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The Effects of Foreign Direct Investment and International Trade on Ethiopian Economic Growth

By

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College of Business and Economics

Master of Business Administration Program

April, 2019

Addis Ababa, Ethiopia

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A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration in Finance

April, 2019

Addis Ababa, Ethiopia

DECLARATION

I, Surafel Getachew, declare that this thesis entitled: "*The Effects of Foreign Direct Investment and International Trade on Ethiopian Economic Growth*" and submitted in partial fulfillment of the requirements for the Degree of Master of Business Administration in finance, has been prepared with my own effort under the advice and guidance of my advisor. I also assert that this thesis has not been presented for a degree in any university and all sources of material used for this thesis have been duly acknowledged.

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Place and date of submission: Addis Ababa / April, 2019

Addis Ababa University

School of Graduate Studies

CERTIFICATION

This is to certify that the thesis prepared by Surafel Getachew entitled: "*The Effects of Foreign Direct Investment and International Trade on Ethiopian Economic Growth*" and submitted in partial fulfillment of the requirements for the degree of Master of Business Administration in finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

Foreign direct investment and international trade are considered as essential factors in achieving sustainable economic growth. Most theories are in support of their positive influence on the economic growth of countries. However, empirical studies in this area have presented mixed findings. In the case of Ethiopia, limited number of studies have been conducted on the individual variables' effects on economic growth. Thus, their findings are mostly mixed and inconclusive. In this regard, this study has been conducted with the aim of examining the effects of FDI and international trade on Ethiopian economic growth over the period 1992 to 2017. The autoregressive distributive lag model was employed to analyze the annual secondary data among the variables: real GDP growth, FDI, export, import, remittance, external debt and tax revenue. According to the results, FDI's effect was positive but insignificant both in the short and long run. Exports have a positive and significant effect both in the short and long run. Imports have a negative effect both in the short and long run but are significant only in the long run. Remittance has a positive effect both in the short and long run but significant only in the long run. External debt has a negative and significant effect both in the long and short run. Tax revenue has a positive and significant effect both in the short and long run. Hence, from the findings, the Ethiopian government needs to carefully scrutinize its policies regarding FDI as its effect on economic growth is positive but insignificant. Exports are useful for economic growth of Ethiopia, hence, policies encouraging exports have to be put in place. However, policies towards import need to be controlling as the rise in imports is resulting in the widening of trade deficit.

Key Words: *ARDL, FDI, International Trade, Export, Import, Economic Growth*

ACKNOWLEDGEMENT

Above all, my deepest thanks goes to God who permitted me to see this day and helped me throughout my life journey. Without the grace and mercy of God I wouldn't have accomplished all these. Next, I would like to thank my thesis advisor, Alem Hagos (PhD) for his guidance in this study. Finally, I am very grateful to my family for their love and support.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey-Fuller
AIC	Akaike Information Criterion
ARDL	Auto Regressive Distributive Lag
CIA	Central Intelligence Agency
ECM	Error Correction Model
EIC	Ethiopian Investment Commission
ED	External Debt
EX	Export
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
IM	Import
IMF	International Monetary Fund
L	Natural Logarithm of
NBE	National Bank of Ethiopia
OECD	Organization for Economic Cooperation and Development
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PPP	Purchasing Power Parity
RGDPG	Real Gross Domestic Product Growth
RM	Remittance
TX	Tax Revenue
UNCTAD	United Nations Conference on Trade and Development
WB	World Bank

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

FDI and participation in international trade have been considered as essential factors in achieving sustainable economic growth according to the Organization for Economic Cooperation and Development (OECD, 2002). FDI is said to have a huge effect on host countries in terms of economic growth and development. It influences the employment situation, production, prices, income, general welfare of the recipient country, and balance of payments and serves as one of the vital sources of economic growth (Todaro and Smith, 2006). International trade also contributes to industrialization, job creation, income growth, and development in the home country as it facilitates more efficient production of goods and services (Frankel and Romer, 1993).

To this end, the Ethiopian government's intention in undertaking different liberalization programs and implementing major economic reforms were ultimately aimed at improving the economic growth of the nation. The privatization program which started in 1994 and the subsequent investment incentives provided by the government have resulted in the rise of FDI, whereas, trade liberalization plans such as PASDEP tremendously improved the value of imports and exports (Geda and Degefe, 2002; Alekaw, 2016).

The Growth and Transformation Plan (GTP) of the country for instance was directed towards improving the country's economy and eventually end poverty (Ministry of Finance and Economic Development, 2010). Accordingly, the primary objective of GTP II is to sustain accelerated growth and establish a spring board for economic structural transformation and thereby realizing the national vision of becoming a lower middle-income country by 2025. To this end, GTP II has set out specific objectives among which the following relates to this study: "Achieve an annual average real GDP growth rate of 11 percent within a stable macroeconomic environment and thereby contribute towards the realization of Ethiopia's vision of becoming a

lower middle income country by 2025, while pursuing comprehensive measures towards narrowing the saving-investment gap and bridging the widening trade deficit" (National Planning Commission, 2016).

In order to benefit from the above mentioned opportunities, the government has pointed out basic policies and strategies to be pursued during the plan period, some of which include promoting, expanding and diversifying the exporting capacity of the economy and increasing export-oriented FDI and attracting foreign investors (Ibid).

With the current government's incentives to attract FDI and encourage international trade, this study has tried to carefully investigate the effects of international trade (i.e. exports and imports) and FDI on the Ethiopian economic growth in order to benefit from them. Accordingly, this research has attempted to address the issue and proposed directions that need to be followed by policy makers based on the findings.

1.2. Statement of the Problem

There are controversial arguments that disagree with the positive effects of international trade and FDI on an economy. Despite its positive effects, FDI might be harmful for domestic economy, decreasing rates of economic growth. For instance, Schoors et al. (2002) argue that additional inflows of FDI in firms may push out of the market other firms without FDI. Hence, FDI's negative influence could weaken the competitive position of local producers and could result in structural unemployment. Similarly, Carkovic and Levine (2002) through their study on the impact of FDI on economic growth covering 72 countries have showed that FDI does not bring a strong and positive impact on economic growth.

Cooper (2001) addressed the influence of foreign trade and investment on growth via inequality and distribution of income in developing countries and pointed out that there are no convincing theoretical reasons to believe, in general that trade promotes growth. Rodriguez and Rodrik (1999) also present a critical view of the link between open-trade policy and economic growth. Their analysis done with the help of a simple model of a small open economy

with learning-by-doing showed that the relationship between average tariff rates and economic growth is only slightly negative and not at all statistically significant.

It is therefore important to scrutinize the Ethiopian government's current efforts to attract FDI and examine its international trade policies as the findings in these areas are inconclusive. To this end, several studies have been conducted on FDI and international trade separately in the case of Ethiopia. However, only a few of these studies relate FDI and international trade with the Ethiopian economy. Moreover, the results of these studies have presented mixed and contradicting findings.

For instance, Meskerem (2014) studied the impact of FDI on economic growth of Ethiopia for the period 1974 to 2011 and found that two years lagged FDI has a positive and significant effect on contemporary economic growth. Whereas, Betelhem (2016) analyzed the impact of FDI on the economic growth of Ethiopia over the period 1981 to 2015 and found that FDI has a negative and significant impact on the economic growth of Ethiopia.

Similarly, with regards to trade, Zewdu and Minyahil (2017) using the data set from 1974/75 to 2014/15 and applying Johansen's approach for cointegration confirmed the existence of positive and significant impact of trade liberalization on economic growth of Ethiopia. On the contrary, Adiam (2011) studied the impact of trade liberalization on the balance of payments of Ethiopia covering the period from 1981 to 2008. His findings revealed that trade liberalization measures adopted by Ethiopia have led to the deterioration of the balance of payments.

Hence, this study has attempted to investigate the effects of both FDI and international trade on the Ethiopian economic growth over the period 1992 – 2017 by incorporating different relevant variables and applying a convenient model. Thus, this study has tried to fill the gap in the existing literature in this regard.

1.3. Research Questions

The following are the research questions that are addressed by this study:

(i) What is the effect of FDI on economic growth in Ethiopia?

(ii) What is the effect of exports on economic growth in Ethiopia?

(iii) What is the effect of imports on economic growth in Ethiopia?

1.4. Objectives of the Study

The general objective of this study is to investigate the effects of FDI and international trade on economic growth in Ethiopia. The specific objectives are:

(i) To examine the effect of FDI on economic growth in Ethiopia

(ii) To investigate the effect of exports on economic growth in Ethiopia

(iii) To evaluate the effect of imports on economic growth in Ethiopia

1.5. Significance of the Study

The results of this study will be useful in different ways. First, findings from this study will be helpful to policy makers in formulating new policies and assessing previously implemented policies on FDI and international trade with the aim of ensuring sustainable economic growth in Ethiopia. Second, this study will contribute to the existing literature on the effects of FDI and international trade on economic growth in Ethiopia by using the latest available data. Finally, this study will point out areas for further study in a broader scope by other researchers.

1.6. Scope of the Study

This study investigates the effects of FDI and international trade on Ethiopian economic growth. Hence, the study has taken into consideration the period in which Ethiopia carried out major economic reforms and implemented liberalization programs to promote international trade and attract FDI. Accordingly, the data employed in this study is limited to the period between 1992 and 2017, in which the year 1992 marks the implementation of the economic reforms and liberalization programs and the year 2017 is the latest year where the data for most variables is available.

1.7. Organization of the Study

This study consists of six chapters. The first chapter is an introductory part that provides relevant background about the study. The theoretical and empirical reviews are discussed in chapter two. Chapter three gives an overview of the Ethiopian economic growth, FDI and international trade. Chapter four focuses on the research methodology which includes the research design, theoretical framework, model specification, definition and measurement of variables and data source. The fifth chapter presents empirical results and interpretation of the study. Finally, the last chapter focuses on conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Foreign direct investment and international trade are the two most important channels for a country to participate in international markets. Moreover, both FDI and international trade are components of the balance of payment (BOP). FDI is a component of the capital account, whereas trade balance is a component of the current account.

The theoretical and empirical literature studying the relationship between FDI, international trade and economic growth is huge. The impacts of FDI and international trade on economic growth have been studied for various countries using different sample periods and econometric methods. A considerable amount of literature supports the idea that the impact of FDI and international trade is positive on economic growth.

FDI is the category of international investment in which an enterprise resident in one country (the direct investor) acquires an interest of at least 10 % in an enterprise resident in another country (the direct investment enterprise) (World Investment Report, 2009). According to UNCTAD, subsequent transactions between affiliated enterprises are also direct investment transactions. Broadly speaking, FDI is a type of international capital flows from one country to another. FDI implies that foreign investors either invest into an existing company or find a new company (factory) in the host country. Since FDI is a form of physical investment, it is expected to have direct and indirect impacts on economic variables such as growth, current account, productivity, employment, and so on. In this regard, it gets a great deal of attention in empirical and theoretical studies.

On the other hand, international trade involves the exchange of goods and services between nations of the world. At least two countries should be involved in the activities. Traders engage in economic activities for the purpose of profit maximization arising from differences among international economic environment of nations. Hence, international trade encompasses the

inflow (import) and outflow (export) of goods and services in a country (Stephen and Obah, 2017).

2.2. Theoretical Literature

2.2.1. Theories on Economic Growth

The major economic growth theories are classified into the Classical, Keynessian, Neoclassical and Endogenous growth theories.

2.2.1.1. Classical Theory of Economic Growth

Classical economists believe that all savings are transformed into investment. According to the Classicals, the rate of growth of the economy is determined by the interaction between savings and population growth rate, where savings are completely employed in investments and population growth rate is given as an increasing function of the real wage rate.

