and economic growth especially across countries, the study use a linear regression approach in determining the influence and relationship which Foreign Direct Investment has on Ethiopian economic growth. The statistical method has been assessed by the Ordinary Least Square Method (OLS) for long run and error correction model(ECM) for short run.

3.4. Model Specification

Economic growth is the result of and the interaction of many variables. The neo-classical Solow model explains economic growth as resulting from the combination of two elements, namely Capital and Labor. The Solow model studies the growth path of economies by assuming a neoclassical production function which combines two factors to produce output: capital and labor. Both factors are perfectly substitutable and exhibit diminishing returns to

scale (Morrissey, 2001). The model was applied by OLS estimation method because of its convenience and simplicity in case of log run and ECM in case of short run analysis.

Various studies include different variables while analyzing the impact of foreign direct investment across the world. Therefore, in this study the model was being specified using Solow Growth model as follows:

$$\text{GDP} = f(\text{FDI}, \text{INF}, \text{TRO}, \text{LF}, \text{HK}, \text{GCF}, \text{GDS}, \text{INFS})$$

Specifically the model is as follows:

$$\text{GDP} = \beta_0 + \beta_1\text{FDI} + \beta_2\text{INF} + \beta_3\text{TRO} + \beta_4\text{LF} + \beta_5\text{Hk} + \beta_6\text{GCF} + \beta_7\text{GDS} + \beta_8\text{INFS} + u_i$$

Where:

GDP = Gross Domestic Product (GDP)

FDI=Foreign Direct Investment.

INF = Inflation rate.

TRO=Trade openness

LF=Labor force employed

Hk=Human Capital development expenditure on education.

GCF = Gross Capital Formation.

GDS = Gross Domestic Saving.

INFS=Infrastructural level

3.5. Explanation of Dependent and Independent Variables

3.5.1. Description of Dependent Variable

GDP(Y) is the market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in per capita Gross Domestic Product. Since most

economists argue that economic growth can be measured as growth in GDP, it includes in the model as main dependent variable in order to measure economic growth. In order to avoid the inconsistency associated with different base year price while computing per capita GDP, this study was used the per capita GDP (constant value)

3.5.2. Description of Independent Variables and its expected sign.

Foreign Direct Investment: Foreign direct investment, net inflows (% of GDP): WB defines FDI 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. A lasting interest in an investment enterprise typically involves establishing warehouses, manufacturing facilities, and other permanent or long-term organizations abroad. FDI can be divided in to flow and stock of FDI. While the flow of FDI is based on current account inflows of foreign capital for a year, stock is the total cumulated value of foreign-owned capital in a country. I used in my empirical analysis part the net FDI inflow as percentage of GDP and these is explained in figure 1 and 2 in chapter two. My interest of variable in my regression is FDI. FDI consist a package of technology, management skill, capital, market access and others. If a country has an access to have FDI inflow then helps the host country to create economies of scale and linkage effect and raise productivity.

Inflation rate: is rising general price level. In this analysis inflation rate (based on CPI) will use to measure the effect of macroeconomic stability and low inflation is expected to have a positive marginal influence on FDI inflow.it is negatively affect dependent variables.

Trade openness: level of trade openness is peroxide by the fraction of the sum of imports and exports in GDP $[(Exports + Imports) /GDP]$. Trade openness has a role in improving technological progress 28 (through competition), bridging foreign exchange gap and opening up the economy to international market. A positive co-efficient is expected if the level of trade openness positively influences FDI-induced Growth.

Labor force: is the supply of labor available for producing goods and services in an economy during a specified period. According to the WB definition, Labor force comprises people ages 15 and older who meet the International Labor Organization definition of the economically active population. All people who supply labor for the production of goods and services during a specified period. It includes people who are currently employed and people who are unemployed

but seeking work as well as first-time job-seekers. But this study focuses on the currently employed peoples in the domestic & foreign investment projects. Working force has direct relation to the GDP.

Human Capital: is level of human capacity development measured as expenditure on education in million birr. A positive co-efficient is expected if human capacity development positively influences FDI-induced economic growth.

Gross capital formation (% of GDP): is consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like while inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress. "it has positive impact on the GDP.

Gross Domestic Savings (% of GDP): income is classified as consumption and saving. GDS is income that is not consumed by immediately buying goods and services is saved. This is measured in nominal terms, Constant Birr values .it has positive impact on the GDP.

Infrastructure: level of infrastructure development is provide by total government development in case of road transportation and communication. A positive co-efficient is expected if the level of infrastructure development positively influences FDI-induced economic growth.

3.6. ECONOMETRIC CRITERIA

3.6.1 Unit root test

This model and empirical work based on time series data assumes that the underling time series is stationary. Therefore a test of stationary that has become widely popular the past several years which is a unit root test must be considered to get a result (Gujarat, 2006). However, most of time series macro-economic variables are non-stationary at level. In this case to get a result test for first and difference is necessary

3.6.2. Diagnostic Tests

1. Test for Multi Collinearity

To detect multi-collinearity, the researcher uses variance inflation factor (VIF). In this test if we have a choice, we would have VIFs to be smaller (other thing equal). But have rarely choice, if the researcher thinks a certain explanatory variable need to be included in regression to infer causality of explanatory variable, then we are hesitant drop them whether we think VIFs is too high cannot really affect that decision. If say, our main interest in the casual effects of one explanatory variable on dependent variable, and then we should ignore entirely the VIF of other independent variables coefficients. Finally setting the cut off value for VIF which have concluded multicollinearity is a problem is arbitrary and not especially helpful. Sometimes the value of 10 is choosing. (Gujarati, 2004)

2. Test of Heteroscedasticity

Look straight to the p-value is (preferable) 0.05 or smaller, then the null hypothesis is accepted and here significant evidence there is Heteroscedasticity, but if prob-chi2is 0.05 or greater than, or then null hypothesis is rejected here in significant evidence there is no heteroskedasticity problem (Gujarati, 2004).

