

IS FOREIGN TRADE PROMOTING ECONOMIC GROWTH IN ETHIOPIA?

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Is Foreign Trade Promoting Economic Growth in Ethiopia?

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Declaration

I, the undersigned, declare that this thesis with title “IS FOREIGN TRADE PROMOTING ECONOMIC GROWTH IN ETHIOPIA”? is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the thesis have been dully acknowledged.

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Content	page no
Acknowledgement.....	i
Table of Contents.....	ii
List of table.....	v
Acronyms.....	vi
Abstract	vii
CHAPTER ONE: INTRODUCTION.....	1
1.1. Background of the Study.....	1
1.2 Statement of the Problem.....	4
1.3 Objective of the Study.....	7
1.4 Research question.....	7
1.5 Significance of the Study.....	8
1.6 Scope of the Study.....	8
1.7 Limitation of the Study.....	8
1.8 Organization of the Study.....	8.
CHAPTER TWO: LITERATURE REVIEW.....	10
2.1. Theoretical Review.....	10
2.1.1 Theories and Definitions of Economic Growth.....	10
2.1.1.1 Neo-Classical Growth.....	10
2.1.1.2 Endogenous Growth Theory.....	11
2.1.1.3 Harrod – Domar Growth Model.....	12
2.1.2 Theories of Foreign Trade as an Engine to Economic Growth.....	13
2.1.2.1 Trade Based on Absolute Advantage; Adam Smith.....	14
2.1.2.2 Trade Based on Comparative Advantage; David Ricardo.....	14
2.1.2.3 New Trade Theories of International Trade.....	15
2.2 Determinant of Foreign Trade.....	16
2.2.1 Trade costs: tariffs and transport costs.....	16
2.2.2 Geography and the Role of Distance.....	17

2.2.3 Technological Innovation.....	18
2.3 Empirical Review.....	19
CHAPTER THREE: METHODOLOGY.....	27
3.1 The data, Data Description.....	27
3.2 Model Specification.....	28
3.3. Description of variables and Their Assumption.....	29
3.3.1. Dependent variable.....	29
3.3.2. Independent variables.....	30
3.4 Stationary Test.....	32
3.5 Co-integration Test.....	36
3.6 Error Correction Model (ECM).....	39
CHAPTER FOUR.....	41
RESULTS AND DISCUSSIONS.....	41
4.1 Trends of GDP growth and Variables.....	41
4.2. Summary statistics.....	43
4.3. Test for Stationarity.....	44
4.4. Engel Granger test for Co integration.....	45
4.5. Long Run Model.....	46
4.6 Error Correction Model.....	48
4.9 Diagnostic test.....	49
4.9.1 Test of Normality of Residuals.....	49
4.9.2 Test for Heteroskedasticity.....	50
CHAPTER FIVE.....	51
CONCLUSION AND POLICY IMPLICATION.....	51
5.1. Summary and Conclusions.....	55
5.2 Policy Implication.....	57
REFERENCE	58

List tables

Table	Page
Bi chart 2.3 Bi chart showing impact of trade on the economic performance.....	25
Graph 4.1 Graph showing relationship between GDP and variables	43
Table 4.2: Summary of the Statistics of the main data sample.....	45
Table 4.3.1 Table for test zero lag stationary.....	46
Table 4.3.2 Table for test stationary first lever	47
Table 4.4: Table to test for co integration.....	48
Table 4.6 Table to test for short run model	50
Table 4.9.1 Table test for Normality.....	51
Table 4.9.2 Table test for Hetroskedesticity	52

ACRONYMS

ADF: Augmented Dickey fuller test

AEG: Augmented Engle Granger

AGOA: African Growth and Opportunity Act

BOP: Balance of Payment

CF: Capital Formation

COMESA: Common Market for Eastern and South Africa

DF: Dickey Fuller test

DSP: Differenced Stationary

EBA: European Banking Authority

ECM: Error Correction Model

EG: Engle Granger

FAO: Food and Agricultural organization

FDI: Foreign Direct Investment

FDRE: Federal Democratic Republic Ethiopia

GDP: Gross Domestic Product

IMF: International Monetary Fund

LDC: Less Developed Country

MOFED: Ministry of Finance and Economic Development

NBE: National Bank of Ethiopia

OECD: Organization for Economic Cooperation and Development

OLS: Ordinary Least Square

RWM: Random Walk Model

TOT: Terms of Trade

TSP: Trend Stationary

UK: United Kingdom

UNCTAD: United Nation Conference on Trade and Development

UNDP: United Nation and Development Program

UNIDO: United Nation Industrial Development Organization

WTO: World Trade Organization

ABSTRACT

This paper examines the impact of foreign trade on economic growth using in Ethiopia as a case study. Theoretical postulations assert the positive effect of trade on economic growth, but empirical evidences are inconclusive. While some studies find trade to be beneficial to all countries engaging in it, others argue that trade has only benefitted developed countries at the expense of less developed ones. Contributing to this argument is the core of this study. This study makes use of the ordinary least square techniques to examine the effect of trade on economic growth in Ethiopia using data from 1982 to 2013. The result of the study shows that trade, foreign direct investment, government expenditure, export, labor force, and capital formation have a significant positive impact on economic growth in Ethiopia while exchange rate and import has a negative impact. Based on the finding, we recommend that government should create an enabling environment that would facilitate trade and foreign direct investment. Efforts should also be geared towards improving expenditure and ensuring exchange rate stability.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

The word Trade has been defined as “the activity in which people are buying and selling or exchanging the goods and services” (Oxford Advanced Learner dictionary). International trade is the exchange of capital, goods, and services across international borders. It is a system where the goods and services are advertised, sell and switched between two or more than two countries through import and export. It consists of Export, Import and Entrepot. Import trade is the purchase of goods by one country from another country or its inflow of good and service from foreign country to home country. Export trade refers to the sale of a good by one country or outflow of good from home country to foreign country, while the Entrepot trade which is also known as Re-export, it refers to the purchase of goods from one country and then selling back them to another country after some processing operation. (Kumar, 2009).

The concept of international trade comes in to being with an emergence of modern human society. International trade is an inter locking linkage among different nations involving the exchange of goods and services, that is, exports and imports with the guiding principles of comparative advantage, which indicate that every country, no matter their level of development can find something that it can produce cheaper than another country (Nathnale, 2002).

The law of comparative advantage originated by David Ricardo in 1817 by his book “the principle of political economy and taxation”. According to David Ricardo the law of comparative advantage states that, even if one nation is less efficient than (has an absolute disadvantage with respect to) the other nation in the production of both commodities, there is still a basis for mutually beneficial trade. The first nation should specialize in the production and export of the commodity in which its absolute disadvantage is smaller (this is the commodity of its comparative advantage) (Salvatore, 2004).

Foreign trade enlarges the market for a country's output, As far as the interaction between International trade and Economic growth is concerned, we found two main ideas to point out in Smith (1776). On one hand, International trade made it possible to overcome the reduced dimension of the internal market and, on the other hand, by increasing the extension of the market, improved labor division and the productivity increased.

The International trade would therefore constitute a dynamic force capable of intensifying the ability and skills of workers, of encouraging technical innovations and the accumulation of capital, of making it possible to overcome technical indivisibilities, it will help in expanding exports, which may also provide greater employment opportunities; the possible of increasing exports may also reveal the underlying investment in a particular country and thus assist in economic growth; this will lead to the creation of new effective demand for a number of commodities in the domestic market will also get a big boost and, generally speaking, of giving participating countries the possibility of enjoying Economic Growth.

By using these mechanism countries trade each other to reap the benefit of international trade as a way to fuel their economic growth.

The basis for foreign trade rests on the fact that nations of the world do differ in their resource endowment, preferences, technology, scale of production and capacity for growth and development. Countries engage in trade with one another because of these major differences and foreign trade has opened up avenues for nations to exchange and consumer goods and services which they do not produce or goods that the country has a comparative advantage over the trading partner. Differences in natural endowment present a case where countries can only consume what they have the capacity to produce, but trade enables them to consume what other countries produce. Therefore countries engage in trade in order to enjoy variety of goods and services and improve their people's standard of living.

Less developed countries (LDC's) share in the global trade is very small. In 2007, the share was only 0.8%, which was commensurate with their GDP share in global GDP (WTO, 2009). Traditionally, both markets and product concentration of LDC's are

narrow although recently expanding. The oil and mineral exporting of LDC's have experienced faster growth in the recent years due mainly to the fuel price hikes since 2003. LDC exports of manufactured goods and primary products have a negative trade balances. LDC's are strongly dependent on the export sector for the sake of its foreign currency earnings to import machinery advanced technological products and equipment's. They based their exports on the primary commodities that are mostly agricultural products, these export of primary commodities are characterized by a high fluctuation in price and volumes in international market (UNCTAD, 2010).

According to Lawrence Edward and Phil Alves's investigation on the determinant of LDC's manufactured export performance using estimated export supply and functions in case of South Africa and find that many LDC's manufacturers are on average price takers in the international market and their exports are predominantly supply driven. This indicates that the export of primary commodities is not reliable and cannot support sustainable economic growth. Thus, LDC's should process these primary commodities into finished or semi-finished goods in order to increase the earning and probably reliability of international market participation (Salvator, 1993).

Like other Sub- Saharan countries Ethiopia is a typical example of LDC's with high balance of payment (BOP) deficit, deteriorated terms of trade (TOT) and dominance of agricultural sector in terms of employment creation, value added and export earnings. Furthermore, the economy is characterized by low volume of exportable products, the limited degree of diversification on exports, unprocessed primary products (low relative sophistication on exports), frequent international economic crisis which substantially reduce the demand for and price of primary products, artificial trade barriers by trading partner and political factors.

The base of Ethiopian export earnings are primarily on primary commodities which price is set by the international market price setter and receive a fluctuate price for their commodity. Among these primary commodities coffee, hides and skin, chat, flower, oil seeds are the major exports of the country. In terms of the destination of exports so far about 72.8% of total Ethiopian export goes to only seven specific countries of the world such as Germany, USA, Italy, France, UK, Japan, and Saudi Arabia. Over the past 10 years this patterns seems to have remained unchanged (Alemayehu, 1999).

While the import of Ethiopian commodity is characterized by the import of capital goods, which the export cannot pay back, according to Prebisch Singer Hypothesis the terms of trade between the primary goods and manufactured product deteriorate over time. What this means is that countries that export primary goods that do not have the means to manufacture goods to export will lose out in the long run, as their goods will become relatively cheaper than the manufactured ones. A common explanation for the phenomenon is the observation that the income elasticity of demand for manufactured goods is greater than that for the primary products, especially food. Therefore, as income rise, the demand for manufactured goods increases more rapidly than demand for primary products.

1.2 Statement of the Problem

The good domestic policy including huge government expenditure on improving infrastructure as a way of making domestic market accessible to the international arena and good internal condition towards the export and import sector plays a vital role for the good performance of a country, having a good trading partner in the sense that their economic performance and their geographical location for generating a possible foreign currency will also play an important role for Economic performance of a country .

There has been increasing interest in the study of foreign trade and its benefits particularly to developing countries. Until recently, there has been a general consensus that every country benefits from trade. However, recent empirical investigation has shown that less developed countries have not benefitted from trade as much as their developed counterparts. Besides, the poor state of these economies in terms of gross domestic product, per capita income, unemployment, human capital and poverty level despite several decades of participation in trade has further heightened the trade-development debate.