Adam Smith (1776) pointed out that the level of output depends on inputs of three factors of production: - labor, capital and land. The productivity of these factors is supporting element of growth. Rostow (1990) also defined Adam Smith's growth model to be a function of three components: - factor inputs, technology and non-economic factors. According to him, an economy will transfer to a higher level if some or all these factors are increased.

Generally, Classical economists suggested a number of factors that promote economic growth. They started from the basic factors of production (such as labor, capital and land) and continued to noneconomic factors (such as political stability, security of private property, the role of laws and institutions, the expansion of towns and growth of population) and non-market variables (such as education and customs).

2.2.1.2. Keynessian Theory of Economic Growth

The Keynesian theory of economic growth noted that not all savings are transferred into investment. Hence, it is the level of investment that determines growth not the level of saving.

Harrod (1939) and Domar (1946) were among the first economists to develop macroeconomic model to formally analyze the problem of growth in the Keynesian framework. They emphasized the relationship between consumption and saving by households and investment decision by entrepreneurs although these behaviors were not theoretically developed.

In the Harrod and Domar model, production is obtained only by means of physical capital and labor. The model focuses only on the equilibrium of the goods market because of the assumption that the market mechanism is not able to attain full employment of labor. The goods market is said to be in equilibrium when savings are equal to the desired investment (Salvadori, 2003).

Later, Kaldor (1956) argued that it is not saving, investment, technical progress and population growth that are the causes of growth. These were just the features of growth. However, the cause of growth is the attitude of investing by the society and in particular entrepreneurs. In this, Kaldor follows the Keynesian approach in conceiving the expansion of the economy as driven by psychological and social factors like human attitude to risk taking and money making.

2.2.1.3. Neoclassical Growth Theory

Robert Solow (1956) was the first economist to develop a model that represents the neoclassical theory of economic growth. Later on, his model was further developed by Trever Swan. The latest model was then renamed as the Solow-Swan model. The neoclassical growth theory is best represented by this model.

Unlike the Harrod and Domar model the neoclassical growth model takes into account that labor and capital are substitutable. According to the Solow-Swan model, the output per worker increases with the output per capital but at a decreasing rate. This implies that there will be a point at which labour and capital can be set to reach an equilibrium state. Hence, unless there are technological advances economic growth will not take place. The model also shows how economic policy can raise an economy's growth rate by inducing people to save more. However, it predicts that such an increase in growth can not last forever. In the long run, the country's growth rate will revert to the rate of technological progress, which is taken to be

independent of economic forces, or exogenous. Without technological change an economy can grow for a while by accumulating capital, but eventually that growth will be stopped by the diminishing marginal product of capital. With technological change, however, growth can be sustained and hence, 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).

2.2.1.4. Endogenous Growth Theory

The main limitation of the neoclassical growth theory is that it views economic growth as a result of exogenous factors. The neoclassical growth theory provided no account for the rate of technological progress, which is taken to be given by some unspecified process that generates scientific discovery and technological diffusion. These limitations of the neoclassical growth theory are addressed by the endogenous growth theory. Hence, the endogenous growth theory endogenizes technology (i.e. growth is determined within the model) and was developed by Paul Romer, Robert E. Lucas and Robert J. Barro in the eve of the 1990s.

According to Salvadori (2003), the aim of the endogenous growth theory is twofold. First, to overcome the shortcomings of the neoclassical growth theory which does not explain sustained growth, and second, to provide a rigorous model in which all variables crucial for growth such as savings, investment and technology are the outcome of rational decisions. Hence, the new growth theory stressed on the importance of innovation, human capital accumulation, the development of new technologies and financial intermediation as important determinants of economic growth. The theory also focusses on positive externalities and spillover effects of a knowledge based economy which will lead to economic development.

2.2.2. Theories on International Trade

The major international trade theories include the Absolute Advantage, Comparative Advantage and Heckscher-Ohlin theories.

2.2.2.1. Absolute Advantage Theory

Adam Smith (1776) in his book entitled "*An Inquiry into the Nature and Causes of the Wealth of Nations"* offered a new trade theory called absolute advantage, which focused on the ability of a country to produce a good more efficiently than another nation. Smith argued that trade between countries should not be regulated or restricted by government policy or intervention. He stated that trade should flow naturally according to market forces. In a hypothetical two-country world, if Country A could produce a good cheaper and/or faster than Country B, then Country A had the advantage and could focus on specializing on producing that good. Similarly, if Country B was better at producing another good, it could focus on specialization as well.

By specialization, countries would generate efficiencies, because their labor force would become more skilled by doing the same tasks. Production would also become more efficient, because there would be an incentive to create faster and better production methods to increase the specialization. Hence, Smith's theory reasoned that with increased efficiencies, people in both countries would benefit and trade should be encouraged. His theory also stated that a nation's wealth should be judged by the living standard of its people (Ibid).

The challenge to the absolute advantage theory is that some countries may be better at producing both goods and hence, have an advantage in many areas. In contrast, another country may not have any useful absolute advantages.

2.2.2.2. Comparative Advantage Theory

The comparative advantage theory was formulated by David Ricardo (1817) in his book entitled "*Principles of Political Economy and Taxation*". The law of comparative advantage indicates that each country will specialize in the production of those commodities in which it has the greatest comparative advantage or the least comparative disadvantage.

According to Ricardo, a country will export those commodities in which its comparative advantage is the greatest and import those commodities in which its comparative advantage is

the least. Hence, by concentrating on the production of the product in which it has the greater advantage, a country can further enhance both global output and its own economic well-being.

This theory is based on the assumption that factors of production are immobile however, this assumption does not hold in the modern world since there is free movement of factors across the world.

2.2.2.3. Heckscher-Ohlin Theory

In the 1900s two Swedish economists, Heckscher (1919) and Ohlin (1933), focused their attention on how a country could gain comparative advantage by producing products that utilized factors that were in abundance in the country. Their theory is based on a country's production factors - land, labor, and capital. According to Heckscher & Ohlin, regions or countries have different factor endowments. It means that some countries are rich in capital while some are rich in labour.

They determined that the cost of any factor or resource was a function of supply and demand. Factors that were in great supply relative to demand would be cheaper; factors in great demand relative to supply would be more expensive. Hence, their theory stated that countries would produce and export goods that required resources or factors that were in great supply and therefore, cheaper production factors. In contrast, countries would import goods that required resources that were in short supply, but higher demand (Ibid).

In general, there is no one theory dominant around the world. This section has tried to highlight the basics of international trade theories. In practice, governments and companies use a combination of the above mentioned and other emerging trade theories.

2.2.3. Theories on FDI

According to Vintila (2010), theories of FDI may be classiffied as Production Cycle Theory, the Theory of Exchange Rates on Imperfect Capital Markets, the Internalisation Theory and the Eclectic Paradigm.

2.2.3.1. Production Cycle Theory

Production cycle theory was developed by Vernon in 1966. The theory was used to explain certain types of foreign direct investments made by U.S. companies in Western Europe after the Second World War in the manufacturing industry. Vernon believes that there are four stages of production cycle: innovation, growth, maturity and decline (Vernon, 1966).

According to Vernon, in the first stage transnational companies create new innovative products for local consumption and export the surplus in order to serve also foreign markets. Thus, firms begin to export, having the advantage of technology on international competitors. Eventually, the product matures and becomes well known. Hence, the product becomes completely standardized. Foreign firms meet tough competition from local firms and the firms start divesting in less developed countries where costs are low. This theory therefore, provides one of the motives why firms invest in other countries (Ibid).

2.2.3.2. The Theory of Exchange Rates

The theory of exchange rates on imperfect capital markets is another theory which tried to explain FDI. In the empirical analysis made by Cushman (1985) it was revealed that increase in real exchange rate stimulated FDI made by USD while a foreign currency appreciation reduced American FDI.

However, currency risk rate theory fails to explain simultaneous FDI between countries with different currencies.

2.2.3.3. The Internalisation Theory

This theory tries to explain the growth of transnational companies and their motivations for achieving FDI. The theory was developed by Buckley and Casson in 1976 and then by Hennart in 1982 and Casson in 1983. Initially, the theory was launched by Coase in 1937 in a national context and Hymer in 1976 in an international context.

Buckley and Casson demonstrate that transnational companies are organizing their internal activities so as to develop specific advantages, which are then to be exploited. On the other hand, Hymer being the author of the concept of firm-specific advantages demonstrates that FDI takes place only if the benefits of exploiting firm-specific advantages outweigh the relative costs of the operations abroad. According to Hymer, the multinational enterprise (MNE) appears due to the market imperfections that led to a divergence from perfect competition in the final product market (Hymer, 1976).

2.2.3.4. The Eclectic Paradigm

John Dunning combined the prevailing FDI theories to formulate a more comprehensive theory resulting in the Eclectic Theory of FDI. The theory is based on the "OLI paradigm ("Ownership-specific" advantages, "locational" advantages and "Internalisation" advantages). The eclectic theory tried to incorporate the three main strategies through which firms try to get involved in the global economy or operate in foreign markets namely, exports, FDI and contracts (i.e. licensing, technical assistance, management as well as franchising). According to the OLI paradigm, foreign production of MNEs is determined by the interaction of the interdependent three OLI variables (Vintila, 2010).

The Ownership (O) sub-paradigm states that MNEs with greater competitive advantage, relative to other MNEs and domestic firms in the foreign country seeking to invest, are more likely to increase foreign production through monopoly advantages (ownership of natural limited resources, patents, trademarks), technology (knowledge to contain all forms of innovation activities) and economies of large size (economies of learning, economies of scale and scope, greater access to financial capital) (Ibid).

The Location (L) sub-paradigm emphasises on resource endowments (natural resources, labour, etc.). Thus each country will have three specific advantages - economic benefits (both qualitative and quantitative factors of production, cost of transport, telecommunication, market size etc), political advantages (common and specific government policies that affect FDI flows) and social advantages (distance between the host and home countries, cultural diversity,

attitude towards strangers etc) (Ibid). Location advantages of different countries are the crucial factors to determining who will become host country for the activities of the transnational corporations and all things being equal, makes firms more profitable to produce and sell in the host country instead of producing those goods at home and export to other countries (Lattore, 2008).

The internalisation (I) sub-paradigm deals with the ways in which MNEs associate and exploit their competitive advantage, given the ownership and location advantages of the foreign location. Hence, it is beneficial for MNEs to engage in FDI rather than offering the right under licensing or franchising as there are more important benefits of internalising foreign intermediate product markets (Vintila, 2010).

In general, the eclectic paradigm OLI shows that OLI parameters are different from company to company and depend on context and reflect the economic, political, social characteristics of the host country. Hence, the challenges and opportunities offered by different types of countries will determine the objectives and strategies of the firms and the magnitude and pattern of their production (Ibid).

2.2.4. The Effects of FDI on Economic Growth

The FDI and economic growth literature mainly focusses on the role of governments' effectiveness in attracting FDI, and in establishing reasons for foreign investors and firms. FDI is said to have a huge effect on host countries in terms of economic growth and development. FDI plays an important role in the economic growth of developing countries. It influences the employment situation, production, prices, income, general welfare of the recipient country, and balance of payments and serves as one of the vital sources of economic growth.

FDI is an important vehicle of technology transfer from developed countries to developing countries. FDI also stimulates domestic investment and facilitates improvements in institutions in the host countries. FDI is considered to be an important source of human capital and technological diffusion. FDI introduces new management practices and organizational

arrangements in addition to providing labor training in the host country production facilities. FDI also encourages the incorporation of new inputs and technologies in the production systems of host countries. Hence, all of these are considered important factors in fostering economic development (Todaro and Smith, 2006).