3.6.3. Co integration test

The issue of co integration applies when two series (the dependent variables and independent variables) are stationary at first difference I (1), but a linear combination of them is stationary at level ii (0); in this case regression of one on the other is not spurious, but instead of tells us something about the long run relationship between them (Wool dridge, 2000)

3.6.4. Error correction model

The Engel Granger co integration tests can be used to test for co integration and to determine the numbers of co integrating vectors once the VAR model is estimated. In the process ,since the test is sensitive to the nature to the series included in the model and the lag length ,the optimal lag length should be determined based different long selection criteria .Based on the identified numbers of co integrating vectors a vector error correction model(VECM) should be set. The VECM captures the adjustment toward in the long run equilibrium and the short causality between variables.

CHAPTER FOUR: RESULT AND DISCUSSION

4.1. Descriptive Analysis.

Descriptive statistics of gross domestic product (GDP), Foreign direct investment,(FDI) inflation(INF), labor force,(LF) trade openness,(TRO) level of human capacity,(HK) gross capital formation ,(GCF) gross domestic saving,(GDS) and level of infrastructure(INFS) are presented in table 4.1

Table 4.1 Summary of Descriptive analysis.

Variables	Mean	Standard deviation	Min	Max
GDP	4215.83	1796.175	2534.6	8765.675
FDI	36784.35	64277.16	0	279821
INF	9.124324	13.64499	-11.8	55.2
GCF	61646.6	59664.69	14116	259173
HK	17.77337	6.977187	7.95	30.539
TRO	59868.36	38975.35	7207	169568
GDS	48354.14	99079.35	1125	409579
INFS	190.0459	85.89492	93.6	407.2
LF	917 2.162	8673.572	148	36214

Source; own computation using data from NBE,(2019)

As we observed from the descriptive statistics of variables (table 4. 1) above the main variables have been described from 1982-2018. From the sample taken in this paper, the highest value of

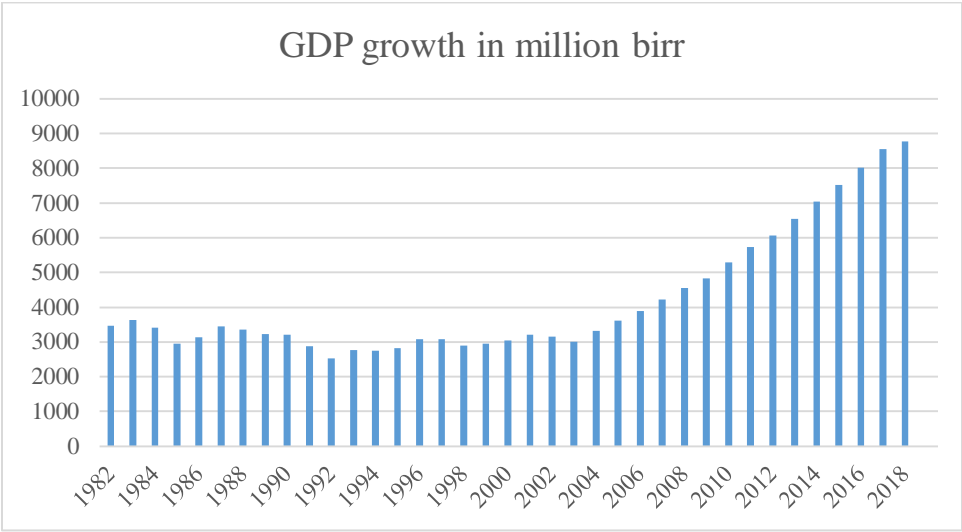
Gross domestic product was recorded between this periods was 8765.675 in million birr. In the country, the lowest value of Gross domestic product was recorded 2534.6 in million birr. In addition to this, the gross domestic product had no uniform trend over the period. Gross domestic product have increased from one period to the other and sometimes declined from period to period depending on the impacts of the independent variables. The standard deviation shows the spread of the values from the mean and is important for comparison purposes. For example the highest deviation was Gross domestic saving, which is 99079.35 while the lowest deviation was observed in Inflation rate which is about 13.64499 was dispersed.

4.2. TRENDS OF THE VARIABLES.

4.2.1 Trends in Growth of GDP.

Figure 4.1 Trends in Growth of GDP as % of GDP, 1982-2018.

As it is observed from the following graph the rate of GDP was changed from time to time for the previous 37 years. The increases or reduction of GDP is caused by different factor, especially from 2004 up to 2018 GDP was highly increased with increasing rate this is due to existence of; efficient administration, existence of stability and positive impact of foreign direct investment inflow into the country and it became to reduce around the 1992 up to 2007, this may due to the political instabilities with the border countries like Eritrea that adversely affect the domestic investment of the country.

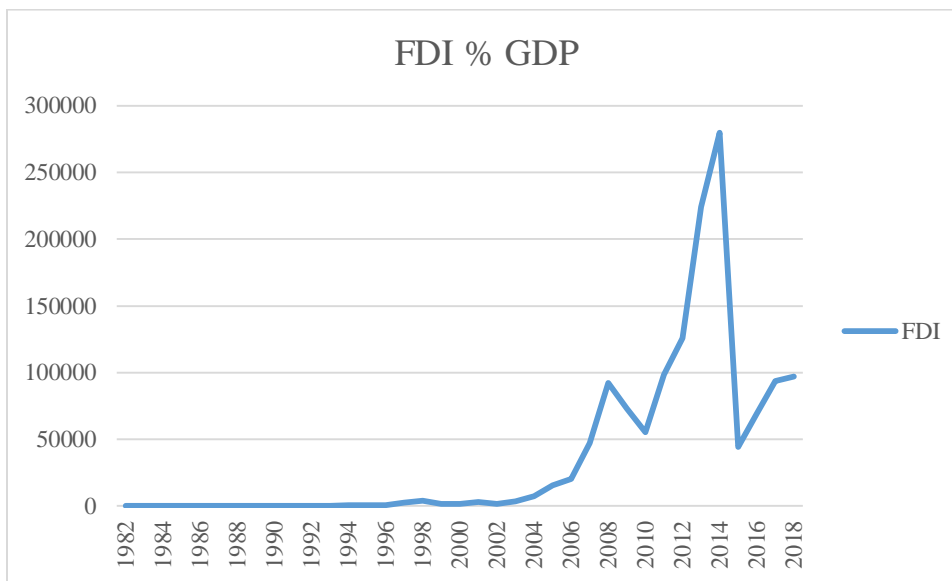


4.2.2. Trend of foreign direct investment inflow in Ethiopia

In the below figure 4.2, shows that there is no foreign direct investment in Ethiopia from 1982 to 1992, because during this time Ethiopia was followed a centralized or a communist economic system. The investment environment in general and FDI in particular were not encouraging during this period, due to political instability, insecurity and the nationalization of major industries, civil war, which severely discouraged foreign private investment (Mar kakis, 2011).