Over the past two decades, developing countries have progressively increased their share in global trade from less than one quarter to about one third. Asia and particularly China account for most of the change, which has been facilitated by diversification of exports. While developing Asia's share in total world exports increased from 11.7% in 1985 to

21.5% in 2005, Africa's share decreased from 4.3% to 2.9% over the same period (Bacchetta, 2007). Deep rooted structural problems, weak policy frameworks and institutions, protection at home and abroad (IMF and World Bank, 2001), and the structure of African exports, which is characterized by dependence on primary commodities (Alemayehu, 2006; Biggs, 2007; UNCTAD, 2008) are considered as the reasons for Africa's poor export performance.

Ethiopia as a part of LDC's its economy is characterized by erratic nature of macroeconomic inconsistency, like balance of payment (BOP) deficit and deteriorated terms of trade (TOT).

As it's dependency on few vulnerable crops for its foreign exchange earnings and reliant on imported oil, Ethiopia lacks sufficient foreign exchange earnings. The financial conservative government has taken measure to solve this problem, including stringent import controls and subsidies on retail gasoline prices. Nevertheless the largest subsistence economy is incapable of supporting high military expenditure, drought relief and ambitious development plan and indispensable import such as oil (Lages, 2002).

In the year 2007 the Ethiopian gain from export is \$2,957 billion birr by exporting coffee (with the highest share), gold, leather products, live animal and oilseed. The main destinations for Ethiopian exports are German (14.2%), China (12.2%), Belgium (7.8%), Saudi Arabia (6.8%), USA (6.3%) and Italy (5.1%), (MOFED, 2010, Ethiopian Economic Report). As compared to the gain and trading partner for export, the expenditure for imports and the destination of imports are so wide different. In 2011 the total expenditure for imports is \$ 9,694 billion by importing expensive material which even not compared to the gain from exports like Petroleum, and petroleum products, textile, cereals, motor vehicles, machinery and chemicals. The major trading partner for these products is Saudi Arabia (10%), China, USA (7.6%) and India (4.6%) (MOFED 2010, ETHIOPIAN ECONOMIC REPORT)

Despite the fact that the volume of trade for the country is increasing as compared to the preceding years, the nature of the trade continued to be primary commodity export and capital goods import dominated as export diversification is at very low stage and there is a growing and high import demand because of investment in infrastructure and different construction activities. In 2013/14, Ethiopia's merchandise exports valued at USD 3.25

billion 5.6 percent higher compared to US\$ 3.15 billion in 2011/12. The increase in this year's export was mainly the result of increase in export of oilseeds by US\$208 million, in turn resulting from increased export volume (UNDP Report, 2014).

However, Ethiopia's share in total world exports is still very low, amounting to 0.01% in 2006 (WTO, 2007). In this regard, Alemayehu (1999) and Abay and Zewdu (1999) argue that Ethiopia's external trade has major problems both on the supply side – its dependency on few primary products, characterized by large fluctuations in volume; and a very high degree of concentration of exports on few commodities – and on the demand side – a low income elasticity for the type of commodities that Ethiopia exports, declining prices for its exports, and limited destinations for Ethiopian exports.

Both supply and demand side problems are typical African problems: For example, more than 50% of African countries' export earnings are derived from only three principal commodities such as coffee, tropical beverages and cocoa (Alemayehu, 2006). On the other hand, international organizations have often recognized that Africa's exports still face market access problems in the international markets (UNIDO, 2002; UNCTAD, 2008).

Even though foreign trade of the country is surrounded from both supply and demand side problems, Ethiopian volume of trade has increased over the past few years without a corresponding and major increase in growth and development. The Impact of foreign trade on Ethiopian economy is significant by bringing capital formation, foreign currency and more technology, and on the same manner the classical and neo-classical schools of thought see foreign trade as beneficial to growth and development, other schools/authors hold that foreign trade has only contributed to international inequality, a situation where developed countries have become richer at the expense of less developed ones.

Empirical studies have also not been conclusive. For instance, according to Appleyard et al. (2006), there is a common misconception that China's economic growth is taking place at the expense of its many trading partners-Ethiopia being its largest trading partner in the region. However, in contrast to the above assertion, a critical overview of the impact of Chinese investment and trade on the growth and development of Ethiopia as explicated by UNDP (2013), the economic relationship is one-sided, with China providing large amounts of foreign trade (often tied to infrastructure projects undertaken

by Chinese firms), growing Chinese investment in the Ethiopian economy and with imports of cheap consumer goods from China greatly exceeding exports from Ethiopia to China.

1.3 Objective of the Study

The General objective of the study is to assess the impact of international trade on Ethiopian Economy; accordingly the paper has the following specific objective

- To investigate whether foreign trade promotes or hinders economic growth.
- To investigate the policies that the country is undertaking towards its domestic market, FDI, exchange rate and other variables to facilitate foreign trade.
- To investigate the variables that mostly affects the foreign trade growth in Ethiopia.
- To identify other factors that influence economic growth in Ethiopia.

1.4 Research question

To conduct some theoretical and empirical tests, this study is based on the following research questions. Such as;

- Is foreign trade promoting or hindering the economic growth of the country?
- What are the policies that the country is undertaking towards its domestic market, FDI , exchange rate and other variables to facilitate foreign trade?
- What are the variables that mostly affect the foreign trade growth in Ethiopia?
- What are other factors that influence economic growth in Ethiopia?

1.5 Significance of the Study

By providing useful information, this study is significant in providing a good policy option towards trading partners, FDI priorities, government expenditure towards facilitating good inter regional trade and as well as to upgrade the existing investigations and serves as a ground for the further studies to be carried out this area. And also for one country building strong export sector and having favorable trade balance is one of the decisive issues for sustainable economic development. So identifying the impact of foreign trade with certain variables is significant for policy recommendation and for firms engaged in the foreign trade.

1.6 Scope of the Study

The study is confined to investigate the impact of foreign trade on Ethiopian economies the study is expected to be limited in time space as it cover only 31 years, and relevance as we having data from different sources. The study is based on 31 year time-series data covering the period from 1982-2013. The whole analysis of the study is conducted using annual data exclusively based on Ethiopia.

1.7 Limitation of the Study

Moreover; the study is limited due to lack of relevant data for a wide range of choice variables and lack of well organized data which gives more information about the relationship between GDP growth and other variables in the study.

1.8 Organization of the Study

The paper is organized in five chapters. The first chapter of the study includes introductory parts such as background, statement of the problem, objective, methodology and the like. The next chapter briefly summarizes both theoretical and empirical evidence of the previous studies on foreign trade and its determinants. The third chapter starts by model specification, methodology and data analysis. The fourth chapter deals with

analysis, empirical results and discussions of the analyzed data. Finally the last chapter gives certain conclusions and policy implication depending on the finding of the study.

CHAPTER TWO: LITERATURE REVIEW

This chapter is composed of three parts. The first part is the theoretical framework .In this part the general definition and related theories of foreign trade for Economic growth will be reviewed. In the second section the empirical evidences on foreign trade and its effect in Economic Growth for the case of developed and developing countries will be examined and at the end of the chapter determinant of economic growth and models specification will be considered.

2.1. Theoretical Review

In this section definition of foreign trade and Economic growth, theories of foreign trade as engine of growth will be presented. Also determinants of foreign trade will be examined.

2.1.1 Theories and Definitions of Economic Growth

Economic growth is best defined as a long term expansion of productive potential of the economy. Trend growth is the smooth path of long run national output i.e. it requires a long run series of macroeconomic data which could be twenty years or more. The trend of growth could be expanded by raising capital investment spending as a share of national income as well as the size of both capital inputs and labor supply, labor force and the technological advancement. (Kedir, 2012). There are different schools of thought that have discussed the causes of growth and development and they are:

2.1.1.1 Neo-Classical Growth

This was first propounded by Robert Solow over 40 years ago. The model believes that a sustained increase in capital investments increased the growth rate only temporarily, because the ratio of capital to labor goes up. The marginal product of additional units is assumed to decline and thus an economy eventually moves back to a long term growth-path with the real GDP growing at the same rate as the growth of the work force plus factor to reflect improving productivity. Neo-classical economists who subscribe to the

Solow model believes that to raise an economy long term trend rate of growth requires an increase in labor supply and also a higher level of productivity of labor and capital. Differences in the rate of technological change between countries are said to explain much of the variation in growth rates. The neo-classical models treat productivity improvements as an exogenous variable which means that productivity improvements are assumed to be independent of the amount of capital investment. (Mankiw, 2000)

2.1.1.2 Endogenous Growth Theory

To them, they believed that improvements in productivity can be attributed directly to a faster pace of innovation and extra investment in human capital. They stress the need for government and private sector institutions to encourage innovation and provide incentives for individual and business to be inventive. There is also central role of the accumulation of knowledge as a determinant of growth i.e. knowledge industries such as telecommunication, electronics, software or biotechnology are becoming increasingly important in developed Countries.

The proponent of endogenous growth theory believes that there are positive externalities to be exploited from the development of a high value added knowledge economy which is able to develop and maintain a competitive advantage in fact growth within the global economy. They are of the opinion that the rate of technological progress should not be taken as a constant in a growth model- government policies can permanently raise a country growth rate if they lead to move intense competition in markets and help to stimulate product and process innovation.

That they are increasing returns to scale from new capital investment and also private sector investment is a key source of technical progress and that investment in human capital is an essential ingredient of long term growth. (Economic Growth Barro, R and Martin, XS)

The Economic Growth theory also suffered significant developments with the models of endogenous Economic growth. These models identify the moving force of growth, its respective dynamics and the forces that influence its accumulation (case of the International trade). Thus, these placed the accumulation of human capital and the

production and the diffusion of technological innovations in the forefront. The parallelism of these elements with the evolution of the theory of International trade isn't accidental. In fact, the models of endogenous Economic growth evolved towards an integrated analysis of the Economic growth and of the International trade recovering in this sense the classical tradition that had been interrupted with the neoclassical separation.

The models of endogenous Economic growth did not come about by accident. Being concerned with the exact microeconomic foundations, they are consequence of the general development of economic theory. We should mention the developments and dissatisfaction with Solow's work, the earlier studies of themes such as learning by doing [Arrow (1962)], the role of human capital [Uzawa (1965)], increasing returns to scale [Kaldor (1961)] and even the idea of per capita growth sustained by increasing income from the investment in capital goods, which include human capital, dating back to Knight (1944); as well as the inspiration provided by countless authors which have already been mentioned, since Adam Smith.

In accordance with this recent developments, we open the section with a brief and special reference to Lucas' second model (1988) and to the models of endogenous Research and Development (R&D) devised by Romer (1990 and 1993), Grossman and Helpman (1990, 1991a and 1991b) and Aghion and Howitt (1992).

2.1.1.3 Harrod – Domar Growth Model

Harrod-Domar opined that economic growth is achieved when more investment leads to more growth. The theory is based on linear production function with output given by capital stock (K) times a constant. Investment according to the theory generates income and also augments the productive capacity of the economy by increasing the capital stock. In as much as there is net investment, real income and output continue to expand. And, for full employment equilibrium level of income and output to be maintained, both real income and output should expand at the same rate with the productive capacity of the capital stock.

The theory maintained that for the economy to maintain a full employment, in the long run, net investment must increase continuously as well as growth in the real income at a rate sufficient enough to maintain full capacity use of a growing stock of capital. This implies that a net addition to the capital stock in the form of new investment will go a long way to increase the flow of national income.