According to Brooks et al. (2003) host economies can benefit from FDI in the following five specific ways:

(I) Foreign firms bring in superior scientific or managerial technology. They will provide technological assistance to their local suppliers or customers, and train workers who may subsequently move to local firms. In addition, local firms could learn by simply watching foreign counterparts.

(II) Foreign investment steers up competition in the host economy. The entry of a new firm would tend to increase sectoral output and reduce the domestic price. In addition, the presence of foreign-owned firms may spur domestic firms to operate more efficiently and introduce new technologies earlier.

(III) Foreign investment typically results in increased domestic investment.

(IV) Foreign investment gives advantage in terms of export market access arising from economies of scale in marketing of foreign firms or from the ability to gain market access abroad.

(V) Most importantly, foreign investment can aid in bridging a host country's foreign exchange gap. Investment often requires imported inputs. If domestic savings are insufficient to support capital accumulation to achieve a target growth, or barriers exist in converting domestic currencies into foreign exchange to acquire imports, foreign inflows can help ensure that foreign exchange will be available to purchase imports for investment.

Despite the crucial role that FDI plays in motivating the economic growth of host countries through the benefits mentioned earlier, on the other hand, FDI might also be harmful for domestic economy, decreasing rates of economic growth. The FDI recipient country may fear foreign ownership of domestic firms as well.

According to Schoors et al. (2002), at early stages of the development or transition to the market economies, FDI may have a negative impact. Additional inflows of FDI in firms may push out of the market other firms without FDI. This fact is referred to as a "market stealing" effect, when domestic firms are not so productive compared to the foreign ones. Thus, when businesses with less than average market productivity leave the market, then the industry benefits due to increases in productivity. However, when more productive firms leave the market, in such cases FDI inflows are harmful for the recipient country. This is because the FDI negative influence weakens the competitive position of local producers and results in structural unemployment.

Another important issue of FDI is where research and development is held. If FDI comes with R&D it has greater spillover effect, but if the R&D stays in some other countries, FDI can reduce job places for highly qualified researchers which consequently may cause brain drain. Among other factors of negative influence of FDI are dependence from foreign investors and repatriation of profits. When the foreign capital leaves the market, domestic firms will not be able to fulfill that gap in the short run (Ibid).

2.2.5. The Effects of International Trade on Economic Growth

Trade facilitates more efficient production of goods and services by shifting production to countries that have comparative advantage in producing them. International trade contributes to industrialization, job creation, income growth, and development in the home country. The rationale is that trade increases domestic and international competition, which in turn, influences an economy's productivity. Through exports, a country is able to experience a higher demand for its goods and services, increasing the output levels. Importing goods and services from foreign countries is said to enhance efficiency and productivity of domestic firms, leading to economic growth. Hence, international trade is known to be an instrument of economic growth (Frankel and Romer, 1993).

According to Stephen and Obah (2017), the following are the economic benefits that could accrue from international trade:

(I) Comparative cost theory brings about efficient allocation of resources because each country specializes in producing the commodities in which it can produce cheaply over others. In relations to this theory through foreign trade, countries direct their factors of production to areas where they can produce more. Though with foreign trade, total world output of commodities increases. This increase in the world output also increases the variety of goods available to consumers. And consumers have the chances of exercising their preference. Consequently standard of living would also increase.

(II) International trade also increases competition. A company shielded from foreign competitors is more likely to have market power, which in turn gives it the ability to raise prices above competitive levels. Opening up trade fosters competitions and gives the invisible hand a better chance to work its magic.

(III) The transfer of technological advances around the world is often thought to be linked to foreign trade. Since human capacities vary all over the globe, foreign trade brings about an exchange of ideas. All these ideas and qualities are transported from one country to the other through trade.

In recent times, the need to increase trade performance has been indispensable for a country to grow. A country must import required raw materials, intermediate and capital goods to increase and speed its production base as well as to foster export growth if these goods are not domestically available. Imports of consumer goods are also essential to meet the growing domestic demand that accompany growing per capita incomes (Alekaw, 2016).

On the other hand, export trade is also crucial to meet the foreign exchange gap, to increase the import capacity of the country and to reduce dependence on foreign aid. An increase in import capacity speeds up industrialization and overall economic activities, which, in turn, can ensure economic growth. Therefore, increased participation in world trade is considered as one of the most important key to rapid economic growth and development (Ibid).

Therefore, since developing nations may lack the knowledge and technology to utilize their resources efficiently and effectively, it is believed by many scholars that international trade and

FDI may serve as solutions to such gaps, exposing these economies to new technologies and intellectual capital, which will in turn lead to economic growth.

However, there are some that question the positive effects of international trade on economic growth. For example, Cooper (2001) addressed the influence of foreign trade and investment on growth via inequality and distribution of income in developing countries and pointed out that the survey of theory and empirical evidence are rather inconclusive. There are no compelling theoretical reasons to believe, in general, that trade promotes growth and empirical works supporting a connection at country level have been heavily criticized on methodological grounds. Cooper lastly argues that it would be difficult to believe that trade liberalization has not contributed significantly to the growth of the world economy in the second half of the 20th century. The conclusion is that trade was a product of economic growth; and that the world economy would have grown as rapidly as it did even if trade barriers are as high as they were in the 1950s implying that other factors aside trade also promote growth.

2.3. Empirical Literature

2.3.1. Foreign Direct Investment

Tintin (2012) investigated whether FDI spur economic growth and development by using economic freedoms index to proxy the quality of host country institutions. The study analysed 125 countries as samples including 38 developed, 58 developing and 29 least developed economies over the time period of 1980-2010 by using panel least squares method with fixed effects. The results obtained from the study show that FDI spur economic growth and development in developed, developing and least developing countries. The study further shows that FDI enhances the economic growth and development in developing countries relatively higher than the developed and least developed countries.

Borensztein et al. (1998) analyzed the impact of FDI on economic growth in a cross-country regression framework by using data of 69 developing countries. The results of the study suggest that FDI is an important source of technology transfer and contributes comparatively more to the economic growth as compared to the domestic investment. The study further suggests that

higher productivity of FDI is dependent on the threshold stock of human capital. So, FDI contributes to the economic growth when the host country has substantial absorptive capacity to absorb foreign modern technology efficiently.

In the case of Ethiopia, Tadesse (2016) studied the determinants of FDI inflows. The researcher used secondary time series data sample from 1992 to 2014 and applied OLS estimation technique. Hence, the results of the short run dynamic model showed that financial development and market size negatively and significantly affect the inflow of FDI whereas, trade openness exerts a positive and significant impact on FDI inflow. Moreover, inflation and external debt affect FDI inflows negatively and infrastructure development affects FDI inflows positively though they are insignificant.

Meskerem (2014), studied the impact of FDI on economic growth of Ethiopia for the period 1974 to 2011. Using OLS method, the study found that two years lagged FDI has a positive and significant effect on contemporary economic growth. On the other hand, FDI after trade liberalization has positive but insignificant effect on economic growth. The 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.

Similarly, the study by Dejene (2015), examined the impact of FDI on economic growth of Ethiopia using yearly time series data for the period 1974 through 2013. With the use of vector autoregressive model, the results of the study indicated that there is a stable, long-run relationship between FDI and economic growth in Ethiopia.

Even though most theories suggest positive effects of FDI inflows on economic growth with great support from empirical findings as well, there are other studies however, that show negative or insignificant effects of FDI on economic growth on the other hand.

Accordingly, Carkovic and Levine (2002) studied the impact of FDI on economic growth for 72 countries covering the period from 1960 to 1995 using OLS and dynamic panel models. The results of their study showed that FDI does not bring a strong and positive impact on economic

growth. The study further explains that there is no reliable cross-country empirical evidence supporting the claim that FDI accelerates economic growth.

The study by Mitiku (2013) focused on FDI and the Ethiopian economy. With the application of the ARDL model and the OLS technique, the researcher analyzed the data from 1992 to 2012. Hence, his study found that FDI has insignificant effect on human capital development, short run negative effect on real gross domestic product per capita and long run positive effect on domestic investment.

Moreover, the study by Betelhem (2016) analyzed the impact of FDI on the economic growth of Ethiopia over the period 1981 to 2015 using Vector Error Correction Model. Hence, the findings of the study reveal that FDI has negative significant impact on the economic growth of Ethiopia in both cases where the individual growth impact of FDI was examined and FDI's impact with other macroeconomic variables was investigated.

2.3.2. International Trade

Frankel and Romer (1999) investigated whether trade caused growth or not. They included 150 countries in their study and employed OLS method to estimate cross-country regressions. Hence, the researchers concluded that trade appears to raise income by stimulating the accumulation of physical and human capital and by increasing output for given levels of capital.

Adak (2010) investigated the international trade and economic growth interrelation in Turkey using OLS method with the analysis covering the years between 1981 and 2007. The study found that there is a significant causality between foreign trade and economic growth. The researcher observed that the foreign trade growth rate has pushed up the GDP per capita growth rate in the past three decades after the integration of Turkey into the global economy. The findings also affirm that international trade is one of the economic growth determinants of Turkey.

Zewdu and Minyahil (2017) tried to confirm the theory that trade liberalization influences an economy favorably in the long run in the Ethiopian context. Using the data set ranging from

1974/75 to 2014/15 the researchers adopted Johansen's approach for cointegration to test the long run behavior of the variables entered in the growth model of their study. The test results suggested the existence of positive and significant impact of trade liberalization on economic growth in Ethiopia though the short run growth impact was estimated to be insignificant.

Sewasew (2013) specifically studied the relationship between import and GDP growth in Ethiopia. In the study, data from 1960/61 to 1999/2000 was used and cointegration and error correction mechanisms were used to analyze the data. The results of the estimation showed that in the long run imported intermediate goods positively and significantly affect real GDP growth whereas, imported capital goods have a negative effect on real GDP growth.

Senait (2014) examined the contribution of export earnings to economic growth of Ethiopia. Data for the period 1960/61 to 2011/12 was analyzed using cointegration technique, vector error correction estimation and Granger causality test in the study. The key finding of the study was that export growth positively and significantly affects economic growth and growth also stimulates export in the long run.

There are other studies, however, that questioned the importance of international trade. Rodriguez and Rodrik (1999) for example, present a critical view of the link between open-trade policy and economic growth. They argue that past studies fail to account for institutional differences among countries resulting in an upwardly-biased estimate of trade and other policy liberalizations. Their analysis done with the help of a simple model of a small open economy with learning-by-doing shows that the relationship between average tariff rates and economic growth is only slightly negative and not at all statistically significant.

Sied (2008) examined the impact of trade liberalization on Ethiopian export, import and GDP. Instrumental variable and two stage least square estimation methods were employed to estimate the impact of trade liberalization on the above variables using data from 1960 to 2006. The study found out that even though trade liberalization has positive impact on both export and import of the country, its impact is more to import than to exports making the trade

deficit of the country worse than before. However, the study found no direct significant impact of trade liberalization on Ethiopian GDP growth.

Similarly, Adiam (2011) studied the impact of trade liberalization on the balance of payments of Ethiopia. He applied OLS to examine the relationship between trade liberalization and the balance of payments of Ethiopia covering the period from 1981 to 2008. The results of the regression indicated that the trade liberalization measures adopted by Ethiopia have led to the deterioration of the balance of payments.

2.3.3. Foreign Direct Investment and International Trade

In the study conducted by Wijeweera and Dollery (2010) great contribution has been made to the empirical literature on the relationship between FDI, trade and the rate of growth of GDP using a stochastic frontier model and employing panel data covering 45 countries over the period 1997 to 2004. Four main inferences were analyzed from their findings. Firstly, FDI inflows exerted a positive impact on economic growth in the presence of a highly skilled labor but FDI by itself did not induce efficiency gains. Secondly, by merely increasing FDI inflows, a country could not improve its efficiency. Thirdly, corruption had a negative impact on economic growth. Finally, trade openness increases economic growth by means of efficiency gains. The implication is that, poor nations can increase their economic growth rate by reducing or controlling the level of corruption, improving the level of education and by encouraging FDI.