The post-1992 period saw a series of reform measures in order to change the command economic system to a free market economy and FDI is increasing. Possible explanations for the trends of foreign investment inflow in Ethiopia was mostly none economic factor such as war, drought and political unrest. For instance, as shown in the figure 4.2 the sharp decline in FDI inflow in 2015 is likely linked to the political problem and lack of peace in the country. There is a foreign capital boom in 2010 up to 2014 which is directly related to massive petroleum exploration in the country particularly in Ogaden region.

Figure 4.2. Trends of foreign direct investment inflow in Ethiopia in 1982-2018.



Source; own computation based on data from NBE, 2019.

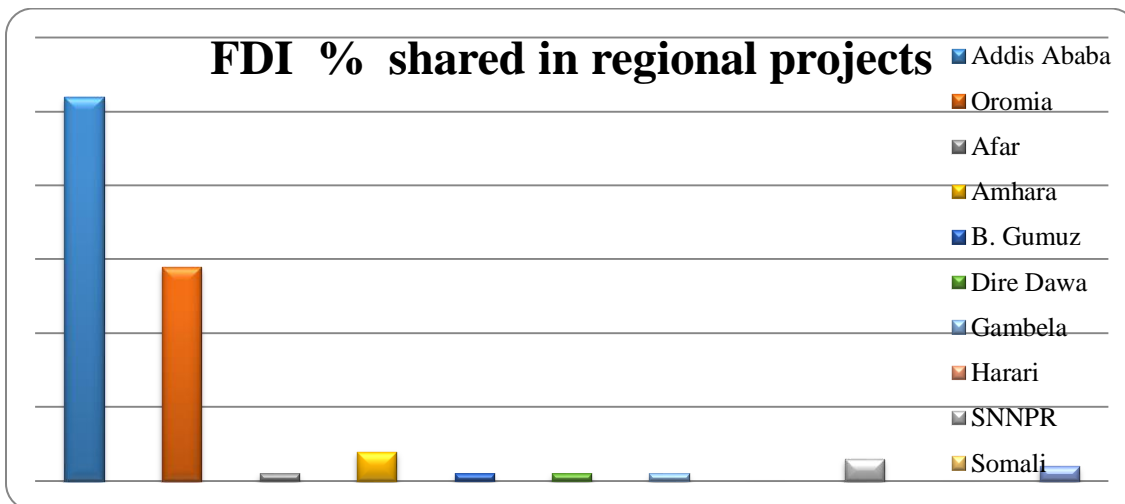
4.2.2.1 Trends Foreign of direct investment by region.

The figure 4.3 below shows that, FDI flows in Ethiopia are unevenly distributed among the regions, even though the incentive system encourages foreign investors to invest in the least developed regions. But when compare the results from March 2005 EIA report of the regional distribution of FDI in Gambela and B.Gumze regions, there is a recommendable change as compared to current regional inflow of FDI. This is because of government’s special benefit including providing land free of any charge in addition to an infrastructural improvement of the regions (EIA (2008)).

Addis Ababa is the major destination of for FDI flows to Ethiopia, as it has better infrastructure, stable political environment and better supplied of trained manpower. Oromia Region is attracting because of the availability of natural resource and market access (FIAS (2001)). The regional distribution of FDI imbalance cannot be only increases by changing the investment incentives mechanism unless the government increases market, infrastructure and skilled work force beside the investment incentives.

Additionally, as one can see from figure, Ethiopia seems to suffer from large disparities of FDI inflow between the main regions. For instance, more than half (52 percent) of FDI is in the capital city (Addis Ababa) but a further 29 percent is located in Oromia.

Figure 4.2.1 Trends of Foreign direct investment projects shared by region

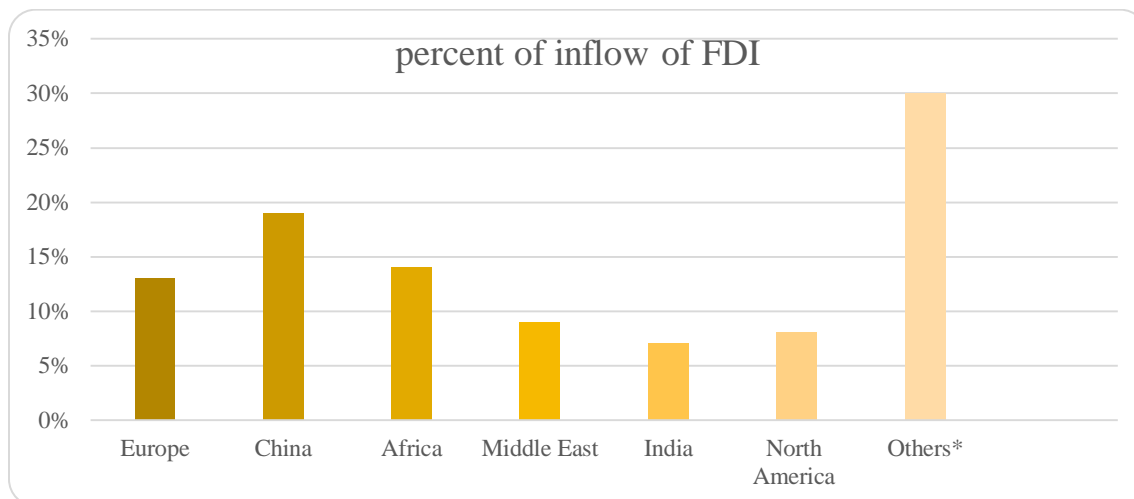


Source: unpublished data from the MoFEC, 2018/19.

4.2.2.2. Trends of FDI inflow by country origin

Foreign investment in Ethiopia remains limited by source country. In general, the majority of FDI inflows to Ethiopia are from developing countries such as China, India, Turkey, and Saudi Arabia. A single company called MIDROC group dominate Saudi Arabia's investment. This makes Saudi Arabia take the leading place for the source of foreign investments from the Middle East. According to an unpublished report from the EIC (2015), China takes the leading place as a source of private foreign investment into Ethiopia: 19 percent out of the total number of FDI/ projects comes from China; Africa as a region takes the second position (14 percent) followed by Europe (13 percent) in terms of the number of foreign investment projects. Likewise, in terms of total capital investment, China again takes the leading place, USD 906.1 million, followed by Saudi Arabia USD 878.2 million, therefore the trends of FDI inflow by country origin explained by figure 4.2.2. below.

