ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ACCOUNTING AND FINANCE

THE EFFECT OF DEVALUATION OF BIRR ON EXPORT PERFORMANCE OF TEXTILE INDUSTRY. (THE CASE OF ETHIOPIAN TEXTILE INDUSTRY)

A Thesis Submitted to the School of Graduate studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Masters in Business Administration.

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Addis Ababa, Ethiopia

Statement of Declaration

I declare that the thesis entitled: The effect of devaluation of birr on the export performance of textile industry (The case of Ethiopian textile industry), hereby submitted by me in partial fulfillment of the requirements for the Degree of Master of Business Administration in Finance at Addis Ababa University, is my original work and has not been presented for the award of any degree in any other University or institution. I have undertaken it independently with the advice of my advisor, Abebe Yitayew (PhD). In performing the thesis I have used different sources and material which have been properly acknowledged.

Name: Frewoini Nega

Signature: _____

Date: _____

Statement of Certification

This to certify that this thesis titled “The effect of devaluation of birr on the export performance of textile industry (The case of Ethiopian textile industry)” carried out by Frewoini Nega. The work is original in nature and is suitable for the submission for the Degree of Master of Business Administration in Finance at Addis Ababa University.

Advisor
Name: **Abebe Yitayew (PhD)**

Signature: _____

Date: _____

Addis Ababa University School of Graduate Studies

This to certify that this thesis titled **"The effect of devaluation of birr on the export performance of textile industry (The case of Ethiopian textile industry"** carried out by Frewoini Nega. The work is original in nature and is suitable for the submission for the Degree of Master of Business Administration in Finance at Addis Ababa University and meets the accepted standards with respect to originality and quality.

Approved by:

Internal examiner: _____ Signature: _____ Date: _____

External examiner: _____ Signature: _____ Date: _____

Advisor: Abebe Yitayew (PhD) _____Signature: _____ Date: _____

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List of Abbreviations and Acronyms

AGOA - African Growth and Opportunity Act
COMESA - Common Market for East and South Africa
CSA - Central Statics Agency
EAC - East African Community
ETB - Ethiopian Birr
ETIDI - Ethiopian Textile Industry Development Institute
GDP - Gross Domestic Product
GTP - Growth and Transformation Plan
IMF - International Monitory Fund
MNC - Multi National Company
NBE - National Bank of Ethiopia
MFIs - Microfinance Institutions
PLC - Private Limited Company
PPA - Public Procurement Authority
SCC - Special Conditions of Contract
SADC - South African Development Community
USD - United State Dollar
WB - World Bank
WTO - World Trade Organization

Abstract

Manufacturing is a key in creating sustainable and strong economy for one nation. In developing countries like Ethiopia, the manufacturing sector faces lots of problems. The identification of the root problem will lead to drawing a better economy structure and policy for the country.

This paper examines the effect of continues devaluation of birr which took place since 1999, and its effect on the export performance of textile industry. The research analyzes eighteen years of data from 1999-2017. Secondary data from National Bank of Ethiopia, Ministry of Trade, Ethiopian Textile Development Institute and Central Statics Agency were used throughout the study. The variables identified from literature review to explain the effect of devaluation on the textile industry were real effective exchange rate, real growth domestic product, foreign direct investment, number of person employed, import input expenditure and actual production output of textile industry.

The research has provided in detail the effects of devaluation on the export performance of the textile industry hand to hand with other sector specific variables. On the other hand it has briefly state how it will affect production capacity, quality and price of produced products which has a direct implication on GDP and export performance of the sector.

Classical linear regression model and correlation analysis was used to analyze the data using the econometric package STATA version 14.2 software. The regression analysis showed that from textile sector specific variables, number of person employed and imported input expenditure has shown positive and significant roles on the export performance Ethiopian textile industry. As number of person employed within the sector increases it has a positive direct impact on production output, which is the same for variable import input expenditure. Increase in inputs for instance labor and input materials results increase in output of production. As output in production increases export performance of textile industry also increases. On the other hand independent variable real effective exchange rate has a positive and significant role on export performance of Ethiopian textile industry. As real effective exchange rate increases export goods will be price competitive on global markets. This will be advantageous for Ethiopian textile products to be competitive from other developed countries. The study suggests that well studied implementation of devaluation of Birr will enhance the export performance of textile industry in big scale. Alongside with the production capacity of people employed and managed imported inputs.

Key Words: Textile, Devaluation, Import, Export, Performance, GDP

CHAPTER ONE

1 INTRODUCTION

This chapter is composed of different section. The first section is introduction which gives insights about concepts and relationship within the study. Background of the study, Statement of the problem, Research questions, Research objectives, significance of the study, scope of the study, limitation of study organization of paper are presented below.

1.1 Introduction

Textile sector is labeled as labor intensive industry which absorbs large number of labor force. Its labor intensive character is not limited in reducing unemployment rate but also highly contributes to production capacity of the sector.