Mohammed and Mahfuzul (2016) conducted a study on FDI, trade and economic growth in the case of Bangladesh using annual time series data for the period 1973 to 2014. With the help of Vector Error Correction Model, a long run relationship between the variables was found. Trade and FDI were found to have a significant impact on the growth rate of GDP per capita.

Jared (2015) studied the relationship between FDI, international trade and economic growth in Kenya. The researcher covered the period from 1970 – 2013 and employed the ARDL model. The findings of the study revealed that FDI and exports affected Kenyan economic growth positively whereas, imports affected Kenyan economic growth negatively.

Najabat (2017) did a study on Foreign Direct Investment, International Trade and Economic Growth in Pakistan's Economic Perspective. The study utilized time series data over the period of 1991 to 2015. Using Granger Causality test, it was found that all variables, FDI, export and import had a positive relationship with economic growth of Pakistan.

2.4. Summary of Literature Review

The review of literature above reveals that the impact of international trade and FDI on economic growth is still an unresolved issue. Although there are various studies which came up with the conclusion that international trade and FDI bring a positive impact on the economic growth of developing countries, there are also significant amount of studies which oppose the claim that international trade and FDI have a positive impact on economic growth.

Several studies have also been conducted on FDI in the case of Ethiopia. However, most of these studies emphasize on the determinants of FDI. Moreover, the results of those studies focusing on the relationship between FDI and economic growth in Ethiopia have presented inconclusive findings.

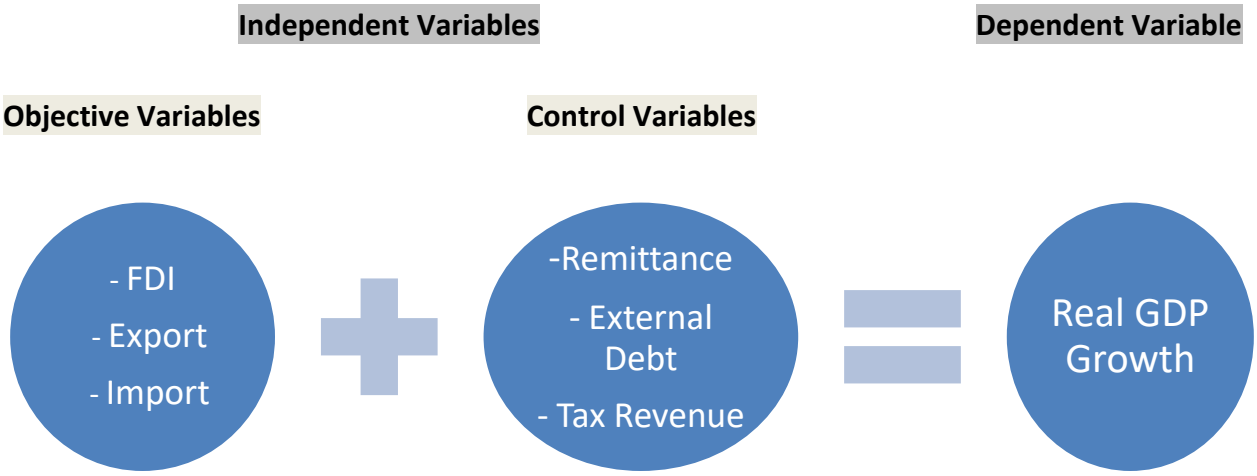
Similarly, there are various studies done on international trade in Ethiopia though only a few of them focus on the relationship between trade and the economy. However, it is evident from the studies discussed above that the findings forwarded by different researchers on the subject are mixed.

Therefore, this study has tried to investigate the effects of both FDI and international trade on economic growth of Ethiopia covering the period from 1992 to 2017.

2.5. Conceptual Framework

Based on the theoretical and empirical literature discussed above, the following conceptual framework has been developed.

Figure 2.1: Conceptual Framework



Source: Own Construction based on Theoretical and Empirical Literature

CHAPTER THREE

AN OVERVIEW OF THE ETHIOPIAN ECONOMIC GROWTH, FOREIGN DIRECT INVESTMENT AND INTERNATIONAL TRADE

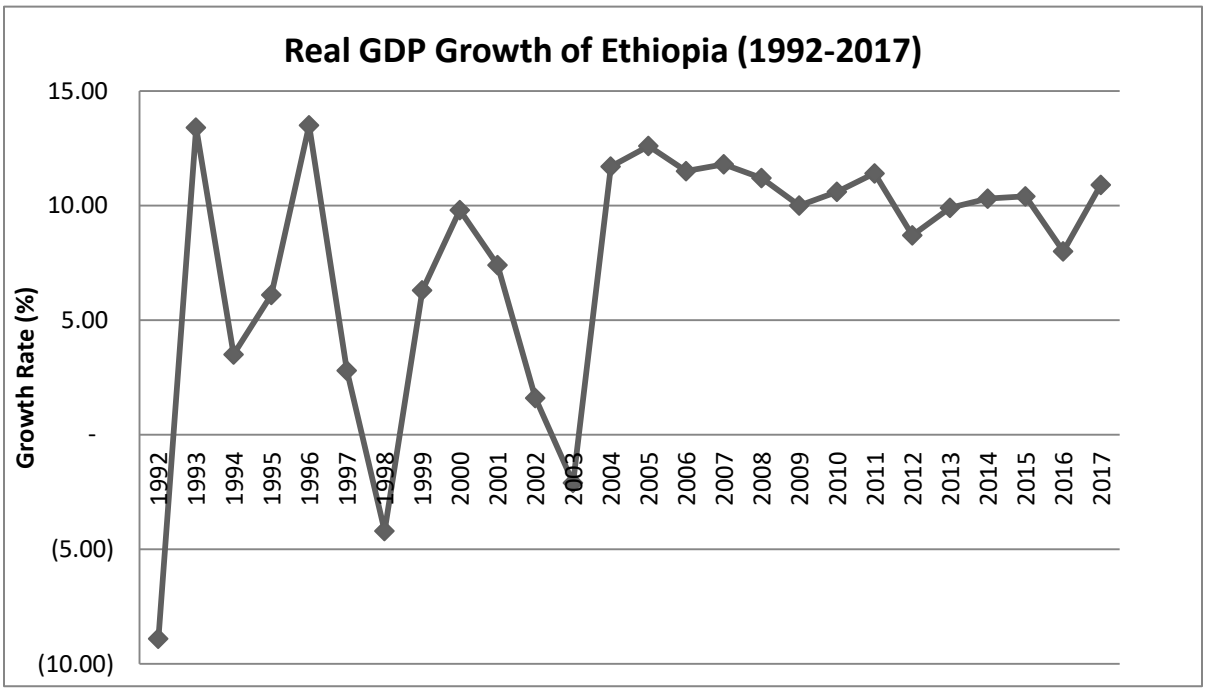
3.1. Economic Growth Trends in Ethiopia

Emperor Haile Selassie I ruled Ethiopia from 1930 to 1974. The landed aristocracy and the majority of peasants constituted the major socio-economic agents of the time. During this period, land was a critical resource and different attempts were made to modernize the country. During the last years of the regime (1960 – 1974), GDP growth averaged 4 percent and the average per capita growth was roughly 1.5 percent. Hence, the imperial regime followed a market based economic policy (Geda, 2008).

The pre-1991 period in Ethiopia (Derg regime: 1974 – 1991) marked the introduction of the command system of economic management in 1974. The mainly liberal policies of the pre-1974 imperial regime were replaced with centralized policies that discouraged market economy and private property. Derg opted for a socialist economic system where market forces were deliberately repressed and socialization of the production and distribution process pursued vigorously. Between 1974/75 and 1989/90, growth decelerated to 2.3 percent. The Derg regime was also characterized by intense conflict which brought out poor growth performance (Geda and Degefe, 2002; Geda, 2008).

The post-1991 period began with the coming to power of EPRDF in 1991. The EPRDF adopted the WB/IMF sponsored Structural Adjustment policies of market liberalization soon after. Hence, different measures were taken to promote the export sector and increase the participation of the private sector. Economic growth during the period from 1990/91 to 1999/00 was very impressive as compared to the previous regime. Real total GDP grew at an average of 3.7 percent whereas per capita GDP grew at an average of 0.7 percent per annum. The revival of growth appeared to be the combined result of the reforms and favorable weather (Ibid).

Figure 3.1: Trends of Economic Growth in Ethiopia (1992-2017)



Source: Own compilation based on IMF data

According to figure 3.1, it is evident that Ethiopia's real GDP growth showed inconsistent trends in the period between 1992 and 2003. It ranged from -8.9% in 1992 to 13.5% in 1996, averaging 4.1% per annum for the period from 1992 to 2003. Different incidents like the war that took place during the downfall of the Derg regime in 1992 and the two year period of conflict with Eritrea from 1998 to 2000 could be mentioned for the negative growth of the GDP.

According to figure 3.1, Ethiopia's economy experienced strong and broad based growth averaging 10.64% a year from 2004 to 2017. The expansion of agriculture, construction and services accounted for most of this, with modest manufacturing growth. Recently, the service sector has become dominant in the Ethiopian economy comprising about 42% of the GDP followed by agriculture (35.8%) and industry (22.2%). However, Ethiopia's increasing population of about 105.35 million being the second most populous nation in Africa after Nigeria and its low GDP per capita (PPP) of USD 2,200 make it one of the poorest nations in the world (CIA,

2018). Hence, it is highly important to scrutinize Ethiopia's GTP whose main aim is directed towards improving the country's economy and eventually end poverty.

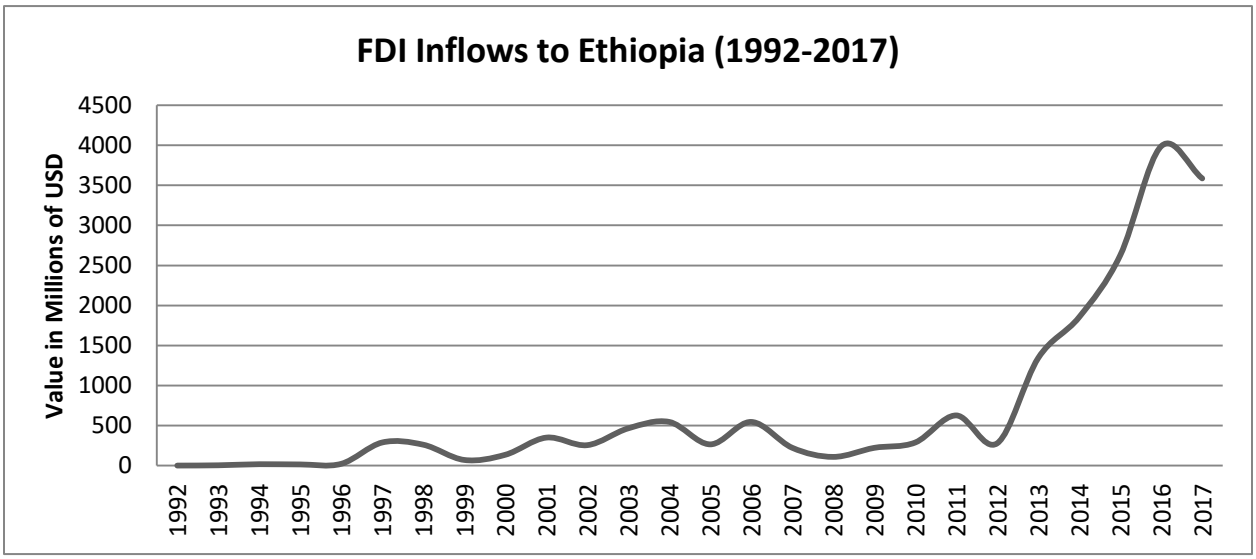
3.2. Trends of FDI in Ethiopia

The investment climate in general and FDI in particular was not encouraging during the pre-1991 period. The problems of political instability, insecurity, and the nationalization of major industries severely discouraged foreign private investment. Realizing the importance of FDI, the government then attempted to revive FDI through the 1983 Joint Venture Proclamation. The proclamation offered incentives such as a five-year period of income tax relief, import and export duty relief, tariff protection and repatriation of profits and capital. However, the proclamation failed to attract foreign investors. In 1989, the government revised the 1983 proclamation by allowing majority foreign ownership in many sectors. It also attempted to provide more protection to investors. However, the political instability and the prolonged civil war at the time further discouraged FDI. The political instability got worse and it consequently led to the overthrow of the regime in 1991 (Haile and Assefa, 2006).