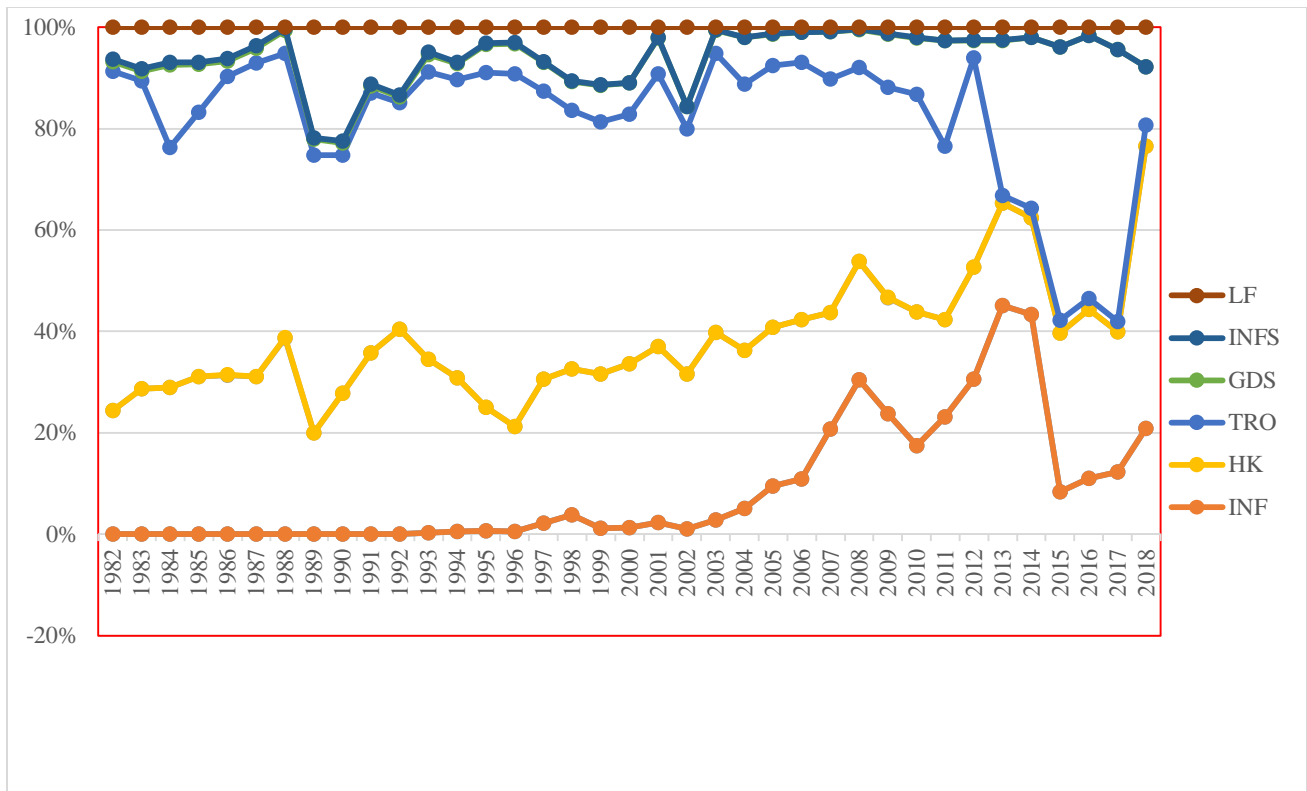
Figure 2.2.2 Trends of FDI inflow by countries origin



Source: unpublished data from the EIC, 2018/19.

4.2.3. Trends of Independent variables in the model in% of GDP in Ethiopia

Figure 4.2.3 below show the overall trends of the of the six variables over the annual periods of the year. The trend of labor force employed show that almost all there is no fluctuation within the given year, so, it is more and more similar to linear. However trade openness and human capital expenditure on education were fluctuated over the periods. Their trends were related to business cycles, it move up and reach it boom and return down up to its depression point. The level of infrastructure and inflation rate show a little fluctuations, for more year at the initial the inflation rate has no more change over the period and later on it reach its peak and move down ward up to its minimum point and start to increase. The trend of gross domestic saving and infrastructure are changed with together over the given year of 1982 up to 2028 annual year. **Figure, 4.2.3,** trends combination of independent variables in the model, in% of gdp in Ethiopia.



Source; own computation based on data from NBE, 2019.

4.3. UNIT ROOT TEST OF STATIONARY.

This study uses dickey fuller (DF) test to analysis or investigate stationary of variables. It also shows the order of integration. If the calculated dickey fuller is greater than the tabulated (critical) value at a given level, the time series variable is stationary at the given order. The unit root test result of the variables is presented in the following table.

Table 4.2. Augmented Ducky-Fuller (ADF) unit root testing:-

Variables	Summary of t- statistics	P- value of critical at 5%	Order of integrated
GDP	4.284	1.691	I(0)
FDI	2.174	1.691	I(0)
INF	5.507	1.691	I(0)

TRO	4.474	3.564	I(1)
LF	2.400	1.691	I(0)
HK	4.480	3.564	I(1)
GCF	5.189	1.691	I(0)
GDS	2.206	1.691	I(0)
INFS	4.765	1.696	I(1)

Source: Stata version 13 computed result based on data from NBE.

From the above result not each variables are stationary at level, because only GDP, FDI, LF,INF, , GDS and GCF are stationary at I(0) and the other three left variables have unit root test and became stationary at I(1) or (station at 1st difference). So the null hypotheses was accepted and the alternative was rejected.