From the theory, the national savings ratio is assumed to be fixed proportions of national output and that total investment is Determined by the level of total savings i.e. $S = SY$ which must be equal to net investment I . The net investment which is $I = \Delta K = K\Delta Y$ because K has a direct relationship to total national income. And, therefore $SY = K\Delta Y$ which simply means $\Delta Y/Y$ is growth rate of GDP that is determined by the net national savings ratio, s and the national capital output, K in the absence of government, the growth rate of national income will be positively related to the saving ratio i.e. the more an economy is able to save and invest out of a given GDP, the greater the growth of GDP and which will be inversely related to capital output ratio. The basis of the theory is that for an economy to grow, it should be able to save and invest a certain proportion. . (Barro, R and Martin, 2000)

2.1.2 Theories of Foreign Trade as an Engine to Economic Growth

The international exchanges bring gains of welfare and efficiency of which benefit all the countries, no matter what their initial situations, their level of development, their technological level or their natural resources endowments are. These gains are different with respect to their belonging and the specialization is being underlined by the classical theories of Adam Smith and David Ricardo or by the advantages of the large markets, implied by the new trade theories [Krugman&Helpman, 1988].

The theoretical notation of strong export oriented foreign trade is believed to have originated with Mercantilists School of thought. According to mercantilist's view; the way for a notation to become rich and power full was to export more than it imported then the result exported surplus would then be settled by an inflow of bullion and precious metals. Therefore, the ordinary means to increase our wealth and treasure is by heavy export. Furthermore, one country's foreign market access, international

competitiveness and export performance is determined not only by its factor endowment but also by the nation's strength in terms of wealth, strong military power and diplomatic and political acceptability of the nation in the international arenas. Therefore, according to mercantilists wealth of nation and export performance has a vigorous relationship (Salvatore, 1990).

2.1.2.1 Trade Based on Absolute Advantage; Adam Smith

The theory of absolute advantage was formulated by Adam Smith in his famous book title "Inquiry into the nature and the wealth of Nation" 1776. The theory emanated due to the demise of mercantilism. Smith argued that with free trade each nation could specialize in the production of those commodities in which it could produce more efficiently than other nations and import those commodities it could not produce efficiently. According to him, the international specialization of factors in production would result in increase in the world output. Thus this specialization makes goods available to all nations. (Salvatore 1990).

In addition to this Adam Smith's model at foreign trade (export) postulates the existence of idle labor resources before countries are opened to world market. This further explains that, if resources are underutilized before the emergence of trade and it is possible to increase export without the decrease in domestic production. As a result most of the affecting factors of export performance a country stand from the supply side conditions (Meier, 1995).

2.1.2.2 Trade Based on Comparative Advantage; David Ricardo

One big question that A. Smith lagged to answer was that; what will be the structure of the trade and basis for export, if a country does not have an absolute advantage? David Ricardo addressed the answer of this question through the law of comparative advantage. The theory assumed the existence of two countries, two commodities and one factors of production. To him a country export the commodity whose comparative advantage lower and import commodity whose comparative cost is higher. The theory also assumed that

the level of technology is fixed for both nations and that trade is balanced and rolls out the flow of money between nations.

However, the theory is based on the labor theory of values which states that the price of the values of a commodity is equal to the labor time going into the production process. Labor is used in a fixed proportion in the production of all commodities. But the assumptions underlying is quite unrealistic because labor can be subdivided into skilled, semiskilled and unskilled labor and there are other factors of production. Despite the limitations, comparative cost advantage cannot be discarded because its application is relevant in explaining the concept of opportunity cost in the modern theory of trade. (Salvatore, 2004)

2.1.2.3 New Trade Theories of International Trade

The two important questions that left largely unanswered by Smith and Ricardo was that according to classical economists; comparative advantage was based on the difference in the productivity of labor (the only factor production that especially considered) among nations but they provided no explanation for such a difference in productivity. But the Heckscher-Ohlin theory goes much beyond that by extending the trade model of the previous two thinking's (Meier, 1995). The theory focuses on the differences in relative factor endowments and factor prices between nations on the assumption of equal technology and tastes. The Model was based on two main propositions; namely; a country will specialize in the production and export of commodity whose production requires intensive use of abundant resources. Secondly, countries differ in factor endowment. Some countries are capital intensive while some are labor intensive.

He identified the different in pre-trade product prices between nations as the immediate basis of trade, the prices depends on production possibility curve (supply side) as well as the taste and preference (demand side). But the production possibility curve depends on factor endowment and technology. To him, a nation should produce and export a product for which abundant resources is used be it capital or labor. The model suggests that developing countries are labor abundant and therefore they should concentrate in the Production of primary product such as agricultural product and they should import capital intensive product i.e. manufactured goods from the developed countries.

The model also assumes two countries, two commodities and two factors and that two factors inputs labor and capital are homogenous. The production function is assumed to exhibit constant return to scale. However, the theory is not free from criticism and this because factors inputs are not identical in quality and cannot be measured in homogenous units. Also factor endowments differ in quality and variety. Relative factor prices reflect differences in relative factor endowment- supply therefore outweigh demand in the determination of factor prices. Despite this criticism, trade increases the total world output. All countries gain from trade and it also enables countries to secure capital and consumption of goods from the rest of the world. (Krugman, 2003)

2.2 Determinant of Foreign Trade

2.2.1 Trade costs: tariffs and transport costs

Trends towards geographical regionalization and globalization have led to the decreasing role of tariff barriers as an influencing factor on trade. As a result, the relative importance of transport costs has increased, and these costs have become a relevant determinant of trade patterns. Depending on the continent, transport costs range between 8% and 13% of import values. In relation to artificial trade barriers, Lee and Swagel (1997) use disaggregated cross country, cross-industry data of manufactured goods in 1988. These authors measure levels of protection by country and industry and find that tariff and non-tariff barriers differ from one sector to another, and in general both of them are found to be lower between developed countries.

The higher tariff levels in developing countries may reflect the greater importance of tariff revenue in government finance. Their measures of protection by industry indicate that antidumping practices and other non-tariff barriers apply overall to trade on sensitive commodities (food products, beverages, textiles, apparel, iron and steel). Lee and Swagel (1997) only analyses data on total imports and exports for each country and their results indicate that trade barriers have a negative effect on imports, although there is no conclusive evidence of the relative importance of tariffs and non-tariff barriers on trade.

Using a different framework, Leamer (1990) finds that both tariff and non-tariff barriers have a large import-reducing effect. In contrast, Harrigan (1993) finds that tariffs are a

more substantial barrier to trade in manufactures between developed countries than non-tariff barriers using bilateral trade data. Recently, Anderson and van Wincoop (2004) point out that the use of non-tariff barriers was concentrated in a few sectors in 1999 (food products, textiles, apparel, timber and other manufactures).

The impact of tariffs in the analysis of trade determinants is therefore ambiguous. On the one hand, relatively high foreign tariffs would be associated with lower exports for an industry. In this case, tariffs increase costs and reduce trade. On the other hand, high foreign tariffs might be a response to countries' competition, indicating industries in which a country is comparatively strong. In what follows, the role of tariff barriers is studied more deeply from an empirical point of view.

2.2.2 Geography and the Role of Distance

The negative correlation between geographical distance and bilateral trade volumes is one of the most robust empirical findings in economics (Leamer and Levinsohn, 1995). However, it is still unclear exactly what information is embodied in the distance coefficients that are estimated in gravity regressions. Filippini and Molini (2003) state that "distance is much more than geography: it is history, culture, language, social relations and many other things". In recent studies, a number of authors have contributed to the debate on the interpretation of distance effects.

Factors such as informational costs, tastes and preferences, and unfamiliarity have been considered. Loungani et al. (2002) show that distance involves more than just transport costs and that informational cost may be behind the impact of distance on trade. Blum and Goldfarb (2006) find that distance is a good proxy for differences in tastes and preferences. Their results provide a new explanation for the persistence effect of distance in gravity regressions. This suggests that the distance effect in gravity will persist for a number of products even if transport costs, search costs and other trade barriers associated with distance are reduced to zero, which is the case to some extent for Internal trade.

For the distance effect to disappear there needs to be a homogenization of cultures. Huang (2007) shows that unfamiliarity can explain part of the negative correlation

between geographical distance and bilateral trade volumes. Interpreted to mean that trade is less likely to take place with more remote foreign countries could be misleading.

Ethiopia's trade costs are high both for imports as well as exports. The main effect of this is to reduce the share of two-way trade in its economic activity. Reducing these trade costs in a context of a high exchange rate and inadequate domestic supply capacity would predictably exacerbate the trade deficit and decimate domestic producers Ciurariu and Preville (2010)

2.2.3 Technological Innovation

International trade theory highlights the importance of technological innovation in explaining the international competitiveness of a country (Fagerberg et al., 1997). Recently, Freund and Weinhold (2004) justify the inclusion of internal variables in a bilateral trade model. Additionally, empirical applications show that heterogeneity matters in technological innovation. Loungani et al. (2002) distinguish between developed and developing countries when analyzing whether better information can substitute for geographical distance.

Their results point towards the existence of country heterogeneity in the different determinants of international trade since they show that technological innovation is a “substitute” for distance in developing countries (better information decreases the effect of distance), whereas technological innovation and distance are “complementary” in developed countries (better information magnifies the effect of distance). This may occur when trade in differentiated products dominates and physical proximity and high information technology reinforces each other in fostering trade. Developing countries can overcome the disadvantage of distance by investing in technological innovation.

This result is in the same line as Freund and Weinhold (2004), who show the importance of new technologies on trade as measured by Internal hosts. Martínez-Zarzoso and Márquez-Ramos (2005) divide the countries in a 62-country sample according to their level of economic development: high-income, medium-income and low-income countries. Technological endowments have a higher effect on trade in developing

economies. Moreover, Tang (2006) finds that the impact of information technology is higher for exports of differentiated goods from developing countries.

2.3 Empirical Review

Empirically, there appears to be good evidence that international trade affects economic growth positively by facilitating capital accumulation, industrial structure upgrading, technological progress and institutional advancement. Specifically, increased imports of capital and intermediate products which are not available in the domestic market may result in the rise in productivity of manufacturing (Lee, 1995). More active participation in the international market by promoting exports leads to more intense competition and improvement in terms of productivity (Wagner, 2007).

International trade brings welfare and efficiency gains to all countries irrespective of their initial conditions, level of development, technological abilities and natural resources endowments (Krugman and Helpman, 1988). Empirically, the effect of foreign trade on economic growth has been an important and controversial subject for several decades. A number of studies, using different approaches, have found growth to be enhanced by trade openness, or liberalization (Krueger, 1978; Feder, 1983; Ram, 1985 and 1987; Balassa, 1978 and 1985; Dollar, 1992; Edwards, 1998; Ben-David et al., 2000; among others).

On the other hand, some studies like Singer (1950), Prehisch (1962), Kavoussi (1985), Singer and Gray (1988), Sachs (1987 and 1989) and Taylor (1991) have argued that trade or trade expansion may not be beneficial for the economic growth of all countries at all times. Frankel and Romer (1999) find significant impact of trade openness on level of per capita income. They posit that trade possibilities enhance growth through greater capital stock, stock of education and higher total factor productivity. They, however, warned explicitly against drawing inferences for trade policies based on their results as it brings different factors into play.