After the coming to power of the EPRDF government in 1991, different measures were taken. Increasing the role of the private sector in the economy being one of the main objectives of the government, the privatization program was started in 1994. FDI also started to play some role in the country following the 1992 liberalization program. The reforms as well as the government introduction of investment guarantee schemes and incentives helped to raise the share of inward FDI. Except for the two year period of conflict with Eritrea (1998-2000) and the local election time crisis in 2005 and 2008 that disrupted the rising trend of FDI inflows, the reform measures have brought about some positive changes (Geda and Degefe, 2002; Geda, 2008).

Despite the economic reforms that have been implemented by the government to attract FDI, inflows to Ethiopia have been erratic up to the year 2012 as shown in Figure 3.2 below. Generally, the unstable political environment of the country could be one of the major reasons for this.

Figure 3.2: Trends of FDI in Ethiopia (1992-2017)



Source: Own compilation based on UNCTAD and WB data

FDI inflows to Ethiopia have accelerated in recent years, making Ethiopia one of the top performing African countries in FDI flow. For instance, in 2016, Ethiopia registered a 52% increase and reached USD 3.98 billion. Moreover, Ethiopia's FDI inflow has shown more than seven fold increase in a decade from USD 545 million in 2006 to USD 3.98 billion in 2016 according to Figure 3.2. These positive outcomes can be attributed to the significant progress that has been made in terms of transport infrastructure and electricity production in order to improve Ethiopia's attractiveness.

According to EIC (2017), the contribution of investment projects in terms of capital outlay and job creation differed across sectors. Accordingly, the manufacturing and service sectors are among the top recipients. Ethiopia has been particularly successful in attracting Greenfield FDI in textile, food, beverages and tobacco, chemicals and pharmaceuticals, automotive, etc.

The sectoral distribution by number of projects for the period 1992 – 2016 reveals that manufacturing sector is on the lead with 45% share followed by real estate, machinery and equipment rental and consultancy service (18%), agriculture (15%), electricity (7%), hotels (6%), education (2%), health (2%), tour operation, transport and communication (2%) and other sectors (2%) (EIC, 2017).

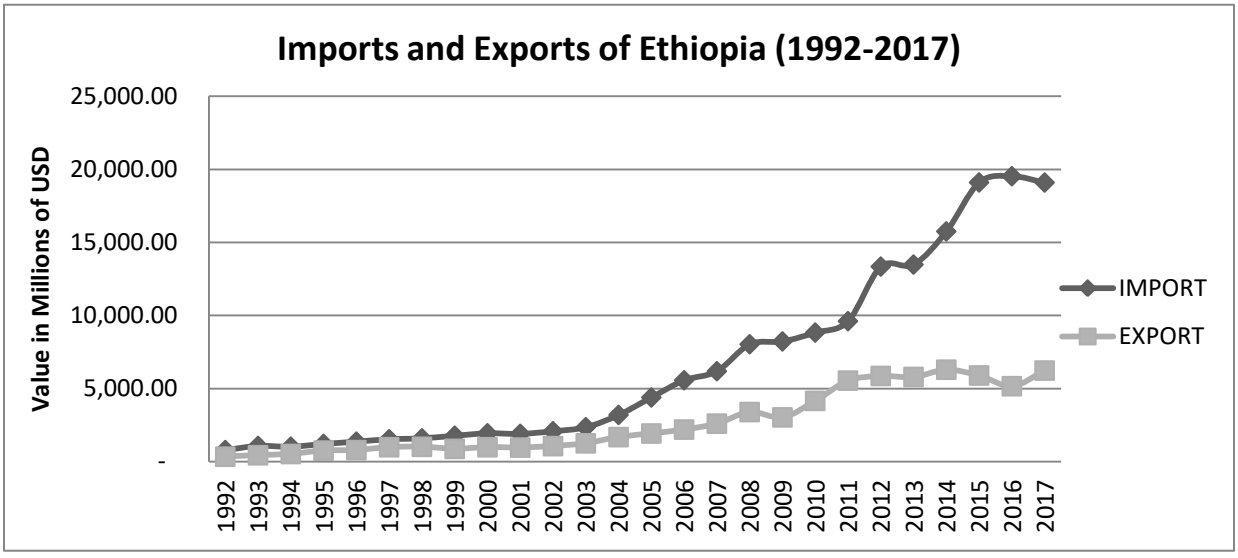
In general, the major sources of FDI to Ethiopia are China, India, Sudan, Germany, Italy, Turkey, Saudi Arabia, Yemen, the United Kingdom, Israel, Canada and the United States (EIC, 2015).

3.3. Trends of International Trade in Ethiopia

Trade liberalization in Ethiopia was experienced after the Derg regime. The pre-1991 period was the time of socialist and military government. However the post-1991 period marks the coming into power of a civil government that started liberalization of trade and introduced market based economic policies. Hence, it was in 1992 that Ethiopia carried out major economic reforms, specifically, undertaking trade liberalization by removing trade barriers (Meskerem, 2014)

The performance of international trade in Ethiopia has increased significantly in recent times. Available evidences show that the value of both exports and imports improved tremendously since the implementation of the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) in 2004/05. The Government has implemented many export incentive packages besides the reduction of tariff rate for import of raw materials and capital goods to the manufacturing sector (Alekaw, 2016).

Figure 3.3: Trends of International Trade in Ethiopia (1992-2017)



Source: Own compilation based on IMF and WB data

According to the data of IMF and WB, during the period 1992 to 2017, the value of Ethiopia's export increased from USD 337.38 million to USD 6,234.11 million, while import rose from USD 792.18 million to USD 19,103.00 million over the same period. As a result of the fast growth of import compared to export, trade deficit of Ethiopia increased from USD 454.80 million to USD 12,868.88 million over the period. Hence, this trade deficit divergence has resulted in the widening of the current account deficit in the country.

Moreover, the data also shows that the values of imports have been more than the values of exports throughout the years from 1992 to 2017. The gap between the values of imports and exports were relatively small up to the year 2004 as compared to the gaps reported thereafter.

The widening in gaps of exports and imports are partly due to increased demand for consumer and capital goods as well as various other services as a consequence of the growth of the Ethiopian economy on one hand and due to the weak performance of exports aggravated by the fall in international commodity prices on the other hand. In this regard, it is important to mention that the export items of Ethiopia are concentrated on few primary agricultural products such as coffee, oilseeds, pulses and semi processed leather in addition to the export destinations of Ethiopia's products being very limited as well (National Planning Commission, 2016).

CHAPTER FOUR

METHODOLOGY OF THE STUDY

4.1. Research Design

This research being quantitative in its nature, has applied explanatory research design with the main objective of the study being to examine the effects of FDI and international trade on economic growth of Ethiopia using annual time series data. Explanatory studies employ research hypotheses that explicitly state the nature and direction of the relationships among variables. According to Cooper and Schindler (2003), unlike descriptive studies, explanatory studies go beyond observing and describing the condition and try to explain the reasons of the phenomenon. Hence, explanatory research type is useful in finding the relationship between dependent and independent variables. Therefore, this study uses annual secondary data obtained from different sources for a period covering 26 years which are subjected to time series analysis to achieve the specified objectives.

4.2. Theoretical Framework

Various economic growth theories have been discussed under the theoretical review section of this study. Among these are the Classical, Keynessian, Neoclassical and Endogenous growth theories. As discussed earlier, the endogenous growth theory addressed the limitations of the Neoclassical growth theory by explaining sustained growth and stressing on the fact that economic growth is determined within the model.

The simple endogenous growth model developed by Barro (1990, 1991) specifically has been used to illustrate the effects of FDI and international trade on growth. The Barro model assumes that aggregate output is a linear function of aggregate capital stock. It also assumes that productivity is an increasing function of the aggregate capital formation. Based on the assumptions, the theory concludes that an increase in capital stock in an economy has a positive effect on economic growth and vice versa.

This study is therefore built on the assumption of the Barro model by examining the capital accumulation effect associated with the Ethiopian government's policies aimed at attracting FDI and promoting international trade. This study therefore, assumes that increases in FDI and international trade bring additional capital stock, technology transfer, skill, knowledge and innovation into the country which are believed to increase economic growth. Moreover, increase in FDI and international trade will bring competition which is expected to stimulate economic growth.

4.3. Model Specification

To examine the effects of FDI and international trade on economic growth of Ethiopia, this study employs a simple endogenous growth model in line with that of Barro's (1990, 1991) which is expressed as:

$$Y = f(Xi) \qquad (1)$$

Where:

Y represents output and Xi represents independent variables.

Inserting the objective variables into (1) above we get:

$$RGDPG = f(FDI, EX, IM) \qquad (2)$$

Where:

RGDPG is real GDP growth rate which is a proxy for economic growth, FDI is foreign direct investment, EX is export of goods and services and IM is import of goods and services.

However, past empirical studies have found out that several variables affect economic growth. Among these, remittance as contained in the studies of Dietmar and Adela (2017) and Hadeel (2012); external debt as included in the studies of Hanna (2013) and Abu S. et al (2015) and tax revenue as studied by Dladla et al. (2018) and Libabatu (2014) have been incorporated in this

study as control variables, as their impact on economic growth of Ethiopia is expected to be significant.

Hence, adding the control variables into (2) above we get:

$$RGDPG = f(FDI, EX, IM, RM, ED, TX) \qquad (3)$$

Where:

RM is remittance, ED is external debt and TX is tax revenue.

Finally, taking the natural logarithms of the independent variables in order to stabilize the variance of the series, the regression model can be specified in the following form:

$$RGDPG = \alpha + \beta_1 LFDI + \beta_2 LEX + \beta_3 L\,IM + \beta_4 L\,RM + \beta_5 L\,ED + \beta_6 LTX + \mu \qquad (4)$$

Where:

α is the intercept, βs are the coefficients of associated variables and μ is the error term of the model.

4.4. Definition and Measurement of Variables

Economic Growth: is the average annual increase in the production of goods and services. Since most economists argue that economic growth can be measured as growth in real gross domestic production, it is hence measured by the yearly percentage increase in real GDP growth of Ethiopia in this study.

Foreign Direct Investment: is an international investment in which an enterprise resident in one country acquires an interest of at least 10 % in an enterprise resident in another country (Ethiopia in this study). It is measured as the value of FDI inflows into Ethiopia as a percentage of GDP.

Exports: refer to the outflow of goods and services from one country (Ethiopia in this study) to other countries. It is measured as the value of Ethiopian exports as a percentage of GDP.

Imports: refer to the inflow of goods and services from different countries into one country (Ethiopia in this study). It is measured as the value of imports into Ethiopia as a percentage of GDP.

Remittance: is the transfer of money by people who have moved abroad to individuals in their home country (Ethiopia in this study). It is measured as the value of remittance inflows into Ethiopia as a percentage of GDP.