4.4. Co-integration Tests.

After the unit root test is conducted and stationary achieved, the next part is to examine the long run relationship between the variables using co integration tests. From the estimated result of Johnson's trace statistics method the co integration result indicated that at max 5 rank ,there is 5 co integration, since trace statistic is less than 5% critical value ($43.2398^* < 47.21$), we cannot reject null hypothesis. That means there is five co integration among variables. In other word it means that there is long run association ship that indicates us all variables are moving together in the long run. See.....Appendix (A)

4.5. ECONOMETRICS ANALYSIS.

4.5.1. Long run estimation result.

GDP	Coef	Std. Err	t-value	P> t	[95% Conf. Interval]	
FDI	.0055749	.001489	3.74	0.001	.0025238	.0086267
INF	-4.317853	5.059756	-0.85	0.401	-14.68229	6.046588
GCF	.0185408	.0028384	6.53	0.000	.0127266	.024355
HK	35.65295	22.90371	1.56	0.131	-11.26317	82.56907
TRO	.0040519	.0023831	1.70	0.100	-.0008298	.0089335
GDS	.0031901	.001158	2.75	0.010	.0008181	.0055622
INFS	1.756033	.8780988	2.00	0.055	-.0426709	3.554737
LF	.004869	.0106634	0.46	0.651	-.016974	.026712
Constant	1498.289	374.6029	4.00	0.000	730.9494	2265.628
<p>R-squared = 0.9665,</p> <p>Adj R-squared = 0.9570</p> <p>Prob > F = 0.0000</p>						

Source: Own computations based on data from NBE

The estimated model is specified as follows:-

$$\text{GDP} = \beta_0 + \beta_1\text{FDI} + \beta_2\text{INF} + \beta_3\text{TRO} + \beta_4\text{LF} + \beta_5\text{Hk} + \beta_6\text{GCF} + \beta_7\text{GDS} + \beta_8\text{INFS} + u_i$$

$$\text{GDP} = 1498.289 + 0.0056\text{FDI} - 4.3179\text{INF} + 0.004052\text{TRO} + 0.004869\text{LF} + 35.653\text{HK} + 0.01854\text{GCF} + 0.00319\text{GDS} + 1.75603\text{INFS} + U_i$$

Interpretation of the long run result of the model.

From the above regression result the F-value of 0.000 indicates that all independent variables are jointly explain the dependent variable in good manner and strong statistical significance, which enhanced the reliability and validity of the model. The R-squared (0.9665) result revealed that 96.65 percent of the variation in gross domestic product is explained by the given independent variables jointly. The remaining 3.35% of the variation in the dependent variable is presumed to be due to random variability. In addition to that the probability values of foreign direct investment, gross domestic saving, gross capital formation and were statistically significant at 5% of significance level and infrastructural level was significant at 10% level of of significance level while the probability values of Inflation rate, Trade openness, Labor force and Human Capital investment on education variables were statistically insignificant that may be due to lack of availability of data collected from the national bank of Ethiopia.

Regarding to coefficient of the explanatory variables regression result, from the above estimated growth equation model the sign of the determinants of gross domestic product was valid with the theories of economic growth. Foreign direct investment, trade openness, labor force, human capital investment on education, gross capital formation, gross domestic saving and Infrastructural level have positive relation with the GDP and Inflation rate has negative relation. The constant term result indicates that regardless of the all explanatory variables, the growth of gross domestic product estimated to be about 1498.289 in million birr.

From the long run estimation result a 1% increasing by the foreign direct investment leads to the 0.5575% increasing the growth of the country other remains constant. Inflation rate which has negatively affect the GDP of the country means that a 1% increasing of inflation rate result to the about 4.32 amount decreases the growth domestic product, other things remain constant. Gross

capital formation has positive impact on the economic growth and significant. A one percent increase in gross capital formation result to 1.854% increase the growth of the country's GDP. Like these variables, a one percent increasing of the trade openness gross domestic saving and labor force cause to change the percentage of their own coefficients. Similarly a one unit change of human capital and infrastructure result to change the gross domestic product of the country, cetresbarubes.

The result of the above estimation reports that as the trade openness, human capital, labor force and inflation rate are insignificant. The insignificance of trade openness relationship is because of as the country opens up to trade demand for country's abundant factor do not significantly increase and this would not increase the price of these factors (do not increase the return of owners of these factors). Human capital expenditure on education is insignificant impact on country's economy. This is because of that; the student doesn't contribute to the country's economy, because they are not included in the working age groups. As the consumer price index of the country fluctuated over the year the effect of the inflation rate was also insignificant on the economic growth. Even if the contribution of labor force forwarded and increase the GDP of the country it is insignificant. This is due to that labor force employed in foreign company has more significant for foreigners rather than domestic growth.

4.5.2. Hypothesis of the study.

Based on the Empirical aspects and the real estimated results of the model, the following hypothesis was identified in table.

Table 4.4. Hypothesis of the study.

	Null hypothesis	Alternative hypothesis	Decision rule
Regarding the relationship of target variable and GDP.	H0:FDI&GDP has negative relationship	H1: FDI&GDP has positive relationship	Hence H1 is accepted
Regarding the nature of time series.	H0: OLS is not appropriate	H1: OLS is appropriate	Hence H1 is accepted
Regarding to the variety of tests for unit roots or stationary of time series	H0:Each time series contains a unit root	H1:Each time series is stationary	Thus, H0 is accepted.

4.5. Diagnostic tests.

In this section the results of test for normality, multicollinearity, and heteroscedasticity, were presented by using Shapiro Wilk test, variance inflation factor, Breusch-Pagan test, respectively.

4.5.1. Normality test.

From the estimated test the Prob>z is 0.185. That means the estimated result occurred is $0.185 > 0.05$, so the null hypothesis is accepted that indicates the residual are normally distributed. See appendix (B)

4.5.2. Test for Multicollinearity.

The mean of VIF is less than ten ($3.38 < 10$), implying that no multicollinearity problem among variables. If mean of VIF value greater than 10 and $1/VIF$ value greater than one, we can say there is multicollinearity. However, from this study of estimation result is the VIF value less than 10 and $1/VIF$ less than 1, implying this study is no problem of multicollinearity. See appendix (C)

4.5.3. Test of heteroscedasticity.

From the estimation result, we can compare critical prob> chi2 greater than 0.05, and the chi2 is also low which is 1.90, This means there is no problem of heteroscedasticity, because $0.05 < 0.1680$, which implies the model is homoscedasticity. See appendix, (D)

4.6. Short Run Error Correction Model.

After the acceptance of long-run coefficients of the growth equation, the short-run ECM model is estimated. The error correction term (ECM), indicates the speed of adjustment to restore equilibrium in the dynamic model. It is a one lagged period residual obtained from the estimated dynamic long run model. The coefficient of the error correction term indicates how quickly variables converge to equilibrium. Moreover, it should have a negative sign and statistically significant at a standard significant level (i.e. p-value should be less than 0.05).