Cooper (2001) addressed the influence of foreign trade and investment on growth via inequality and distribution of income in developing countries. He argued that survey of theory and empirical evidence are inconclusive. He states that there are no compelling

theoretical reasons to believe, in general, that trade promotes growth and empirical works supporting a connection at country level has been heavily criticized on methodological grounds (Rodriguez and Rodrick, 2000). He further argued 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. He concluded 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 promotes growth.

Rodriguez and Rodrik (2000) provided a critique of the various studies that concluded that liberal trade fosters growth. They found fault with the various data, variables, specifications and methodology adopted by most of these studies on the ground that they were based on anecdotes and case studies. They, however, supported Dollar and Kraay (2000) that debunked the generalizations of these studies by using international economic data for over 100 countries. In another study, Michael and Ruhwedel (2005) examined the link between production variety and economic growth using panel data for 14 transition countries. Their results show that open economies attain higher economic growth than closed ones. They attributed the gap to the role of international trade and co-operation.

Coe and Helpman (1995) using time-series data show that trade affect economic growth positively through technological transfer. Similarly, Bayoumi et al. (1999) assert that research and development, its spillover and trade play important roles in promoting economic growth both in industrial and developing countries. The results of Coe and Moghadam (1993) suggests that trade and capital have positive influence on growth in France. Lin (2000) investigated the relationship between trade and economic growth based on China's national data for the period 1952-1997. The results reveal that the growth rate of export, growth rate of import, growth rate of the volume of trade and labor force growth were positively related to economic growth.

Maddison (1998) showed that the gradual trade liberalization and capital flows in the OECD countries stimulated Western Europe's reconstruction, recovery and catch up growth. Also, the outward orientation, gradual trade liberalization and inward investment

in some East Asian countries like China, Hong Kong and Singapore have significantly contributed to their sustained economic growth.

Drabek and Laird (1998) noted that developing countries with progressively more liberal trade policies are those with growing ratios of trade, inward investments, and national income and its growth rates. Earlier studies by Singer (1950) and Prehisch (1962) disagreed with the widely held notion that free market and trade would solve the development problem in poor countries. They calculated the net terms of trade of developing countries and found that the terms of trade of these countries have worsened over the years. They concluded that the division of labour between rich countries and poor ones has brought about a state of underdevelopment in less developed countries.

A number of empirical studies on the relationship between export and economic growths have found export growth to be associated with increase in output or GDP (Michaely, 1977; Tyler, 1981 and Balassa, 1985). Michaely (1977) used simple regression and correlation analysis to investigate the relationship between exports and growth. He found that in less developed countries, there was a weak correlation. He, however, raised an important issue as to determine the minimum level of development a country has to attain in order to benefit from trade. As a follow-up on Michaely (1977) work, Tyler (1981) worked on a sample of 55 developing countries. He confirmed the positive relationship between expansion of exports and increase in production. In his analysis, he observed that it is necessary for some countries to achieve a minimum level of development in order to benefit from export expansion, especially of manufactured exports. This conclusion was later supported by Jude and Pop-Silaghi (2008) in the case of Romania.

Rana (1988) questioned Balassa (1985)'s finding that the contribution of exports to growth has increased in the post-1973 period compared with the pre-1973 period. He argued that Balassa's analysis used heterogeneous samples. He used a balanced sample of 45 developing countries and found that the contribution of export, although significant but reduced in the post-1973 period.

Also, some studies built on the import-growth relationship have found positive impact of import on growth especially through the impact of technology imports in the production process of developing countries (Perreira, 1996). Grossman and Helpman (1991)

demonstrated the importance of imports of foreign technology in the growth process of a country. He explained that the importation of foreign equipments creates a more efficient production system, increases productive capacity, global output, technological capacity development and economic growth.

International trade also impacts the economic growth of countries through the attraction of foreign direct investment (FDI). According to Lall (2000) and Te Velde (2001), the main channels through which FDI contributes to economic growth are technology transfer, capital accumulation, access to international market, job creation and managerial and marketing practices; and Blomstrom and Kokko (2003) added that trade and FDI can only facilitate growth after the minimum level of human capital, infrastructure and technology have been met (Karbasi et al., 2005).

Karbasi et al. (2005) analyzed the role of FDI and trade in promoting economic growth in 42 selected developing countries. They argued that FDI, human capital, trade and domestic investment are important source of economic growth for developing countries. They found a positive significant relationship between trade and growth. They concluded that the contribution of FDI to economic growth is enhanced by its positive interaction with human capital and sound macroeconomic policies and institutional stability.

This point is also confirmed by Jude and Pop-Silaghi (2008) who concluded that the FDI induced a false effect on growth in the Romanian economy when other factors of growth are omitted. In the same vein, Fogel (2006) opined that for China to achieve the desired objective of quadrupled rate of GDP by 2020, improvement in quality of education, political stability and institutions' quality should be the key major priorities. Fosu and Magnus (2006) examined the long-run impact of FDI and trade on economic growth in Ghana between 1970 and 2002.

Ciuriak and Preville (2010) conclude that attracting foreign investment can provide developing countries direct gains by increasing the level and growth of productivity in the host economy, increasing exports in the case of processing trade, improving the quality and variety of producer services for local firms, and generating resource rents in the case of extractive industries. Levine (2005), surveying the conflicting evidence and addressing the issue of causality (does FDI generate growth or does it seek out fast-

growing countries?) Conclude that there is no reliable cross-country evidence that FDI consistently induces higher growth, either through spillovers in the microeconomic studies or through macroeconomic channels.

With the existence of trade the developing countries can increase the volume of trade or the real income of the country on account of specialization. Trade also permits LDC's to gain from extension of market. The LDC's can use their unsold surplus labor and resource to produce in large scale and then they can export the surplus part, which can bring back in return something for which there is a demand at home.

However, most underdeveloped countries have not experienced a similar stimulus from trade. A few of the LDC's have been able to show a rapid increase in export of manufactured goods. But the majority of LDC's have continued to export traditional products, such as raw material and agricultural products; demand for which has grown at only a relatively low rate. The result has been a continual fall in their share of world exports (Sodersten, 1970).

In reviewing the empirical literature of the Ethiopian foreign trade, there are number of studies conducted by different individual with respect to the impact of foreign trade on the economic growth of Ethiopia as a whole and the impact of export and import sector, government expenditure, FDI, labor, capital formation on the economic growth of the country in particular will be considered.

According to the UNDP 2014 report, in 2013/14, Ethiopia's merchandise exports valued at USD 3.25 billion 5.6 percent higher compared to US\$ 3.15 billion in 2011/12. The increase in this year's export was mainly the result of increase in export of oilseeds by US\$208 million, in turn resulting from increased export volume.

Other major exports like coffee and gold suffered declines of 4.3 and 21.2 percent respectively due to decline in the prices of the commodities. In the same period, merchandise imports increased by 19.7 percent to reach US\$ 13.7 billion compared to the preceding year.

By indicating the following bar chart the UNDP has concluded that the trade is helping the country's economic performance to achieve its transformation plan.

Bi chart 2.3 Impact of trade on economic performance



Source: National Bank Ethiopia

Asamenew (2005) in his study found that there was co integrating relationship between openness to trade and economic growth in Ethiopia and hence a positive relationship between the two by applying the regression of long run model for period 1970/71-2003/04. In analyzing the impact of export and imports to the economic growth of Ethiopia, the study has identified that the contribution of export to GDP was less significant and only showed a slight increment one regime after the other. For instance the ratios of exports to GDP in the three governments were 5.5%, 7.1% and 7.3% respectively. With regard to the ratio of imports to GDP, the study revealed that the country's import dependency increasing. For Instance the ratio of imports to GDP was 6.9%, 13.9% and 22.2% in the periods between 1960/61-1973/74, the Derg regime and the post reform period respectively.

Million (2002) in his study conclude that, since Ethiopia's export is highly dependent up on few agricultural commodities and industrial products cover large share of total imports, in the period before economic reform there was poor performance of export and stagnant growth of import particularly in the later years of the Derg regime. The main cause for the poor performance of foreign trade in this period was the application of restrictive external trade policy in addition to other constraints. After the reform the country changed her foreign trade policy that leads to an increment in the export of the major commodities particularly coffee and at the same time imports also increased as fast as exports.

Of all aspects of globalization, it is international trade that is held out as the great hope for poverty alleviation. Trade can contribute to poverty alleviation by expanding markets,

promoting competition, and raising productivity, each of which has the potential to increase the real incomes of poor people. (Kenneth A. Reinert, 2006)

Kiflu (2005) in his study shown that, the share of exports in GDP and the rates of changes of his share indicated that there is a positive and statistically significant relationship between export and Economic growth. He got that a unit increase in export share leads to a 0.15% and 0.05% increase in per capita GDP growth in the panel and cross sectional regression analysis respectively. He also got that an equal increase in trade share is correlated with 0.3% increase in annual growth of GDP per capita while the same level increase in trade share leads to an equal 0.5% points increase in the panel co-integration and panel data analysis technique respectively. (Kiflu, 2005).

The demand of more consumer good continually rises due to high population growth, which is met by importation of more consumer good. During 1992/93 the total amount of birr spends on imported consumer goods by end use is 1064 million and to 3136.2 million (1996/97 NBE). Such expensive dependency on imports has created external imbalance by negatively affecting the country's trade balance and the overall balance of payments. Fast consumer imports and sluggish export resulted into lack of foreign exchange which intern bring increasing difficulties in raising funds in the international capital market and in servicing there debt. Ethiopian commodities are less response to price change in international market. (Tsegereda, 2000).

The National Bank of Ethiopia (central bank) follows a managed floating exchange rate regime where the local currency Birr is pegged to the US Dollar. Accordingly, drastic movements in the nominal exchange rate are not expected. The Birr continued to depreciate but at a very slow rate and it reached 18.19/US\$ at the end of 2012/13. The average exchange rate of the Birr against US dollar in the official market showed annual depreciation of 5.4 % since 2011/12. In January 2014, the exchange rate reached 19.107 Birr/US\$, a 4.85 % depreciation since January 2013. (UNDP 2014).

Along with the above assertion, It was shown that that the FDI has a profound impact on the country's economic performance. In a 2014 assessment, UNCTAD listed Ethiopia as one of the world's top destinations for FDI. Total inflows in 2013 were USD953 million, with a large proportion coming from Asia, particularly China with the lion share, Turkey

and new developing interest from the UK to boost the country's industrial base and improve and extend infrastructure. Moreover, a recent sovereign bond issue of USD 1 billion was heavily subscribed, suggesting that investor confidence in the country's potential remains strong.

Huge public investments with focus on infrastructure and pro-poor sectors explain much of the economic performance from the expenditure side. Government investments have mainly been carried out from domestic resource mobilization and augmented by external resource inflows. The total government expenditure reached 185.5 billion birr in 2013/14 registering 20 percent annual increase, As a result total budget deficit as a percentage of GDP increased to 2.6 percent in 2013/14 in contrast to 1.9 percent previous year.

The budgetary focus on capital expenditure and pro-poor sectors has continued to prevail. Hence 58 percent of the total expenditure was on capital expenditure, 23.5 percent of which is financed through external loan and external assistance. The road construction still takes the highest share (35.5 percent) of the capital expenditure followed by education (17 percent) and agriculture (12 percent). Also, the poverty- targeted expenditure has increased by 17.6 percent between 2012/13 and 2013/14 to reach 126.8 billion birr, which is 12 percent of GDP and 68 percent of total expenditure, Which reflects that the government expenditure is increasing to meet the economic need of the society and to fill in the gap so as to boost the economy. (MOFED, 2014)

All in all, as we see the empirical literature reviewed till now on the general as well as Ethiopian case, they conclude that, with some exceptions, that foreign trade in general, export, FDI, Government Expenditure in particular plays an important role in the Economic growth of the country.