External Debt: refers to debt owed to nonresidents repayable in internationally accepted currencies, goods or services. This is measured as the value of external debt stock of Ethiopia as a percentage of GDP.

Tax Revenue: Tax revenue refers to compulsory transfers to the central government for public purposes. This is measured as the value of tax revenue as a percentage of GDP.

4.5. Expected Signs of Variables

The estimated coefficients of the independent variables are expected to have the following signs:

Table 4.1: Expected Signs of the Coefficients of the Independent Variables

Coefficient of	Expected Sign
FDI	+
Exports	+
Imports	+
Remittance	+
External Debt	-
Tax Revenue	+

4.6. Types and Sources of Data

To achieve the objectives of this study, secondary annual time series data covering the period from 1992 to 2017 have been used. Data for real economic growth was obtained from the International Financial Statistics of IMF, data for FDI was obtained from the data center of UNCTAD and data bank of WB, data for imports and exports were both obtained from the International Financial Statistics of IMF and data bank of WB, data for remittance and external debt were obtained from the data bank of WB and data for tax revenue was obtained from the data bank of WB and annual reports of NBE.

4.7. Time Series Property Tests

Before making any conclusions based on the estimation results, it is highly important to undertake the following basic statistical tests:

4.7.1. Unit Root Test

It is essential to check if the variables of a model have a unit root or not, that is, checking whether the variables are stationary or non-stationary. A stationary series is a series with a constant mean and variance across time. Checking for stationarity is useful since it avoids making spurious regression and inferring misleading conclusions from non-stationary data. Moreover, it helps in the determination of the best estimation technique to be applied in the analysis.

In order to examine whether time series variables are stationary or not, the Dickey-Fuller, Augmented Dickey-Fuller and/or Phillips-Perron tests can be used. The null hypothesis for these tests is that the variables have a unit root (non-stationary series) and the alternative hypothesis being the variables do not have a unit root (stationary series). If a null hypothesis is rejected then, the series is said to be stationary. Hence, this study has used Augmented Dickey-Fuller test to check for the stationarity of the time series variables.

4.7.2. Co-integration Test

The next step after checking for stationarity is to check for the existence of a long run relationship among the variables. This is essential since it checks whether there is genuine long run relationship among variables or a spurious one. Hence, in this study, co-integration test has been undertaken to investigate the relationship among FDI, exports, imports and economic growth.

4.8. Data Analysis

The main objective of this study is to investigate the effects of FDI and international trade on economic growth in Ethiopia. To achieve this objective, the data has been subjected to time series tests to ensure that they do not give misleading results and to choose the best estimation technique based on the results. The data obtained from the different secondary sources has then been analyzed with Eviews 9 statistical software package.

CHAPTER FIVE

EMPIRICAL RESULTS AND INTERPRETATION

5.1. Introduction

This chapter presents the findings of the study on the effects of FDI and international trade on economic growth of Ethiopia. Different time series property test results, diagnostic test results and finally empirical results are presented.

5.2. Unit Root Test

The first step before running regression is to check for stationarity of the variables under study. As discussed earlier, the unit root test helps to identify whether a variable is stationary or non-stationary. Hence, the most commonly used Augmented Dickey-Fuller test has been carried out in this study. The results of the test are presented in table 5.1 below.

Table 5.1: Augmented Dickey-Fuller Unit Root Test Results

Variable	Test Statistics						Order of Integration
	Intercept		Trend and Intercept		No Trend and No Intercept		
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	
RGDPG	-5.49216*	-4.59792*	-3.79202*	-4.45231*	-0.29855	-6.15590*	I(0)
LFDI	-22.5145*	-21.8889*	-21.5564*	-20.0595*	-20.8083*	-22.7232*	I(0)
LEX	-4.23990*	-4.56769*	-3.14101	-3.91374*	0.34742	-4.71027*	I(0)
LIM	-4.96877*	-7.29356*	-2.97082	-4.53477*	1.06139	-7.46022*	I(0)
LRM	-2.00679	-5.34923*	-2.70439	-5.33718*	-2.19320*	-5.37613*	I(1)
LED	-1.12951	-3.70252*	-1.35448	-3.67388*	-0.76674	-3.72307*	I(1)
LTX	-2.37701	-4.82321*	-2.28772	-4.77827*	0.83084	-4.73501*	I(1)

Note: * implies rejection of the null hypothesis (presence of unit root) at 5% significance level

Source: Eviews 9.0 Output

Including intercept but no trend, the results of the ADF test reveal that real GDP growth rate (RGDPG), foreign direct investment (LFDI), exports (LEX) and imports (LIM) are stationary at level while remittance (LRM), external debt (LED) and tax revenue (LTR) are stationary at first difference implying that they are integrated of order 1.

5.3. Auto Regressive Distributive Lag (ARDL) Model

Since this study contains a mixture of I(0) and I(1) variables and there are no variables integrated of order two (Appendix I), it is therefore appropriate to apply the ARDL model. The ARDL model was developed by Pesaran et al. (2001). Besides being applied irrespective of the order of integration, this model is suitable for this study in different ways. First, it enables the use of different lag lengths for the variables entered into the model. Second, the model is relatively more efficient in the case of small sample sizes as in the case of this study.

5.4. Optimal Lag Selection

One important step before applying the ARDL approach to cointegration is to determine the optimal selection of lags. Hence, there are different types of lag selection criteria, which include the sequential modified likelihood ratio (LR), Akaike information criteria (AIC), Final prediction error (FPE), Schwarz information criterion (SC) and Hannan-Quinn information criterion (HQIC).

Table 5.2: Lag Order Selection Criteria

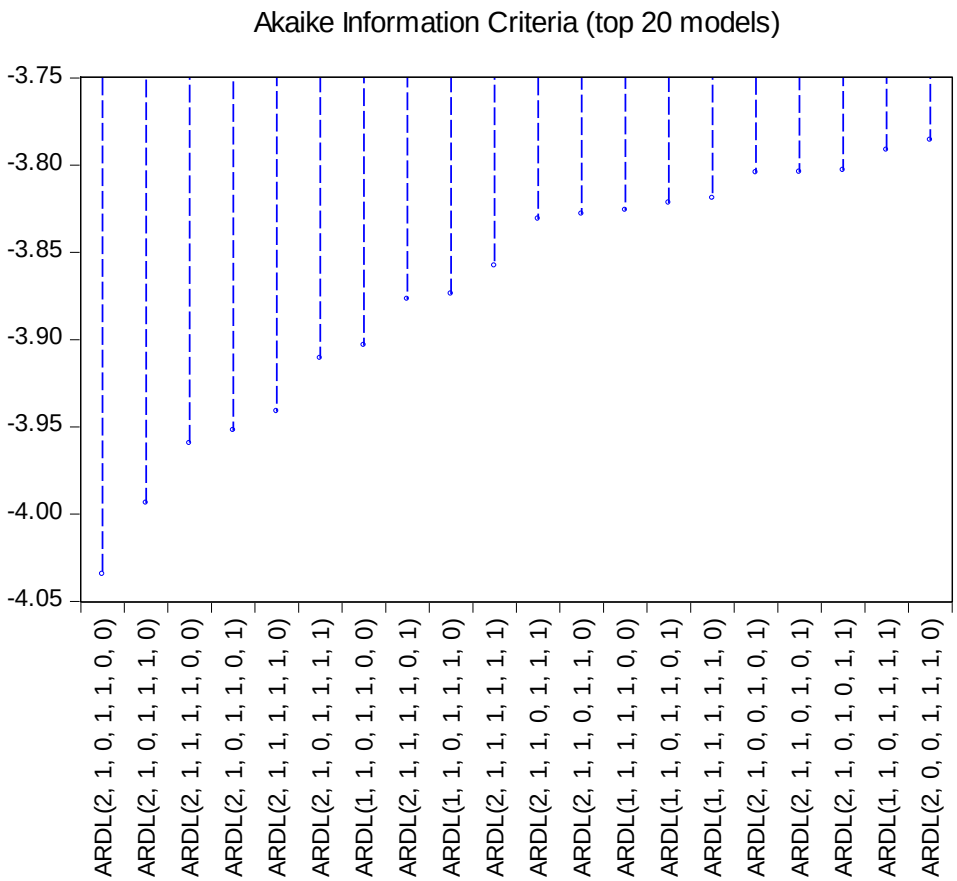
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-58.45379	NA*	22.99666	5.950344	6.297494	6.032122
1	-58.32950	0.158187	25.20253	6.029954	6.426697	6.123415
2	-55.21776	3.677508	21.13556*	5.837978*	6.284314*	5.943121*
3	-55.12083	0.105744	23.42811	5.920075	6.416004	6.036901
4	-54.35454	0.766287	24.58305	5.941322	6.486843	6.069830

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Source: Eviews 9.0 Output

According to table 5.2, all criteria except LR settle for 2 lag orders. The selection of 2 lag orders agrees with the theoretical view of applying 1 or maximum of 2 lag orders for studies with annual data.

Figure 5.1: Model Selection Summary



Source: Eviews 9.0 Output

Figure 5.1 presents the top 20 models that minimize the AIC value out of the 128 possible models evaluated (indicated in the ARDL estimation results found in Appendix II). The models indicate the appropriate lag orders specified for the individual variables, the general lag order of this study being 2. Accordingly, the ARDL model selected for this study is ARDL(2,1,0,1,1,0,0). Moreover, AIC has been used to determine the optimal lag since it is convenient for smaller sample sizes as is the case in this study.

5.5. Co-integration Test

Given the ADF test results, it is important to examine whether there is long run relationship among the variables of this study by using the ARDL approach to cointegration.

The ARDL approach to cointegration also known as the bounds test is done by using the F-statistic. This test has been applied on the estimated unrestricted ARDL model found in appendix III. In the bounds test, the null hypothesis of no long run relationship against the alternate hypothesis of the presence of long run relationship is examined. The calculated F-statistic is compared against the upper and lower bound critical values. The null hypothesis is not rejected if the F-statistic is found to be less than the lower bound critical value. On the other hand, the null hypothesis is rejected if the F-statistic is greater than the upper bound critical value. In this case it can be concluded that there is cointegration or long run relationship among the variables. However, if the F-statistic falls between the lower and upper bound critical values, it is inconclusive whether there exists long run relationship or not.

Table 5.3: ARDL Bounds Test

ARDL Bounds Test
Sample: 1994 2017
Included observations: 24
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	4.186083	6

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

Source: Eviews 9.0 Output

The results of the bounds test according to table 5.3 above reveal that the F-statistic value (4.18) is greater than the upper bound critical value at 2.5% significance level. Hence, the null

hypothesis of no long run relationship is rejected implying that there exists long run relationship among the variables of this study. Therefore, the next step is to conduct the different diagnostic and stability tests before proceeding to the long run coefficients and short run dynamics estimation.

5.6. Diagnostic and Model Stability Tests

It is very important to perform various diagnostic and model stability tests on the ARDL model before proceeding to the estimation of the long run coefficients and the short run dynamics since it helps in assuring that the ARDL model is reliable and sound. Accordingly, tests for serial correlation (Breusch-Godfrey Serial Correlation LM Test) and stability (CUSUM test) have been conducted on the full ARDL(2,1,0,1,1,0,0) model to check the overall performance and stability of the long run and short run coefficients as recommended by Pesaran et al. (2001).

5.6.1. Test for Serial Correlation

The Breusch-Godfrey serial correlation LM test has been employed to check whether the error terms are independent from one another. The presence of serial correlation results in biased estimators which affects the reliability of a model. The test with the null hypothesis of no serial correlation against the alternate of the presence of serial correlation has been conducted.