Table 4.5. Results of short run Error Correction model estimation result.

Dependent variable is GDP			
Regressors	Coefficient	Standard error	p-value
DFDI	0.0003108	0.0014107	0.826
DINF	-9.411377	3.800523	0.013
DTRO	-0.012905	0.0042253	0.002
DLF	0.0056791	0.0066387	0.392
DHK	-31.62179	24.88434	0.059
DGCF	0.0024958	0.0079534	0.754
DGDS	0.0052508	0.0039562	0.076
DINFS	0.6055889	0.9202046	0.510
DCONS	-265.8364	100.2453	0.008
ECMT (-1)	-0.1939352	0.05599	0.001
R-squared = 0.8507			

Source: Own computations based on data from NBE.

The error correction coefficient, estimated at -0.1939352 is significant at 5% of significance level and it is the correct negative sign, and imply low speed of adjustment to equilibrium. Moreover, the coefficient of the error term (ECM-1) implies that the deviation from long run equilibrium level of real GDP in the current period is corrected by 19.39352% in the next period to bring back equilibrium when there is a shock to a steady state relationship. The coefficient of determination (R-squared) is explaining that about 85.07 % of variation in the GDP is attributed to variations in the explanatory variables in the model. This show goodness of fit of the above model (R²) shows that 85.07 percent of the total variation in the dependent variable GDP is explained by the independent variables in the model.

From the table 4.5 above the researcher identified the short run growth mode as follow:

$$\text{GDP} = -265.8364 + 0.0003108\text{DFDI} - 9.411377\text{DINF} - 0.012905\text{DTRO} + 0.0056791\text{DLF} - 31.62179\text{DHK} + 0.0024958\text{DGCF} + 0.0052508\text{DGDS} + 0.6055889\text{DINFS} - 0.1939352\text{ECM-1}.$$

This short run equation show that all explanatory variables have similar impact on the growth model like in the long run relation, except trade openness and human capital. In the short run independent variables such as inflation, trade openness are statistically significant at 5% of significance and human capital, gross domestic saving are significant at the 10% significance level. Foreign direct investment has positive impact on the growth in the short run analysis similar to the long run. Without the independent variables effect the growth of GDP is about -265.8364 unit in the short run. A one percent increase FDI result 0.03108% increase the growth of the country.

The short run dynamics are captured through the individual coefficients of the differenced terms. These coefficients are called the **adjustment coefficient**. The coefficient of the error correction term for the equation is negative as expected but it is significant at 5% significance level. This tells us that there is a reasonable adjustment towards the long-run steady state. The error correction term 0.1939352 ECM shows that about 19.3935 percent of the deviation of the actual growth of the country from its equilibrium value is eliminated every year. This shows that any short run deviation of per capita GDP from the long run equilibrium is gradually converge to equilibrium.

Generally Findings of econometric analysis can be summarized as follows:-

Foreign direct investment has a positive impact on the economic growth in the short run and long run relationship. Labor force, Human capital, trade openness, gross capital formation, gross domestic saving and infrastructure have direct relation and encourage the economic growth in Ethiopia. These explanatory variables have positive contribution on growth.

The effect of trade openness and human capital expenditure are negative and significant on growth in the short run estimated result. This negative impact were existed after the model was two lagged years.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

This paper was examined impact of foreign direct investment (FDI) on the Ethiopian economic growth (GDP) by using time series data over the period 1982 to 2018. Descriptive analysis was applied to show the trend of both dependent variable (GDP) and included independent variables. To operate the this thesis the main variables used were about nine macro-economic variables; as the dependent variables (GDP) and as explanatory variables foreign direct investment (FDI) which is the main target variables and also other explanatory variables like inflation rate (INF), trade openness (TRO), labor force (LF), human capital expenditure on education (HK) gross capital formation (GCF) gross domestic saving (GDS) and infrastructural level (INFS) were considered. To determine relationship among the variables, simple regression or OLS (ordinary least square) model was applied for the long run process and error correction model (ECM) for short run analysis. Before applying an econometric estimation by using simple regression model, all the variables are tested for their time series properties (stationary properties) using the ducky fuller (DF) tests. As a result, some variables were integrated of order zero or stationary at level, while some of it were integrated of order one I(1) or stationary at first difference.

This study also use different diagnostic tests such as, normality Multicollinearity, Heteroscedasticity and autocorrelation. Regarding to these tests the problem of autocorrelation was solved by the first difference of dependent variable. From the empirical regression OLS result, showed that the target variable, FDI has a positive and significant impact on the economic growth in Ethiopia. And also the other explanatory variables have positive relationship with the gross domestic product except the inflation rate. The gross capital formation, gross domestic saving, foreign direct investment and infrastructural level were statistically significant. Error-correction model has been used to support the existence of a stable long-term relationship and confirm a deviation from the long-term equilibrium following a short-term shock corrected by approximately 19.4 percent after each year.

5.2. RECOMMENDATIONS

Considering the conclusions made on the impact of foreign direct investment on economic growth, the following policy implications or recommendations are identified:-

- Even if the foreign direct investment has positive impact on the economic growth in Ethiopia, the amount of contributions obtained from that is not much more enough, then the government should initiatives the foreign direct investment inflows into Ethiopia and open the ways for foreign investment further.
- The Ethiopian investment agency should promote the FDI that offer a good match with Ethiopia's need and opportunities. The trend of foreign direct investment was more or less fluctuated, thus the investment strategies should try's to avoid this fluctuation as much as possible.
- As the study revealed that the contributions of the labor force, human capital, infrastructure, trade openness, gross capital formation and domestic saving have positive on the economic growth, so these areas should be in the consideration to enhance and continues the Ethiopian economic growth.
- The role of infrastructural services like road transportation, communication services and trade openness and working force like labor force have a great role for the attraction of foreign investors for investment. Then these essential variables should be put in the huge consideration by the Ethiopian investment agency as the contribution did not fail to motivate the growth and also Ethiopia needs to increase the improved infrastructure, human capital and working age forces to internalize and fully utilize the benefit of foreign investment inflows.