CHAPTER THREE: METHODOLOGY

3.1 The data, Data Description.

In order to identify and analyze the impact of foreign trade on the Ethiopian economy, the researcher will look through and conduct the study; based on the secondary source of data using the time period 1981/82 to 2013/14 and statistical manipulation obtained from literature, publications and annual report of different national and international institution like Central Statistical Agency (CSA), International Monetary Fund (IMF), World Trade Organization (WTO collected from National Bank of Ethiopia (NBE), Ministry of Finance and Economic development (MOFED), Central Statistical Authority (CSA) and World Banks Development Indicator.

Concerning the method of analysis, the researcher has employ descriptive, OLS, test for stationary, co integration, diagnostics model and error correction model technique to show the impact of foreign trade on Economic growth.

The data collected for the study are composed of seven different variables including; GDP, Export, Capital Formation, Labor Force, Foreign Direct Investment (FDI), Government expenditure, Exchange rate, and import. In order to produce a sound conclusion from this analysis, it is important to choose an appropriate data in terms of time and coverage.

These secondary data are a time- series data set collected from different national and international organizations. In the process of the data collection various problems were encountered. The first problem stands from finding the data from different offices and internet sites. The second problem was gathering appropriate and continuous data of different time spans, especially for pre 1992 period. Most of the domestic data collected from National Bank of Ethiopia and MoFED include only a period from 1992 to present. Therefore, we are forced to look at international data sources.

3.2 Model Specification

This study considered the following regression model, which appeared as a basic step in the empirical works of Sergii (2009) and Iqbal (2008) in the quantitative analysis of trade growth relationship.

$$Y = X\beta + \varepsilon \dots\dots\dots 3.1$$

Where, Y is real output, β is the slope coefficient matrix, X is explanatory variables matrix and ε the stochastic error term which represents measurement error in the explanatory variables.

According to Sergii (2009), there is no single way to measure each and every explanatory variable. That is why many empirical studies based on neoclassical, neo Keynesian and endogenous growth theories face a common problem of failing to produce an exact list of explanatory variables. Yet theoretically, some growth models such as the neoclassical growth model use population and investment growth in growth linear regression equation. Sergii justifies this argument empirically by restating the neoclassical statement that, population and investment impact economic growth positively. This was based on the growth models of Solow and Swan (1956) and Tobin (1965).

Moreover some other like Melaku (2000) and Million (2002) include labor in the model in that it represents the human factor in producing good and service of all economy and is among the primary factors that contribute to and influence economic growth. As Todaro (1994) explained that labor force has traditionally been considered as a positive factor in stimulating growth of production. However, it is questionable whether labor force brings a positive or negative influence on economic growth. The relation of labor with growth can either be positive or negative and also this specific study will find out the effect.

So as to show the impact of foreign trade on the Economy, studies that have been undertaken by Economists like Domar (1992), Salvator (1991) and Balassa (1978) included Export and Import as another input in the production function with a belief that there is a great productivity in export due to scale effects and externalities that arise because of export expansion. Moreover, authors like Feder (1982) and Tyler (1981) have acknowledged the possibility of a positive relationship between exports and GDP may be

predetermined because exports are components of GDP and they have shown that import has a negative impact on growth.

In addition to the linear relationship between real output and investment, population, export, some other empirical literature focused on the possibility of “non-linear” relationship between economic growth and capital formation. For example, Kirschenbaum (1998) and Dic Lo (2004) argued that capital formation can be included in growth regression in a non-linear way. Accordingly, based on the aforementioned works, the basic growth model given in equation (1) is, thus, allowed to capture the link between capital formation and growth in particular, and the other seven explanatory variables in general.

3.3. Description of variables and Their Assumption

In order to maintain acceptable degrees of freedom and to evade potential multi co linearity problem, we included only those variables which are frequently used in the growth regression, investment, exchange rate, Government expenditure, and labor force and capital formation. This choice of variable is in line with the choice made by other studies conducted on the related topic. For instance, Mubarik (2005), Manzoor (2005), Frimpong, et al, (2010) and Salami et al(2008) among others.

3.3.1. Dependent variable

Growth rate of real *GDP* : GDP is the sum of gross value added by all residents produced in the economy plus any product taxes and minus any subsidies not included in the value of the products. It's annual percentage growth rate is a measure of economic growth.

3.3.2. Independent variables

Labor Force (Lf): Labor force is the total number of people employed or seeking employment in a country or region, which is also called work force. Todaro (1994) explained that labor force has traditionally been considered as a positive factor in stimulating growth of production. However, it is questionable whether labor force brings a positive or negative influence on economic growth. But the relation of labor with growth can be positive or negative.

Export (X): Export is a function of international trade whereby goods produced in one country are shipped to another country for future sale or trade. The sale of such good adds to the producing nation's gross output. Studies that have been undertaken by economist like Dollar (1992), Salvator (1991) and Balassa (1978) include export as an input variable in the production function with a belief that there is greater productivity in export due to scale effects and externalities that arise due to export expansion. Moreover, authors like Feder (1982) and Tyler (1981) have acknowledged the possibility of a positive relationship between exports and GDP maybe be predetermined because exports are components of GDP. Thus a positive relationship between export and growth will be expected from this study.

Import (I): Import is derived from the conceptual meaning as the goods and services into the port of a country and consists of transaction in goods and services from non-residents. Researches that have been done on the Import on the economic importance show that it has a negative impact on the developing countries like Ethiopia. Tsegereda, (2000) shows that with the sluggish export performance and high import of capital good brings a lack on foreign exchange which in turn brings increasing difficulties in raising funds in the international capital market and in servicing their development. And it is expected to have a negative impact on the economic growth.

Capital Formation (CF): Capital Formation is the equipment, machinery, manufacturing plants, building etc. needed to produce goods and services. As to how capital affects growth Meier (1995) stated that capital is the most important determinant of production. This is because labor is put in motion by capital and capital provides workers with better equipment and more importantly it makes possible an extensive

decision of labor (p.163). Thus a positive relationship between capital investment and Economic growth will be expected.

Government Expenditure (G): Huge public investments which focus on infrastructure and pro-poor sectors explain much of the economic performance from the expenditure side. Government investments have mainly been carried out from domestic resource mobilization and augmented by external resource inflows which could help the economic growth of the country. Many researchers found the positive contribution of Government expenditure, and from this paper we will expect a positive relation between Government expenditure and Economic growth.

Exchange rate (Er): -Exchange Rate is the rate at which the currency of a country is exchanged against other currencies which has a common thing to bind them, trade. A given domestic currency may depreciate or appreciate against other currencies in relation. Depreciation of the real exchange rate enhances the competitiveness of the domestic goods vis-à-vis foreign goods while weakening the economy of the country in relation to the country involved in. On the other hand, an appreciation in real exchange rate will decrease competitiveness of home goods in international markets. Therefore, the expected sign of this variable is expected to be negative or positive.

Foreign Direct Investment (FDI): - FDI stock measures its productive capacity of the country. As it is believed that transformation of the composition of exports increase with FDI and expected to have positive relation with export performance.

The dependent variable in this model is economic growth which is represented by Gross Domestic Product. The explanatory variables include total export, total import, labor force, Capital formation, foreign direct investment, exchange rates and government expenditure.

The variables are coded as thus:

GGDP = Growth of Gross Domestic Product

LF = Labor Force

X = Export

I = Import

CF = Capital Formation

G = Government Expenditure

Er = Exchange Rate

FDI = Foreign Direct Investement

On the subject of estimating the impact of foreign trade on the economic growth, researchers prefer to use a time series data for the selected variables mentioned above and this was because to avoid spurious regression. For instance (Atoyebe, 2012) and (Akinde, 2010) use the time series data. The second reason to use the time series data is to encompass the time dimension of foreign trade impact on Economic growth. (Spiridon, 2005) and (chen 2000).

3.4 Stationary Test

In the analysis of time series data, the notion of Stationarity process plays an important role. Strictly speaking, a stationary time series is one whose probability distribution is stable over time in the following sense: if we take collection of random variables in the sequence and the shift the sequence h time's period, the joint probability distribution must remain unchanged. Such a time series is called strictly stationary (Wooldridge, 2003, Madalla 1982). But Madalla (1982) pointed out that in practice this is a very strong assumption to make and it is useful to define Stationarity in less restrictive way, i.e. to define in terms of first and second moment only.

Therefore, a stochastic process is said to be stationary if its mean and variance are constant over time and the value of the covariance between the two time periods depends only on the distance or gap between the two time periods and not the actual time at which the covariance is computed. Such a time series is called weakly stationary. (Gujarati, 2004)

A non stationary time series on the other hand has a time varying mean or a time varying variance or both and using the classical ordinary least square (OLS) estimate technique on non stationary time series data will result what is called “spurious” or “non sense” regression, i.e. a situation where the estimated regression has a high R^2 and significant t values without any economic relationship between the variables (Gujarati, 2004, Patterson, 2002).

As it has been discussed that a standard regression analysis requires a time series to be stationary and hence the next issue will be how to find that a time series is stationary. The unit root test is one of the mechanisms that enable us to check whether the time series data is stationary or not.

If a time series is stationary, its mean and variance at various lags remain the same no matter at what point we measure them; that is they are time invariant. Such a time series will tend to return to its average and staggering around this average (measured by its variance) will have broadly constant amplitude (Gujarati, 2003). However, as an economy grows and evolves over time, most aggregate economic variables are likely to grow as well, and thus rendering them non- stationarity (Ibid, 2003). Therefore, this paper employed the Augmented Dickey-Fuller method of unit root test in order to check for the stationarity of the time series data and also it has employed graph to convert the non stationary variables into stationary if there exist.

The theoretical derivations of this test can be illustrated with the model below: a regression of Y at time t on its one period lagged value

$$Y_t = \rho Y_{t-1} + U_t \text{ where, } -1 \leq \rho \leq 1 \dots \dots \dots 3.2$$

Where, Y_t = a time series random discrete variable;

Y_{t-1} = one period lagged value of Y_t ;

ρ (= rho) = coefficients of auto covariance at lag one;

U_t = a white noise error term represented as; $U_t \sim \text{IIDN}(0, \delta^2)$, U_t is assumed to be independently and identically distributed as normal distribution with zero mean and constant variance;

t = is the time trend variable measured chronologically.

The notation Y_t represents that Y is a random discrete variable, and random or stochastic variables are variables that have certain probability. The model is a random walk (RWM) type which is a classic example of non-stationary time series. For theoretical reasons, we manipulate the model by subtracting Y_{t-1} from both sides of equation (1) to obtain the following:

$$Y_t - Y_{t-1} = \rho Y_{t-1} + U_t \dots \dots \dots 3.3$$

$$\Delta Y_t = \delta Y_{t-1} + U_t \dots \dots \dots 3.4$$

Where, $\delta = (\rho - 1)$ and Δ is the first difference operator. In practice therefore, instead of estimating (1) we estimate (3) by OLS method; divide the estimated coefficients of Y_{t-1} in (3) by its standard error to compute the (τ) *tau* statistic and refer to the DF/ADF tables. In the language of hypothesis testing, we test the hypothesis that the estimated slope coefficient in this regression = δ is zero or not.