Table 5.4: Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.103732	Prob. F(2,10)	0.3689
Obs*R-squared	4.339895	Prob. Chi-Square(2)	0.1142

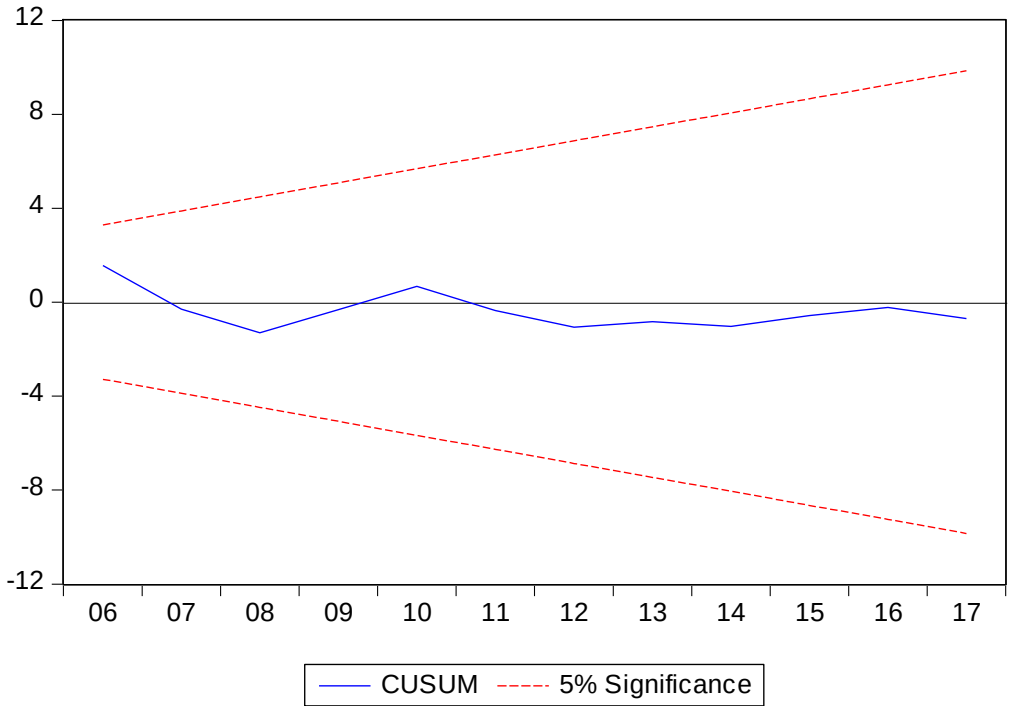
Source: Eviews 9.0 Output

As shown in table 5.4 above, the p-values of 0.3689 and 0.1142 associated with the F-statistic and Chi-Square respectively are in excess of 0.05. Hence, this implies that the null hypothesis of no serial correlation is not rejected.

5.6.2. Test for Stability

In addition to the diagnostic tests conducted above, this study has also applied the cumulative sum of recursive residuals (CUSUM) test to ascertain that the model is stable. The CUSUM test confirms whether there exists a structural break or not in a model during the sample period of the study.

Figure 5.2: Stability Test



Source: Eviews 9.0 Output

According to figure 5.2 above, it can be seen that the CUSUM (blue solid line) lies in between the 5 percent significance range (red dotted lines). Hence it can be concluded that the full ARDL(2,1,0,1,1,0,0) model is stable and efficient in estimating the short run and long run relationship between the dependent and independent variables found in this study.

5.7. Long Run ARDL Model Estimation Results

Following the existence of co-integration among the variables of this study, the next step is to estimate the coefficients of the long run model. Hence, the long run coefficients of the variables under investigation are presented in table 5.5.

Table 5.5: Estimated Long Run Coefficients of ARDL(2,1,0,1,1,0,0) Model

ARDL Long Run Form
Dependent Variable: RGDPG
Selected Model: ARDL(2, 1, 0, 1, 1, 0, 0)
Sample: 1992 2017
Included observations: 24

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFDI	0.015960	0.008460	1.886581	0.0836
LEX	0.011078	0.005018	2.207804	0.0475
LIM	-0.044450	0.016562	-2.683854	0.0199
LRM	0.047753	0.017109	2.791095	0.0163
LED	-0.002157	0.000828	-2.603241	0.0231
LTX	0.015080	0.003790	3.979112	0.0073
C	1.561084	0.550298	2.836798	0.0150

Source: Eviews 9.0 Output

As reported in table 5.5, all the explanatory variables except LIM have their expected signs. Moreover, all the variables except LFDI significantly affect the real growth of GDP of Ethiopia in the long run.

The first objective of this study is to examine the effect of FDI on economic growth in Ethiopia. According to table 5.5, the results reveal that FDI has a positive but statistically insignificant effect on economic growth in Ethiopia in the long run. This result goes along with that of Borensztein et al. (1998) and Meskerem (2014) in the case of Ethiopia in which both studies found out FDI to positively affect economic growth. However, the result of FDI in this study contradicts with Carkovic and Levine (2002) and Betelhem (2016) in the case of Ethiopia in that FDI did not bring a positive impact on economic growth in Ethiopia for the study period.

A possible explanation behind the positive effect of FDI could be attributed to FDI's favorable influence on the economic growth of Ethiopia through employment creation, improvements in production, stabilization of prices, increases in income and in improving the balance of payments. However, the result for FDI is insignificant which may be due to the shortness of the sample period of this study in which the level of FDI remained low until 2012 and showed an increasing trend only after that year according to figure 3.2.

The second objective of this study is to examine the effect of export on economic growth in Ethiopia. Regarding export, the estimation results revealed that export has a positive effect on economic growth in Ethiopia in the long run. It is found that export as a proportion of GDP has a positive and statistically significant effect on economic growth in Ethiopia at 5 percent level of significance. The results show that on average, a 1 percent increase of export in GDP brings approximately a 0.011 percent increase in the real GDP growth of Ethiopia in the long run, ceteris paribus.

The positive effect of export trade can be associated to its significant contribution in meeting the foreign exchange gap and reducing dependence on foreign aid according to Alekaw (2016). Moreover, this result goes along with Adak (2010) in that export trade is one of the economic growth determinants in Ethiopia and Senait (2014) in that export growth positively and significantly affects economic growth in Ethiopia.

The third objective of this study is to examine the effect of import on economic growth in Ethiopia. According to table 5.5, the results reveal that import has a negative effect on economic growth in Ethiopia in the long run. Import as a proportion of GDP has a negative and statistically significant effect on economic growth in Ethiopia at 5 percent level of significance. It is found in the results that on average a 1 percent increase of import in GDP brings about 0.044 percent decrease in the real GDP growth of Ethiopia in the long run, ceteris paribus.

Some of the reasons for the negative effect of import include its adverse effect on domestic companies and the negative consequences it brings on the balance of payments. Hence, the results are consistent with Sied (2008) and Adiam (2011) in that trade liberalization measures

adopted by Ethiopia have led to the deterioration of the balance of payments and that trade liberalization's impact is more to import than to export making the trade deficit of Ethiopia worse than before. As indicated in figure 3.3, its evident that the growth of import has been greater than the growth of export throughout the study period from 1992-2017. Hence this has resulted in the widening of the trade deficit divergence.

Regarding the control variables of this study, i.e. LRM, LED and LTX, all of them have their expected signs according to table 5.5. Moreover, all the control variables have been found to significantly affect the real GDP growth of Ethiopia.

The results show that remittance has a positive effect on economic growth in Ethiopia in the long run. It is found that remittance as a proportion of GDP has a positive and statistically significant effect on economic growth in Ethiopia at 5 percent level of significance. The results show that on average a 1 percent increase of remittance in GDP brings approximately a 0.048 percent increase in the real GDP growth of Ethiopia in the long run, ceteris paribus. This positive effect of remittance on economic growth can be associated to its contribution in increasing the output level of the country in addition to its effect in creating a favorable balance of payments. According to Dietmar and Adela (2017), the money received by countries through remittance maintains and improves their economic growth since it is spent either on consumption or investment. Therefore, this ultimately leads to economic growth implying that remittances positively and significantly affect the economy.

On the other hand, the results from table 5.5 reveal that external debt has a negative and significant effect on economic growth in Ethiopia in the long run. This result goes along with Dereje (2013) and Abu S. et al (2015), in that external debt negatively affects economic growth. Accumulated external debt leads to future debt service burden requiring some portion of the country's output to be repaid back in foreign currency and hence lowers economic growth. However, the result of external debt in this study contradicts with that of Hanna (2013) in the case of Ethiopia, where external debt is found out to positively affect economic growth.

Finally, the results reveal that tax revenue has a positive effect on economic growth in Ethiopia in the long run. It is found that tax revenue as a proportion of GDP has a positive and statistically significant effect on economic growth in Ethiopia at 1 percent level of significance. The results show that on average a 1 percent increase of tax revenue in GDP brings approximately a 0.015 percent increase in the real GDP growth of Ethiopia in the long run, ceteris paribus. The positive effects of tax revenue on economic growth of a country include generation of revenue by the government to be invested back on mega projects and public goods and services, protection of local industries, distribution of resources resulting in the reduction of inequality, etc.

Moreover, the result for tax revenue in this study goes along with Libabatu (2014) who found out that different components of tax revenue except custom excise and duties impact the Nigerian economy positively. However the result contradicts with Dladla et al. (2018) who found that tax revenue has a negative and significant impact on the economic growth of South Africa.

In general, the estimated long run equation of this study can be presented as:

RGDPG = 1.5611 + 0.0160LFDI + 0.0111LEX - 0.0445LIM + 0.0478LRM - 0.0022LED + 0.0151LTX

5.8. Short Run ARDL Model Estimation Results

Following the long run ARDL model estimation, the next step is to estimate the short run error correction model. The error correction model (ECM) shows the short run dynamics of the model and has been derived from the ARDL model through a simple transformation which integrates the short run adjustments with the long run equilibrium. Hence, table 5.6 presents the short run error correction estimates.

Table 5.6: Short Run Error Correction Estimates of ARDL(2,1,0,1,1,0,0) Model

ARDL Cointegrating Form
Dependent Variable: RGDPG
Selected Model: ARDL(2, 1, 0, 1, 1, 0, 0)
Sample: 1992 2017
Included observations: 24

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDPG(-1))	0.196097	0.115751	1.694126	0.1160
D(LFDI)	0.004424	0.006159	0.718263	0.4863
D(LEX)	0.012595	0.004942	2.548516	0.0255
D(LIM)	-0.014356	0.011811	-1.215477	0.2475
D(LRM)	0.003698	0.017108	0.216162	0.8325
D(LED)	-0.002452	0.000792	-3.096435	0.0093
D(LTX)	0.030718	0.005807	5.289516	0.0018
CointEq(-1)	-0.845746	0.377734	-2.238998	0.0397

Cointeq = RGDPG - (0.0160*LFDI + 0.0111*LEX -0.0445*LIM + 0.0478*LRM -0.0022*LED + 0.0151*LTX + 1.5611)

Source: Eviews 9.0 Output

According to table 5.6, the results reveal that one year lagged RGDPG has a positive effect on the current year's economic growth in Ethiopia in the short run. However, the result is statistically insignificant.

On the other hand, FDI has a positive but statistically insignificant effect on economic growth in Ethiopia in the short run. This result is in harmony with the long run result. Hence, this result reveals that FDI has a positive impact on economic growth in Ethiopia for the study period even in the short run.

The results reveal that export has a positive effect on economic growth in Ethiopia in the short run. It is found that export as a proportion of GDP has a positive and statistically significant effect on economic growth in Ethiopia at 5 percent level of significance. The results show that on average a 1 percent increase of export in GDP brings approximately a 0.013 percent increase in the real GDP growth of Ethiopia in the short run, ceteris paribus. Moreover, the short run result for export goes along with the long run result.