REFERENCES

- Aghion, P., & Howitt, P. (2009). *The economics of growth*; Massachusetts Institute of Technology.
- Agosin, M. R., & Ricardo, M. (2000). *Foreign investment in developing countries ; Does it crowd in domestic investment?* UNCTAD. Geneva.
- Agrawal, G., & Khan, M. A. (2011). *Impact of FDI on GDP: Comparative study China and India*. International Journal of Business and Management, 6(10), 71-79.
- Alfaro, L. (2003). *Foreign Direct Investment and Growth; Does sector matter?* Harvard Business School.
- Ali, S., & Gue, W. (2005). *Determinants of FDI in China* . *Journal of Global Business and Technology*.
- Asiedu, E. (2004). *Policy Reform and determinants of FDI in Africa: Absolute progress but Relative decline* development policy review.
- Asmelash, B. (2015). *Analysis of Foreign Direct Investment; The case of Ethiopia Co- integrated VAR approach*. Addis Ababa University.
- Bajona, C., Gibson, M., T.J, K., & Ruhl, K. (2008). *Trade Liberalization, Growth and Productivity* Federal Reserve Bank of . Minneapolis.
- Carp, L. (2012). *Analysis of the relationship between FDI and Economic Growth Literature review study*. USV annals of Economics and Public Administration Volume 12, Issue 1(15).
- Damooei, J., & Tavakoli, A. (2006). *The effects of Foreign Direct Investment and Imports on Economic Growth a Comparative analysis of Thailand and Phillipians (1970-1998)* (Vol. The journal of Developing Areas volume39).
- Denisia, V. (2010). *Foreign Direct Investment Theories ; An Overviews of the main FDI Theories*.
- EY's attractiveness survey, A. (2015). *"Making choice", EYGM limited* . online at www.ey.com/attractiveness.
- FIAS. (2001). *foreign direct investment strategy framework in Ethiopia*. washington D>C.
- Fikru, H. (2013). *The impact of Foreign Direct Investment on Economic Growth in Ethiopia*. Addis Ababa Ethiopia.
- Getnet, A., & Hirut, A. (2006). *Determinants of FDI in Ethiopia, time series analysis*.
- Gujarati. (2004). *Basic Econometrics*. Fourth Edition.

- Hansen, M. W., & and Rugraff, E. (2011). *Multinational corporation and local firms in emerging economies* . Amsterdam university .
- IMF. (2011). *Balance of Payment and International Investment POsition Manual, 6th Edition*. Washington
- Li, X., & and Liu, X. (2005). *Foreign Direct Investment and Economic Growth; An Increasingly Endogenous Relationship*. *World development* 33(3), 393-407.
- Markaki, J. (2011). *Ethiopian the last two fronters Estearn Africa Series Journal Curry*.
- Meskerem, D. M. (2014). *Impact of Foreign Direct Investment on Economic Growth of Ethiopia: Time series empirical analysis , 1974-2011*. Addis Ababa.
- Morisset, J. P., & and Pirnia, N. (2009). *How tax policyb and incentives affect on FDI a review*.
- Ram, R., & and Zhang, K. (2002). *Foreign Direct Investment and Economic Growth*.
- Reiter, S., & and Kevin, S. (2010). *Human Development and Foreign Direct Investment in Developing Countries: The Influence of FDI policy and Corruption*. *World Development* 38(12), 1678- 1691.
- Solomon, M. (2008). *Determinants of Foreign direct Investment in Ethiopia*. Mاستrrecht, Netherlands.
- Soltan, H., & and Ochni, A. (2012). *Foreign Direct Investment and Economic Growth; the case of Tunisia*.
- Tang, etl, (2008). *Foreign Direct Investment and Economic Growth in China: time series analysis*. United Nation University: World Institute for development Economic research.
- Ucak.A. (2015). *Adam Smith: The Inspire of Modern Growth Theories*. *World Conference on Technology, Innovation, Entrepreneurship*, online at [www. sciencedirect. com](http://www.sciencedirect.com).
- UNCTAD. (2014). *World Investment Report 2014: Investing in the SDGs: An Action Plan* . New York and Geneva.
- UNCTAD. (2015). *World Investment Report 2015: Reforming International Investment Governance*. New York and Geneva.
- Velde, D. (2006). *Foreign Direct Investment and Development: An historical perspective*.
- Wondoson. (2011). *The impacts of FDI capital inflows on economic growt, saving and investment* . Addis Ababa University, Ethiopia.

Appendices.

Data collected from NBE, EIA, and Ethiopian Central Statistical Authority (ECSA)

years	GDP	FDI	INF	GCF	HK	TRO	GDS	INFS	LF
1982	3462.9	0	5.2	14116	10.75	38727.1	1135	232.6	3678
1983	3635.4	0	-0.2	16959	11.78	35892.5	1160	254	4863
1984	3421.5	0	9.0	20453	14.43	33538.6	11603	277.7	4947
1985	2944.6	0	20.5	21880	15.66	36855.6	6632	281.3	4915
1986	3127.7	0	-11.8	22075	16.44	41410.8	2107	348.5	4319
1987	3448.7	0	-4.7	21632	15.45	43136.2	1967	352.7	2546
1988	3355.1	0	6.9	28002	13.14	40571	3361	259.3	148
1989	3233.2	0	11.1	16067	12.68	44012	2519	267.1	17500
1990	3209.1	0	5.0	27052	10.55	45845.9	2403	268.1	21950
1991	2876.7	0	45.0	29350	12.88	42060.4	1188	287.6	9221
1992	2534.6	0	2.1	38448	11.44	42485.3	1125	333.2	12755
1993	2767.2	233	4.7	27202	10.45	45197.1	2689	407.2	3949
1994	2758.1	438	6.3	24516	8.47	47575.9	2567	247.8	5567
1995	2831.4	505	14.8	19684	7.95	53456.1	4530	177.9	2568
1996	3084.1	434	-9.0	16754	11.782	56269.6	4774	160.5	2450
1997	3085.9	2268	-2.7	29027	9.147	58009.9	5750	155.1	6965
1998	2893	4106	0.1	31469	12.782	55778.7	6238	161.7	11536
1999	2955.5	1380	10.4	35958	11.278	58838.3	8464	119.1	13480
2000	3045.6	1627	1.9	40856	13.75	62229	7786	112.2	13815
2001	3204.4	2923	-10.8	43065	14.9077	66920	8823	99.3	2535
2002	3160.6	1474	-1.2	42821	14.461	68014	6128	100	21889
2003	3005.2	3369	17.8	44834	16.18	66587	5525	93.6	625
2004	3318	7205	2.4	44195	17.524	74397	12956	99	2784
2005	3608.4	15405	10.7	50811	23.32	83804	10014	98.5	2109
2006	3891.3	19980	10.8	57784	22.821	93474	10818	94	1746
2007	4221.5	46949	15.1	52050	23.609	104499	21115	102.9	1861
2008	4553.8	92249	55.2	70593	25.37	116178	22617	120.8	1221
2009	4825.5	73111	2.7	70718.5	23.97	127737	32542	136.3	3936
2010	5291	55169	7.3	83153	24.699	135462	35260	184.4	6425
2011	5732.1	98562.8	38.0	81435.9	26.35	145655	88843	142.4	11227
2012	6070.2	125784	20.8	91085.7	23.58	169568	14376	134.5	10505
2013	6544.6	224090	7.4	100693	26.3	7207	152383	140.2	12724
2014	7038.6	279821	8.5	123118	29.674	12622	217726	140.8	12710