$H_0: \delta = 0$; then $\rho = 1$: There is a unit root

$H_1: \delta < 0$; The time series is stationary

If the computed absolute value of the *tau* statistic exceeds the DF critical *tau* values, we reject the null hypothesis that $\delta = 0$. Rejecting the null hypothesis implies that Y_t is a stationary time series with zero mean. On the other hand, if the computed $|\tau|$ does not exceed the critical *tau* value, we accept the null hypothesis, in which case the time series is non-stationary. That is if $\delta = 0$ then and (3) will become:

$$\Delta Y_t = Y_t - Y_{t-1} = U_t \dots \dots \dots 3.5$$

If the null-hypothesis is accepted, i.e. if Y_t is non-stationary, we have to make the series stationary in order to proceed. Since U_t is a white noise error term, it is stationary, which means that the first differences of a random walk time series are stationary. Such tests of stationarity are so important in the empirical literature since the estimates can be thus used for forecasting purpose (Maddala, 1992).

The behavior of a non-stationary time series can only be studied for the time period under consideration. As a result it is impossible to generalize it to other time periods. When pair of independent series, but with strong temporal properties, are found apparently to be

related according to standard inference in an OLS then, a spurious regression occurs (Green, 2003). The economic interpretation of a “spurious regression” or “non-sense regression” is not meaningful, and the estimates give misleading inferences. In order to avoid the spurious regression problem, as it is illustrated in equation (4), we can transform non-stationary time series to make it stationary.

The transformation method depends on whether the time series are difference stationary (DSP) or trend stationary (TSP). But it is guaranteed in Gujarati (2003) that most macroeconomic time series are DSP rather than TSP. If a time series has a unit root, the first difference of such time series are stationary. Therefore the solution here is to take the first difference of the time series. Generally speaking, if any of our time series is integrated of order d ($I(d)$), it has to be differenced d times, where d is any integer, in order to make it stationary.

The only problem is therefore which test to use in order to find out if a time series contains unit roots, and as we noted earlier we used the ADF unit root test method for this purpose. DF test is based on the assumptions that residuals are white noise, while ADF is important in case the residuals are correlated.

Stationarity of ε_t indicates the presence of long run relationship between Y_t and X_t . Such series come closer to one another over time and a long-run or static relationship exists between them. If the two series are not co-integrated then they drift away from each another and there exist no long run relationship (Maddala, 1992). For illustration purpose let us assume equation (5) represents a co-integrating regression and β_2 be the cointegrating parameter.

$$Y_t = \beta_1 + \beta_2 X_t + \varepsilon_t \dots \dots \dots 3.6$$

Allowing Y_t and X_t to be individually $I(1)$; if their linear combination expressed by ε_t is stationary at level, then the stochastic trends existing in the two $I(1)$ variables individually, will be cancelled out by their linear combination. In this case the linear combination can be expressed as:

$$\varepsilon_t = Y_t - \beta_1 - \beta_2 X_t \dots \dots \dots 3.7$$

Where, Y_t and X_t are two different series and β_2 the co-integrating parameter, then the procedure proceeds by estimating the stationarity of the error term.

In conclusion, based on the Engle-Granger co-integration test, if the two time series are co-integrated, it can be indicated that though the time series exhibit random walks individually, there might be a stable long run relationship between them. The two series come closer to each other over time and a long run relationship exists between them (Gujarati, 2003).

In our analysis, since the ADF test is important in avoiding serial correlation in the error term we use this test for unit root. The rejection rule for ADF test is that, we reject the null hypothesis that $\delta=0$, if the absolute value of the computed tau statistic exceeds the ADF or Mackinnon critical value in which case the time series is stationary. On the other hand if the absolute value of the computed tau statistic is less than the critical tau value, we failed to reject the null hypothesis; i.e. time series is non-stationary.

3.5 Co-integration Test

As noted above, using non-stationary variables in a regression may result in spurious regression, a problem usually dealt with by differencing the time series. A test of co-integration can be thought of as a pretest to avoid “spurious regression” problems. Differencing, however, leads to the loss of important long run information about the series. Co-integration provides a way of reconciling this problem of non stationarity series without loss of long run relationships, if any (Green, 2003).

The first step in co-integration analysis is studying the order of integration of the variables using various tests, and for our purpose we applied the unit root test. If two variables are co-integrated, regression involving the levels of the variable can proceed without generating spurious results.

In this paper we applied the Engle-Granger co-integration test. The ease in its application is the basic reason for choosing the EG/AEG method. First, a regression of the levels of the $I(1)$ variables is conducted using OLS. Secondly, ADF unit root test are carried out

for the residuals from the co-integrating regression. In the Engle-Granger test the condition for co-integration requires.

The notion of co integration, which was given a formal treatment in Engle and Granger (1987), makes regression involving non stationary time series or what is called an integrated of order one, I (1) variables potentially meaningful. It is a notion that a linear combination of two series, each of which is an integrated of order one; I (1) is integrated of order zero, i.e. stationary. (Wooldridge, 2003)

We are concerned about the concept of co integration because making a variable stationary by differencing only gives the short run dynamics while we are also interested in knowing the long run relationship. Economically speaking, two variables will be co integrated if they have long run relationships between them; i.e. it is the implication of the existence of long run relationship between economic variables.

The mathematical illustration of co integration is given in any standard econometrics book and here it is presented in the following form:

$$Y_t = \alpha_1 + \alpha_2 x_t + u_t \dots\dots\dots (3.8)$$

Suppose when we subject x_t and Y_t individually to unit root analysis and we find that they both are I (1); i.e. non stationary. We know that if we regress Y_t on x_t as they are there is possibility that the regression will be nonsense or spurious. But let us write equation (4.4) as follows and take a look what happens:

$$U_t = Y_t - \alpha_1 - \alpha_2 x_t \dots\dots\dots (3.9)$$

Again suppose we now subject u_t to a unit root analysis and obtained that, u_t is I (0), it implies a very important situation where the linear combination of Y_t and x_t is stationary even if they are individually I (1) process.

Generally, Stationarity in the linear combination of x and Y allows for the existence of an equilibrium relationship between the two variables and hence in this case we say that they are co integrated. That if the residual (ε_t), which is the linear combination of the I(1) variables is stationary at level, then the variables are co-integrated and the resulting regression is not spurious.

In testing for co integration a number of methods have been proposed in literatures. However the Engle-Granger (1987) two-stage procedure is widely applied and we also use this method in this paper to test the existence of co integration. According to the Engle-Granger two stage procedures method, all we have to do in testing for co integration is to estimate the long run model, obtain the resulting residuals and run DF and ADF test on the residual to check whether it is stationary or not. (Gujarati, 2004, Madalla, 1982, Patterson, 2002, Wooldridge, 2003)

The illustration of the Engle-Granger two stage approaches for testing co integration can be given as:

$$Y_t = \omega_0 + \omega_1 x_t + u_t \dots\dots\dots (3.10)$$

Assuming that Y_t and x_t are individually non stationary there is a possibility that this regression is spurious. But if we perform a unit root test on the residual obtained from equation (4.6) we might found that out is stationary and the variables are co integrated.

$$\hat{U}_t = \sigma \hat{U}_{t-1} + e_t \dots\dots\dots (3.11)$$

When $\sigma = 1$ indicates non co integration and $-1 < \sigma < 1$ indicates co integration. (Patterson, 2002)

The rejection rule is that if the t statistics on $\hat{U}_{t-1}$ is below the critical value, we have evidence that $\hat{U}_t$ is I (0) for some ω ; that is, x_t and Y_t are co integrated

3.6 Error Correction Model (ECM)

In addition to learning a potential long run relationship between two series, the concept of co integration also enriches the kind of dynamic models. An error correction model is a short run dynamic model which reflects the current error in achieving the long run equilibrium relationship among variables. ECM is used to estimate the short run money demand function and allows us to study the short run relationship among variables under consideration.

An important theorem known as the Granger representation theorem, states that if two variables Y and x are co integrated, then the relationship between the two can be expressed as ECM. (Gujarati, 2004)

To understand this well, let us consider the following equation:

$$Y_t = \Phi_0 + \Phi_1 x_t + u_t \dots\dots\dots (3.12)$$

If we assume that both x_t and Y_t are I (1) and $u_t = Y_t - \Phi_0 - \Phi_1 x_t$ is I (0); that is stationary, then x_t and Y_t are said to be co integrated. Hence according to Granger representation theorem Y_t may be considered to be generated by ECM of the form:

$$\Delta Y_t = \Phi_0 + \Phi_1 \Delta x_t + \Phi_2 u_{t-1} + e_t \dots\dots\dots (3.13)$$

Where Δ denotes first difference operator, e_t is a random error term, and $u_{t-1} = Y_{t-1} - \Phi_0 - \Phi_1 x_{t-1}$; that is, the one period lagged value of error term from co integration regression equation (4.9) and $\Phi_2 u_{t-1}$ is called the error correction term. ECM equation (3.13) states that ΔY is denoted not only on Δx but also on the equilibrium error term. If u_{t-1} (the equilibrium error term is) is non zero, then the model is out of equilibrium; that is, Y_{t-1} is above or below its equilibrium value.

The absolute value of Φ_2 decides how quickly the equilibrium is restored. This means, if Φ_2 is large the disequilibrium will be corrected quickly where as a small Φ_2 value shows slow correction of disequilibrium. For example, if $\Phi_2 = -0.25$, 25 % of the disequilibrium in period t-1 is corrected in period t.

Generally, since ECM is a short run model, the coefficients of the independent variables show short run relationship of them with the dependent variable. For example if we are considering a consumption function, with consumption as dependent variable and income as independent variable, the coefficient of income shows the short run marginal propensity to consume

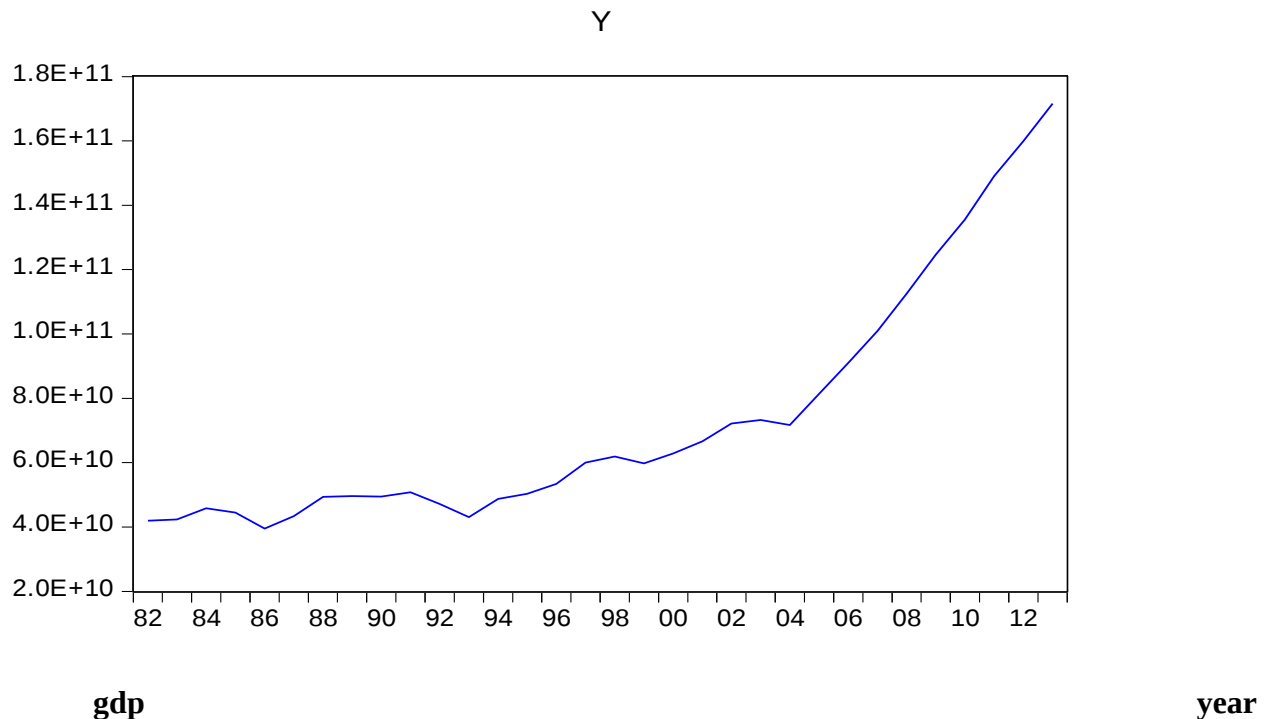
CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Trends of GDP growth and Variables.