The results for import in the short run resemble the long run results, except for its significance. Import has a negative effect on economic growth in Ethiopia in the short run though it is statistically insignificant. Hence, the results reveal that import has not positively impacted the economic growth of Ethiopia for the study period even in the short run.

Regarding remittance, the results reveal that remittance has a positive but statistically insignificant effect on economic growth in Ethiopia in the short run. This short run result for remittance is in harmony with the long run results except being insignificant in the short run.

On the other hand, the results reveal that external debt has a negative and statistically significant effect on economic growth in Ethiopia in the short run. The negative effect of external debt on economic growth in the short run goes along with the long run result. According to table 5.6, external debt in GDP is statistically significant at 1 percent level of significance showing that on average a 1 percent increase of external debt in GDP brings about 0.002 percent decrease in the real GDP growth of Ethiopia in the short run, ceteris paribus.

The results for tax revenue reveal that tax revenue has a positive and statistically significant effect on economic growth in Ethiopia in the short run. This short run result for tax revenue is in harmony with the long run result. In the short run, tax revenue in GDP is statistically significant at 1 percent level of significance showing that on average a 1 percent increase of tax revenue in GDP brings approximately 0.031 percent increase in the real GDP growth of Ethiopia in the short run, ceteris paribus.

Finally, it is essential to interpret the error correction term's coefficient as it has significant meaning. The error correction term (specified as CointEq(-1) under table 5.6) estimates the speed at which a dependent variable returns to equilibrium after a change in an independent variable. Moreover, the coefficient of the error correction term should have a negative sign and has to be statistically significant. Accordingly, the short run error correction estimate of this study reveals that the error correction term's coefficient being -0.85 is statistically significant at 5 percent level of significance. Hence, 85 percent of deviations from the long term equilibrium are adjusted every year.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

This study has been conducted with the aim of examining the effects of FDI, exports and imports on economic growth of Ethiopia as the findings of other researches were mixed and inconclusive in this area. The study employed secondary data from different reliable sources for the period 1992 to 2017. Through the use of ARDL model the long run and short run results were estimated.

ARDL model was applied since the stationarity test revealed that some of the variables of this study were stationary at level whereas the remaining were stationary at first difference necessitating for the application of the ARDL model. The bounds test for cointegration was conducted and found out that there exists a long run relationship among the variables of this study. Next, diagnostic and model stability tests were undertaken and the reliability and soundness of the model was assured before proceeding to the estimation of the long run coefficients and the short run dynamics.

First, the regression results revealed that FDI had a positive but insignificant impact on economic growth of Ethiopia both in the long run and short run for the given study period. This could be associated with the favorable effects of FDI on the economic growth of Ethiopia. However, FDI's insignificant effect on economic growth both in the long run and short run are mainly due to the shortness of the sample period and the improvements shown in FDI inflows only after the year 2012.

Second, export has a positive and significant impact on economic growth of Ethiopia both in the long run and short run. The results showed that export trade is one of the economic growth determinants in Ethiopia and export growth positively and significantly affects economic growth in Ethiopia. Hence, this positive effect of exports can be associated with its significant

contribution in meeting the foreign exchange gap and reducing dependence on foreign aid according to Alekaw (2016).

Third, the effect of import on economic growth of Ethiopia was examined and found out that imports had a negative impact on the economic growth of Ethiopia both in the long and short run, though, the short run impact was found to be insignificant. The negative result of imports could be due to the adverse effect it brings on domestic companies and its negative consequences on the balance of payments.

Coming to the control variables of this study, remittance was found to positively affect economic growth of Ethiopia both in the long and short run. However, remittance's effect in the short run was found to be insignificant. The positive result could be associated with remittance's contribution in increasing the output level of the country as the money received from remittance is spent either on consumption or investment.

The other control variable being external debt has a negative and statistically significant effect on economic growth of Ethiopia both in the long and short run. In general, the negative effect of external debt could be attributed to accumulated external debt leading to future debt service burden requiring some portion of the country's output to be repaid back in foreign currency which lowers economic growth.

Finally, tax revenue was found to positively and significantly affect the economic growth of Ethiopia both in the long and short run. This positive result could be attributed to the government's effort to invest back tax money on mega projects, public goods and services, etc.

6.2. Recommendations

According to the findings of this study, different measures need to be taken by the Ethiopian government in order to ensure sustainable economic growth. Different recommendations have been forwarded in line with the findings of each variable of this study below.

First, a significant long run relationship was not found between FDI and economic growth in Ethiopia. Although FDI was found to positively affect economic growth both in the long and short run, the trend for FDI's inflow reveals that the figures were low and fluctuated during the period 1992 – 2012 and showed a significant increase only after the year 2012. Hence, the Ethiopian government needs to carefully examine the effects of FDI in the coming years as the significance of FDI on the economic growth of Ethiopia could change in the future. However, the Ethiopian government could sustain pursuing its export-oriented FDI policy in attracting foreign investors since exports have been found to positively and significantly affect economic growth of Ethiopia.

Second, it has been found that exports positively and significantly affect economic growth of Ethiopia both in the long and short run. Export is essential in meeting the foreign exchange gap of the country and reduces dependence on foreign aid. Therefore, the Ethiopian government has to continue with its current policy of promoting, expanding and diversifying the exporting capacity of the economy.

Third, the effect of import on the Ethiopian economic growth has been found to be negative and significant in the long run although its short run effect is insignificant. Moreover, the study has showed that the trade liberalization program adopted in 1992 has led to a large increase in imports than exports and as a result a widening gap between the two variables has occurred. Hence, different measures like import substitution and strengthening local industries must be done by the government.

Fourth, remittances have been found to positively and significantly affect Ethiopian economic growth in the long run although their effect is insignificant in the short run. Therefore, government has to welcome this fund since it has a positive effect on the economy. Moreover government has to make efforts to encourage remittances sent through banks and discourage those sent through other illegal channels.

Fifth, external debt is found to negatively and significantly affect Ethiopian economic growth both in the long run and in the short run. Accumulation of external debt is found to be harmful

for the Ethiopian economic growth necessitating for the government to look for other possible means of financing its foreign currency deficits.

Lastly, the effect of tax revenue on Ethiopian economic growth has been found to be positive and significant both in the long and short run. This implies that tax revenue has a favorable effect on the Ethiopian economy both in the long and short run. Hence, the government has to prudently allocate the tax revenue it collects in such a way that benefits the economy.

6.3. Areas for Further Research

This study has examined the effects of FDI and international trade on Ethiopian economic growth. The data used for this study include total FDI inflows, export of goods and services and import of goods and services. However, future studies on this subject could be conducted by disaggregating FDI by specific sectors such as manufacturing, agriculture, etc. and separating exports and imports into goods and services. This is highly beneficial in implementing specific and informed policy decisions on specific sectors.

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APPENDIX I – Full Augmented Dickey-Fuller Unit Root Test Results

Variable	Test Statistics									Order of Integration
	Intercept			Trend and Intercept			No Trend and No Intercept			
	I(0)	I(1)	I(2)	I(0)	I(1)	I(2)	I(0)	I(1)	I(2)	
RGDPG	-5.49216*	-4.59792*	-5.00543*	-3.79202*	-4.45231*	-4.80297*	-0.29855	-6.15590*	-5.19511*	I(0)
LFDI	-22.5145*	-21.8889*	-7.30078*	-21.5564*	-20.0595*	-7.05808*	-20.8083*	-22.7232*	-7.48599*	I(0)
LEX	-4.23990*	-4.56769*	-5.28954*	-3.14101	-3.91374*	-5.28220*	0.34742	-4.71027*	-5.28687*	I(0)
LIM	-4.96877*	-7.29356*	-10.7187*	-2.97082	-4.53477*	-10.2124*	1.06139	-7.46022*	-10.8920*	I(0)
LRM	-2.00679	-5.34923*	-5.91796*	-2.70439	-5.33718*	-5.81392*	-2.19320*	-5.37613*	-6.10387*	I(1)
LED	-1.12951	-3.70252*	-7.19288*	-1.35448	-3.67388*	-7.10755*	-0.76674	-3.72307*	-7.35847*	I(1)
LTX	-2.37701	-4.82321*	-5.11648*	-2.28772	-4.77827*	-5.07624*	0.83084	-4.73501*	-5.23774*	I(1)

Note: * implies rejection of the null hypothesis (presence of unit root) at 5% significance level

Source: Eviews 9.0 Output

APPENDIX II – ARDL Estimation Results

Dependent Variable: RGDPG
Method: ARDL
Sample (adjusted): 1994 2017
Included observations: 24 after adjustments
Maximum dependent lags: 2 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (1 lag, automatic): LFDI LEX LIM LRM LED LTX

Fixed regressors: C
Number of models evalulated: 128
Selected Model: ARDL(2, 1, 1, 0, 1, 0, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
RGDPG(-1)	0.059227	0.155911	0.379875	0.7107
RGDPG(-2)	-0.196097	0.115751	-1.694126	0.1160
LFDI	0.004424	0.006159	0.718263	0.4863
LFDI(-1)	0.013720	0.006109	2.245749	0.0443
LEX	0.012595	0.004942	2.548516	0.0255
LIM	-0.014356	0.011811	-1.215477	0.2475
LIM(-1)	-0.036177	0.014062	-2.572692	0.0244
LRM	0.003698	0.017108	0.216162	0.8325
LRM(-1)	0.050591	0.019308	2.620147	0.0224
LED	-0.002452	0.000792	-3.096435	0.0093
LTX	0.030718	0.005807	5.289516	0.0018
C	1.774751	0.492045	3.606890	0.0036

R-squared	0.811829	Mean dependent var	0.078746
Adjusted R-squared	0.639340	S.D. dependent var	0.045975
S.E. of regression	0.027610	Akaike info criterion	-4.034413
Sum squared resid	0.009148	Schwarz criterion	-3.445387
Log likelihood	60.41296	Hannan-Quinn criter.	-3.878144
F-statistic	4.706539	Durbin-Watson stat	2.467238
Prob(F-statistic)	0.006392		

*Note: p-values and any subsequent tests do not account for model selection.

APPENDIX III – ARDL Bounds Test Results

ARDL Bounds Test
Sample: 1994 2017
Included observations: 24
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	4.186083	6

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

Test Equation:
Dependent Variable: D(RGDPG)
Method: Least Squares
Sample: 1994 2017
Included observations: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDPG(-1))	0.159900	0.151122	1.058086	0.3109
D(LFDI)	-0.005265	0.006417	-0.820478	0.4279
D(LIM)	0.054487	0.121936	0.446847	0.6629
D(LRM)	-0.016745	0.021247	-0.788087	0.4459
C	0.042932	0.428745	0.100135	0.9219
LFDI(-1)	-0.000251	0.008857	-0.028383	0.9778
LEX(-1)	-0.003955	0.005788	-0.683272	0.5074
LIM(-1)	0.061314	0.136728	0.448437	0.6618
LRM(-1)	0.047129	0.019803	2.379957	0.0348
LED(-1)	0.000258	0.000694	0.372069	0.7163
LTX(-1)	-0.009444	0.006785	-1.391828	0.1892
RGDPG(-1)	-1.335861	0.302367	-4.418004	0.0008

R-squared	0.779958	Mean dependent var	-0.001204
Adjusted R-squared	0.578253	S.D. dependent var	0.055728
S.E. of regression	0.036191	Akaike info criterion	-3.493158
Sum squared resid	0.015717	Schwarz criterion	-2.904131
Log likelihood	53.91790	Hannan-Quinn criter.	-3.336889
F-statistic	3.866826	Durbin-Watson stat	2.121586
Prob(F-statistic)	0.014122		