2015	7526.1	44254	10.5	165380	30.539	13366	284759	157.6	20712
2016	8013.1	68988.6	7.5	207606	27.021	13090	324413	161.5	9775
2017	8545.345	93483.1	8.8	210908	26.63	15303	409579	158.7	33200
2018	8765.6745	97212.3	11.5	259173	29.85	19356.4	53228	163.6	36214

Time series tests.

A), unit root test and co integration

```
. dfuller gdp, drift lags(0)
```

```
Dickey-Fuller test for unit root          Number of obs   =          36
```

Z(t) has t-distribution				
Test	1% Critical	5% Critical	10% Critical	
Statistic	Value	Value	Value	
Z(t)	4.284	-2.441	-1.691	-1.307

p-value for Z(t) = 0.9999

. dfuller infsdiff, drift lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = 34

————— Z(t) has t-distribution —————				
Test	1% Critical	5% Critical	10% Critical	
Statistic	Value	Value	Value	
Z(t)	-4.765	-2.453	-1.696	-1.309

p-value for Z(t) = 0.0000

. dfuller trodiff, trend lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = 34

————— Interpolated Dickey-Fuller —————				
Test	1% Critical	5% Critical	10% Critical	
Statistic	Value	Value	Value	
Z(t)	-4.474	-4.297	-3.564	-3.218

MacKinnon approximate p-value for Z(t) = 0.0017

.

B), Normality test result.

```
. predict U,residuals
```

```
. swilk U
```

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
U	37	0.95880	1.534	0.896	0.18500

```
.
```

C), Multicollinearity result.

```
. vif
```

Variable	VIF	1/VIF
gcf	7.44	0.134479
hk	6.62	0.151031
gds	3.41	0.292999
fdi	2.38	0.420773
tro	2.24	0.447050
lf	2.22	0.450868
infs	1.47	0.677978
inf	1.24	0.809155
Mean VIF	3.38	

D), Heteroscedasticity test result.

```
. hettest
```

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
```

```
Ho: Constant variance
```

```
Variables: fitted values of gdp
```

```
chi2(1)      =    1.90
```

```
Prob > chi2  =  0.1680
```

Vector error-correction model

Sample: 1985 - 2018

Log likelihood = -1725.559
 Det (Sigma_ml) = 9.78e+32

No. of obs = 34
 AIC = 112.5623
 HQIC = 115.4405
 SBIC = 121.0022

Equation	Parms	RMSE	R-sq	chi2	P>chi2
D_gdp	20	184.628	0.8507	79.77263	0.0000
D_fdi	20	20331.5	0.9236	169.1382	0.0000
D_inf	20	16.8102	0.6834	30.21773	0.0664
D_gcf	20	7054.64	0.9128	146.6315	0.0000
D_hk	20	2.37664	0.5300	15.7883	0.7297
D_tro	20	9641.57	0.9535	286.8069	0.0000
D_gds	20	34691.4	0.9023	129.2385	0.0000
D_infs	20	26.601	0.8327	69.66024	0.0000
D_lf	20	8357.57	0.5895	20.10476	0.4514

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
D_gdp						
_cel						
L1.	-.1939352	.05599	-3.46	0.001	-.3036735	-.0841968
gdp						
LD.	.330028	.2651093	1.24	0.213	-.1895766	.8496326
L2D.	-.5423328	.2765036	-1.96	0.050	-1.08427	-.0003958
fdi						
LD.	.0003108	.0014107	0.22	0.826	-.002454	.0030756
L2D.	.0003151	.0013688	0.23	0.818	-.0023676	.0029979
inf						
LD.	-9.411377	3.800523	-2.48	0.013	-16.86027	-1.962487
L2D.	-1.944494	3.541365	-0.55	0.583	-8.885441	4.996453
gcf						
LD.	.0024958	.0079534	0.31	0.754	-.0130926	.0180841
L2D.	-.0014358	.0074462	-0.19	0.847	-.0160301	.0131584
hk						
LD.	-51.46802	27.22759	-1.89	0.059	-104.8331	1.897081
L2D.	-31.62179	24.88434	-1.27	0.204	-80.39421	17.15062
tro						
LD.	-.012905	.0042253	-3.05	0.002	-.0211864	-.0046235
L2D.	-.003495	.0049792	-0.70	0.483	-.0132542	.0062641
gds						
LD.	-.0070154	.0039562	-1.77	0.076	-.0147695	.0007387
L2D.	.0052508	.0050867	1.03	0.302	-.0047189	.0152206
infs						
LD.	-.9542616	1.380199	-0.69	0.489	-3.659402	1.750879
L2D.	.6055889	.9202046	0.66	0.510	-1.197979	2.409157
lf						
LD.	.0056791	.0066387	0.86	0.392	-.0073326	.0186908
L2D.	.0035976	.0059116	0.61	0.543	-.0079889	.0151841
_cons	-265.8364	100.2453	-2.65	0.008	-462.3137	-69.35917