The graphical output of the data analysis suggests except for the earlier period of the data which shows a staggering and decreasing impact of the variables against the GDP growth, for all the recent years the aggregate impact of labor force, export, import, government expenditure, exchange rate, capital formation, and foreign direct investment shows a significant increment on the GDP growth.

Highly increased government incentive towards attracting foreign direct investment in the recent years, increased government expenditure towards developing infrastructure to make an easy access for the rural products to the market along with government effort to secure the power supply for the newly developing demand of industries boost the economy of the country more than ever before. *Graph 4.1 Graph showing the relationship between GDP and variables*



Before estimating our model, due to the following advantages suggested by Sarel (1996) and Mubarik (2005), the variables were transformed into natural logarithm form: the implications of the log-transformation are more plausible than those of a linear model; the log- transformation smoothens, at least partially, the time trend in the data set; moreover the-log transformation, to some extent, eliminates the strong asymmetry in the variables distribution, and it reduces heteroskedastisity problem (i.e. stabilizes variance), if there exists.

Accordingly, the growth rates of GDP, Export, Import, Capital Formation, Labor Force, Government Expenditure, Exchange Rate, and FDI a % of real GDP are computed using differences of the logarithms. The model is linear in both the beta parameters and in the logarithms of the explanatory variables. Therefore it can be estimated by OLS regression given that the assumptions of the classical linear regression model are fulfilled. Thus, the log-linear (log-log) form of the model becomes: The dependent and explanatory variables except exchange rates and labor force were in Million birr; but they were logged so as to bring the data to the same level.

Hence, the mathematical form of the model is stated as follows:

$$GGDP = \beta_0 \pm \beta_1 LF \pm \beta_2 X \pm \beta_3 I \pm \beta_4 CF \pm \beta_5 G \pm \beta_6 Er \pm \beta_7 FDI + \mu_t \dots \dots \dots 4.1$$

$$\log GDP = f(\log LF, \log X, \log I, \log CF, \log G, \log Er, \log FDI)$$

$$\text{Where, } GGDP_t = 100 \times DLog(GDP_t)$$

$$LF_t = 100 \times DLog(LF_t)$$

$$X_t = 100 \times DLog(X_t)$$

$$I_t = 100 \times DLog(I_t)$$

$$CF_t = 100 \times DLog(CF_t)$$

$$G_t = 100 \times DLog(G_t)$$

$$Er_t = 100 \times DLog(Er_t)$$

$$FDI_t = 100 \times DLog(FDI_t)$$

The expression DLog represents the first difference of the natural logarithms which shows the percentage change, and then it become

$$\log GDP = \beta_0 \pm \beta_1 \log LF + \beta_2 \log Ex + \beta_3 \log I \pm \beta_4 \log CF + \beta_5 \log G \pm \beta_6 \log Er + \beta_7 \log FDI + \mu$$

Where, β_0 is the constant of the model,

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$, and β_7 are the coefficients of the explanatory variables, and μ is the stochastic error term that captures the effect of other variables not included in the model.

The signs of these variables are based on a priori expectation. That is, the direction of the relationship between the respective independent variables and the explained variable is according to their relationship in standard economic theory.

Therefore, based on economic theory, the following should be expected.

$\beta_1 > 0, \beta_2 > 0, \beta_3 < 0, \beta_4 > 0, \beta_5 > 0, \beta_6 < 0, \beta_7 > 0$

4.2. Summary statistics

Table 4.2: Summary statistics of the main data sample Number of observation = 32

Variables	Obs	Mean	Std. Dev.	Min	Max
Y	32	216811.7	125855.1	101802.6 (1985)	556462.6 (2013)
Lf	32	2.79e+07	7200855	1.66e+07	4.05e+07
X	32	27397.39	22412.16	4726.706	85955
I	32	59393.02	52501.78	11209.34	175947.5
G	32	26333.08	36700.14	2629.7	153928.7
Er	32	194.2625	92.36226	93.6	407.2
Cf	32	58976.28	46467.38	16066.82	200121.7
Fdi	32	20456.24	37652.66	0	158915.6

Source: STATA statistical summary output

In the formal estimation procedure, in the quest to find the Impact of foreign trade on Ethiopian economy, we used seven variables to explain the impact of foreign trade on the GDP growth of Ethiopia. We subjected our main variables to some elementary statistical tools, and *table 4.4.3 depicts the statistics of our main data in the observation period*

Furthermore the minimum and the Maximum values of most of the variables appeared at some period of time, in the years 1985, and 2013 respectively. This seems not a coincidence rather it is a summative effect of the status quo socio-political and economic surprises of the respective periods.

4.3. Test for Stationarity

In analyzing time series data testing for Stationarity is a vital condition. In section it was mentioned that using the classical OLS estimation method on non stationary time series data will result ‘spurious’ regression. To avoid this problem, a non stationary time series must be transformed, i.e. differenced. Most economic variables are I (1) in which they become stationary after being differenced ones.

Based on the forgoing argument, the Augmented Dickey Fuller (ADF) unit root test was conducted to identify whether or not the variables in the functions are stationary.

Ho: there is unit root (non-stationary)

H1: there is no unit root (the series is stationary)

Rejecting the null hypothesis (non stationary) implies that Y is stationary time series. In that it shows that there exists a long run relationship between Y and other seven variables in the model showing stationary among variables.

Before testing the data at first difference, first we are testing at level. If we cannot reject the null hypothesis at level we transform it into first difference.

Table 4.3.1 Table for test for stationary at level

Variables	Test Statistics	1% Critical Value	5% Critical Value	10% Critical Value
Y	9.492***	-3.709	-2.983	-2.623
LF	3.326**	-3.709	-2.983	-2.623
X	0.772	-3.709	-2.983	-2.623
I	1.978	-3.709	-2.983	-2.623
G	19.979***	-3.709	-2.983	-2.623
ER	-1.0308	-3.709	-2.983	-2.623
CF	4.357***	-3.709	-2.983	-2.623
FDI	-1.557	-3.709	-2.983	-2.623

Note: - *** shows stationarity of the variables at all critical values (1%, 5% and 10%) while ** shows stationarity of the variable at both 5% and 10% critical values.

As it was shown on the above table except for some variables, GDP, labor force, government expenditure, and capital formation which are stationary, other variables like export, import, exchange rate, and foreign direct investment which test statistics are less than 5% critical value we fail to reject the null hypothesis in that there is no stationary. Thus, there no exist stationary at level we go for first difference, to make all variables stationary, if no we go for further difference.

Table 4.3.2 Table for test for stationary at first difference

Variables	Test Statistics	1% Critical Value	5 % Critical Value	10%Critical Value
$\Delta LGDP$	-2.792	-2.052	-1.950	-1.602
ΔLlf	-3.771	-2.660	-1.950	-1.600
ΔLx	-2.824	-2.600	-1.950	-1.600
ΔLi	-2.630	-2.652	-1.950	-1.602
ΔLg	-3.237	-2.625	-1.950	-1.602
ΔLex	-3.127	-2.660	-1.950	1.602
ΔLcf	-4.582	-2.652	-1.950	-1.602
$\Delta Lfdi$	-2.255	-2.660	-1.950	-1.602

To make sure that the variables are stationary we have to transform all the variables have to be transformed into first difference. From the above table we can see that Test statistics for all differenced variables (ADF) in absolute value is greater than 5% critical value, in that case we reject the null hypothesis. In the other word rejecting the null hypothesis is to mean that there exists a stationary among variables. Therefore we can say that the dependent and independent variables are stationary and have a long run relationship among them.

4.4. Engel Granger test for Co integration

According to the Engle-Granger two stage procedures method, all we have to do in testing for co integration is to estimate the long run model, obtain the resulting residuals and run ADF test on the residual to check whether it is stationary or not.

Table 4.4 Table to test for co integration

Variable	Test statistics	Critical Values		
Residual	-6.328	1%	5%	10%
		-2.644	-1.952	-1.610

Ho: Unit root, Non stationary

The rejection rule is that if the t statistics on $\hat{U}_{t-1}$ is below the critical value, we have evidence that $\hat{U}_t$ is I (0) for some ω ; that is, x_t and Y_t are co integrated and in this case we reject the null hypothesis, meaning, there is a stationary, therefore we can conclude that GDP and other seven variables (labor force, export, import, government expenditure, exchange rate, capital formation and foreign direct investment) are co integrated and they have a stable long run relationship between variables.

4.5. Long Run Model

The analysis was conducted with the use of the stata software, and the results in mathematical form are presented below

Table 4.5 Long run model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.68	9.79910912	3.656684	0.0012
LF	0.429	0.40788424	1.051769	0.3034
EX	0.1162	0.0463199	2.508636	0.0193
I	-0.2594	0.10692524	-2.425994	0.0232
CF	0.4428288	0.929889	2.099593	0.0079
G	0.2062193	0.07508896	2.746323	0.0112
ER	-0.71738997	0.62476211	-1.148261	0.8834
FDI	0.8658443	0.41413591	2.090725	0.0101

Adj. R^2 is 99.58, F-stat is 822.92 DW test is 1.865

$$\text{Log GDP} = 2.68 + 0.429 \text{ LF} + 0.116 \log \text{ EX} - 0.259 \log \text{ I} + 0.4428 \log \text{ CF} + 0.206 \text{ G} \log - 0.717 \text{ ER} \log + 0.865 \text{ FDI} \log + \varepsilon$$

t-test (0.0012) (0.3034) (0.0149) (0.023) (0.0079) (0.0112) (0.883) (0.0101)

The result presented above shows the effect of foreign trade on economic growth in Ethiopia. The explanatory variables include Labor force (LF), export (E), import (I), capital formation (CF) , Government expenditure (G), exchange rate (ER), and Foreign direct investment (FDI). Looking at the sign of the coefficients of these variables, we found that they all satisfy apriori/ economic expectation.

The positive signs depict a positive relationship between the variables and gross domestic products, while the negative coefficient shows the negative relationship between the variables and the gross domestic product, for this specific analysis. The constant (2.68) represents the value that GDP will assume if all the variables are zero, That is, if there is no labor force, export, import, capital formation, government expenditure, exchange rate, and foreign direct investment, the GDP of Ethiopia will be 2.68.

It was also discovered that a unit increase in labor force, other things being equal, will increase GDP by 0.429 and vice-versa. Similarly, a unit increase in export will increase GDP by 0.116 and vice-versa. A unit increase in the import, other variables held constant, will lead to 0.259 decrease in GDP and vice versa, and also a unit increase in capital formation, other variables held constant, will increase GDP by 0.442 and vice versa. A unit increase in government expenditure, other variables held constant, will increase GDP by 0.2 vice versa and also a unit increase in exchange rate, other things held constant, will decrease GDP by 0.717 . Finally, a unit increase in the foreign direct investment will increase GDP by 0.865 and vice versa.

To evaluate the significance of the parameter estimates and the explanatory variables, we use the t-test. At 5% level of significance we found that the explanatory variables except for labor force and exchange rate other variables are significant. All other variables, export, import, government expenditure, capital formation, and foreign direct investment can affect the GDP growth significantly, but surprisingly this particular analysis have shown that labor force and exchange rate are not affecting the GDP growth significantly.

Over all the year from 1982 to 2013 we have seen that labor force with positive sign and exchange rate with negative sign is in significant in affecting the GDP, and also Import

has a negative impact on GDP growth, while all other variables shows a remarkable view in affecting (significantly and positively) the GDP growth for the afro mentioned periods. As it is mentioned in the following chapters, the analysis has identified the factors that mostly affect the GDP growth in foreign trade and which are not.

The adjusted R-square of 0.9958 depicts a high explanatory power of the model. This means that 99.58 % variation in GDP is as a result of variation in labor force, export, import, capital formation, government expenditure, exchange rate and foreign direct. The F-statistic which measures the overall significance of the regression model shows that the model is significant. The Durbin-Watson statistic shows that the possibility of a serial correlation in the equation is low. This is because the value is close to 2.

4.6 Error Correction Model

Although there is a long term equilibrium relationship between dependent and independent variable which is co-integration, in the short run there maybe disequilibrium. The error correction model is employed to correct for disequilibrium and determine the short relationship between variables. The analysis of short run dynamics is often done by first eliminating trends in variables usually by differencing. The ECM model incorporates the equilibrium and specified as follows.

Table 4.6 Table to test short run model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DX	0.117671	0.088067	1.336152	0.0385
DI	-0.037290	0.127017	-0.293584	0.0445
DCF	0.201458	0.104941	1.919734	0.0352
DG	0.148743	0.084882	1.752364	0.0065
DFDI	0.007888	0.008370	0.942446	0.0492
ECM	-0.214314	0.316350	0.677461	0.0321
C	0.099921	0.055846	1.789223	0.0101

R-squared	0.613541	Sum squared resid	0.018235
Adjusted R-squared	0.317934	Akaike info criterion	-3.446243
S.E. of regression	0.047137	Schwarz criterion	-2.998164

$$\Delta GDP_t = 0.099 + 0.11\Delta X_t + 0.037\Delta I_t + 0.2\Delta CF_t + 0.14\Delta G_t + 0.11\Delta FDI_t - 0.214ECM_t - 1$$

t-test	(0.010)	(0.038)	(0.044)	(0.035)	(0.006)	(0.049)	(0.032)
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The lagged ECM coefficient indicates that 21.43 percent of the disequilibrium in GDP in one period is corrected in the next period. In other word it shows 21.43 percent discrepancy between the actual and the long run or equilibrium value of GDP is corrected each year. Hence it takes about three years to correct disequilibrium in the GDP.

The result of the short run model revealed import, export, government expenditure, foreign direct investment and capital formation are significant factors in explaining the variation of GDP growth in the short run

4.9 Diagnostic test

4.9.1 Test of Normality of Residuals

Skewness/Kurtosis tests for Normality

Table 4.9 Table to test for normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	Adjch i2(2)	Prob>chi
My Residuals	32	0.0783	0.9035	3.40	0.1827

Ho: The distribution of the residual is normal

We fail to reject the null hypothesis *testing the normality at 5%*. The Skewness/Kurtosis test is not significant (0.1827 which is greater than 0.05) suggesting that the distribution is not significantly deviating from a normal distribution. i.e. the distribution of Residuals is normal .

4.9.2 Test for Heteroskedasticity

Table 4.9 Heteroskedasticity test: Breusch PaganGodfey

F-statistic	0.794006	Prob. F(7,14)	0.6046
Obs*R-squared	6.252000	Prob. Chi-Square(7)	0.5107
Scaled explained SS	1.813036	Prob. Chi-Square(7)	0.9695

The model was also tested for the presence of heteroskedasticity, in the time series using the Breusch-Pagan Test. The results of this test fail to show statistically significant evidence of heteroskedasticity. As shown in the above regression, the prob were not significantat0.05 level, indicating homoskedasticity.

CHAPTER FIVE

CONCLUSION AND POLICY IMPLICATION

5.1. Summary and Conclusions

Many economists consider foreign trade as a device not only to achieve productive efficiency, but also as an engine of growth. On the other hand, there are proponents who argue that the developing countries would be better off if they directed their own development towards an expansion of output for their own domestic consumption. However, it is clear that foreign trade is of very important to LDC's like Ethiopia and benefits, which they drive from trade and any variation in their trade, affects their economic growth.

Many empirical studies show that most LDC's have been marginalized from the world economy and from international market because of the performance, structure and composition of their trade, particularly of their export sector. Ethiopia is a typical of such countries where the majority of the export earnings come from agricultural sector.

This paper explores the relationship between foreign trade and economic growth for the period 1982-2013 empirically and investigates the existence of foreign trade impact in Ethiopia. The central objective of this research is to examine the impact of foreign trade on economic growth through empirical analysis using annual data in Ethiopia over the period 1982 to 2013.

The coefficients of all variables in above regression are statistically significant except for labor force and exchange rate which is not statistically significant at 5 % level. Results of the model are somewhat satisfactory and signs of the coefficients are supporting the previous research findings. The sign of all five variables except for Exchange rate and import, which are negative shows that there is positive relationship with GDP growth.

The justification for the above fact is that, the real exchange rate for Ethiopia is increasing for the past decades (depreciation of the domestic currency), showing that, there need to have more money (birr) to purchase a single dollar affecting the GDP negatively over a given period. On the same manner under the current analysis the exchange rate to the GDP growth is insignificant,

despite the fact that the domestic currency is depreciating against dollar, the real GDP is increasing over time thus the impact of foreign exchange on GDP growth is insignificant.

While the import is significantly affecting the GDP growth negatively, the gain from the export by exporting primary products wouldn't make the import of expensive capital goods easy. Such expensive dependency on imports has created external imbalance by negatively affecting the country's trade balance and the overall balance of payments. As it was stated on theoretical and empirical analysis the import sector is one of the most determinant factor affecting the economy growth negatively as the country is highly dependent on its imports which are highly capital intensive and leading to have a deteriorating terms of trade.

As compared to the marginal output gained by employing capital in the manufacturing output production, the marginal output gained from a single labor employed in the economy is very low and its impact on the GDP is insignificant, showing that in this specific analysis the impact of labor force on the GDP growth is insignificant but it has positive contribution to the GDP growth.

While all the other variables Export, Import, Government expenditure, Capital formation, and Foreign Direct Investment have shown a positive and significant impact on the GDP growth as prior many economic expectations.

The slope of labor force suggests that 1% increase in labor force leads to a 43% rise in GDP growth. The capital Formation to GDP ratio has also positive relationship with GDP growth and is statistically significant. Its slope coefficient indicates that 1% increase capital Formation in leads to 44.2 % increase in GDP growth. Exchange rate affects GDP growth in negative manner as indicated by the sign and its insignificant impact on GDP growth, the slope of import suggests that 1 % increase in imports leads to 25.9% decline in GDP growth. On the same way export, government expenditure, and foreign direct investment will boost the GDP growth positively and significantly having said that a 1% increase in export, government expenditure, and foreign direct investment will increase the GDP by 11.6%, 20.6% and 86.5% respectively.

From the data collected in the study, it shows that the Ethiopian foreign trade, especially the export sector, Gross capital formation, government expenditure, and foreign direct investment are characterized by a positive contribution to the GDP growth. While the exchange rate and import are characterized by decreasing characteristics on GDP, this is mainly due to depreciation

of the domestic currency against foreign currency and due to the import of expensive capital goods which the export gain can't cover it back.

The study also tried to show the import sector for the given period of the country revealed that the country has been importing many commodities and the trend showed that Ethiopia is highly dependent on importing commodities for development process and it is affecting the GDP growth of the country negatively. Investment by foreigners (FDI) in the country is showing a significant increase having a positive contribution, in this specific analysis FDI is the most powerful variable affecting the GDP growth to the most, but the majority of foreign direct investments are labor intensive making the country to have a slower move towards sophisticated machinery production which is/was seen in many south and north African countries and of course the well known Asians.

And also the study tried to show that the government expenditure is increasing over a given period having a positive and significant impact on the economic growth by facilitating infrastructure for further investment, strong security, expenditure on research and development and huge expenditure to secure power for investment expansion. The study also tried to show that, there is continues increment in the capital formation for a given period.

In addition to this, the study also tried to figure out the major constraints of Ethiopia's foreign trade and found out that the sector could not grow as fast as the world and the country is losing share in the world trade because of heavy dependency on the export of primary agricultural products and the import of capital goods which brought a sluggish economic growth, instability and depreciation of the domestic currency, labor intensive investment.

The characteristics of trading partner is also one of the consideration of this study, in that the destination countries of domestic export is different from importing partner for the country making importing value higher as compared to the value of import from exporting partner and also it was shown that Ethiopia is exporting those primary products which accounts for more than 70 % to only 7 specific countries, on the other hand Ethiopia is importing huge amount of capital goods for investment purpose from other countries which is not basically the exporting partner of Ethiopians commodities as well as compared to the Ethiopian exporting destination

countries, the importing countries destination is far which makes the transportation cost more higher to the Ethiopians

5.2 Policy Implication

Based on the findings of the Study, the relevant recommendation is given below:

- As the econometrics model exhibits a positive relationship between exports and economic growth. The export sector must be diversified towards high potential areas through devising a favorable foreign trade policy and preparing and participating in large international trade fairs. This will help to create more destinations to the country's exportable commodities and increase their demand in the world market.
- Improving the quality of exportable commodities is a necessary condition to be competitive in the world market. This is achieved through knowing the standards set by

the international quality control organization like International Standard Organization (ISO) fulfilling them in the production process.

- Based on these findings, we recommend that the Government should create an enabling environment that would facilitate the attraction of foreign direct investment into the country as foreign direct investment contributes to economic growth like technological transfer, capital accumulation, access to international market, job creation and managerial and marketing practices; and access of the domestic producer and their product to the international market.
- The government should also initiate appropriate economic policies that would improve Ethiopia's trade status. Expenditure on projects and infrastructures that would facilitate trade and economic growth should be encouraged, along with expenditure on research and development.
- Even if the econometrics model show the negative relation between exchange rate and Economic growth, the government should give priority to exchange rate stability so that it could make the economy competitive in the global market.
- Even if the econometrics model show that the negative relation between Import and Economic growth, the government should increase the Export gain by exporting diversified export goods and also by creating more destinations for export using the above measures. The cost of import can then be financed by the higher gain of export that is used for the economic growth.
- Since the regression result exhibit a significant and positive relationship between Capital formation and Economic growth, the rate of growth of capital (physical and human) and technical progress have been found to account for a significant proportion of economic growth. Thus the government should increase capital formation through financial development.
- In order to have easy access to foreign currency and reduce the costs involved in foreign trade, a country should endeavor to increase the ties of importing from its exporting partner.

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