Ethiopia's population has stood second place after Nigeria in Africa. Currently the country has a population of 112.08 million with a median age approximately being 17.9 years old. According to world population view data 60% of the country's population is under the age 25 (http://www.worldpopulationreview.com). Having that said, the youth which is supposed to be the back bone of country's manufacturing sector is focused on how to sell imported items in small kiosks. Most of these businesses are unregistered (informal) business. It's known the informal business makes up 45% of Ethiopian GDP. In other words it means more than half of population does not have a direct role in manufacturing sector nor economy.

Even though the country is one of the fastest growing economies, the population still lives under poverty line. Over the past decade manufacturing sector has increased its GDP percentage contribution from 11.6% in 2007 to 22.9% in 2017. The rest is composed of service and agricultural sector. Comparing with other sectors, the industry sector could not contribute much to the country's economy since it demand large amount of imported inputs and productive labor force to deliver quality finished goods. The sector has done little in reduction of unemployment rate and improving export performance of the country. Instead records shows manufacturing sector has a high negative trade balance compared with agriculture and service sector. This resulted from its high dependency on imported inputs.

This paper will investigate the effect of continues devaluation of birr occurred since 1999 on the textile sector export performance. It will use different independent variable for instance real effective exchange rate, RGDP, FDI, number of person employed, import input expenditure and actual production out of textile industry of Ethiopia. It's expected the finding will clearly show whether repeated devaluation is helping the export performance of the textile sector or not. And draw recommendation from the result. The final goal of the research is to show whether the devaluation has the expected positive effect on the export performance of the textile industry.

Ethiopia's Economy

Ethiopia is one of the fastest growing economies. The country's major output is contributed by public and government investment majorly by construction sector, while the backbone of the economy is still the agriculture.

The country has been registering a strong economic growth over the past decade. According to World Bank's 2017 report Ethiopia has shown average growth of 10.8% between 2004 – 2016. This has played a major role in poverty reduction. In the same report, 55.3% of Ethiopians lived under extreme poverty in 2011 but the number has improved on 2011 by showing record of 33.5% as measured by the international poverty line of an income below $1.90 per day.

Ethiopia continues to outperform comparators when measuring services exports on a value-added basis. The country's gross services exports as a share of total exports are the highest when benchmarked against peer countries (except Zambia). Ethiopia also outperforms other countries at a similar level of development in all three measures of services export shares (the share of services in total exports measured as gross, direct, or total value added). The direct value added of Ethiopia's services exports continues to be one of the highest among competitors with the exception of Kenya (World Bank, 2019).

An economy outlook report prepared by World Bank published on 2019 shows that Kenya's GDP from 2011 to 2018 showed an average record of 5.52% GDP, 4.6 being the lowest in 2012 and 6.1 the highest on 2011 (World Bank, 2018). On the other hand Ethiopia has a record of 9.3% of average GDP 11.4% highest in 2011 and the lowest being 8.0% in 2016 (World Bank, 2019).

Despite, all the good records and reputations most country's population lives under major poverty line and still one of the poorest country in the world. Knowing Ethiopia is the second populous country after Nigeria in Africa, the human capital was the answer to all the questions. But population alone does not contribute to the result expected to the economy. Access to education has created shortage of trained and educated work force that hindered the economy.

Agriculture sector has been and still is the highest contributor to Ethiopia's economy for a long period of time. The sector does not require import inputs as much as industry sector. Ethiopian government clearly understood agriculture alone cannot continue being pillar for the economy, resulting introduction of GTP I & II. The introduction of Gross and Transformational Plan I & II has strategized to change country's economy from agricultural to industrial lead economy. Large amount of effort has been invested to expand the industry sector. Incentives and construction of industrial parks has been part of GTP I & II targeting local and foreign investors. Textile industry has been given a great attention by modeling Asian countries China and India. Textile industry was chosen to increase country's capital investment, export performance, foreign exchange earnings and decrease unemployment rate.

To achieve the strategic plans, the Ethiopian Textile Industry Development Institute (ETIDI) was established by the Council of Ministers in 2010. It is mandated to provide information for investors by promoting opportunities, advantages, training, consultations, research and developments. And it gives all the support needed regarding marketing and product testing (International Trade, 2015).

Textile production is recognized as an emerging market with major development underway. The construction of industrial parks goes hand to hand to in transforming the industry. However local firms face a very tough competition at international market and from cheap imported clothing's (World Bank, 2019).

Growth and transformation plan of making Ethiopia Industrial lead economy faces lots of obstacles. Most textile factories operate with imported and limited domestic inputs slowing down production. As the demand for imported input items for textile industry increases production cost will be higher and demand for foreign exchange will increases. Ethiopia's trade balance has been deteriorating with such a high demand of imported commodities. To improve export performance and trade balance, the country has been recommended to devaluate its currency repeatedly by IMF and World Bank. Devaluation strategy has been implemented four times since 1992. This has crippled textile factories not to produce to their at most capacity by making imported inputs very expensive.

Increasing demand for imported input items requires large amount of foreign exchange which the country usually do not have as reserve. In addition to that repeated devaluation has exposed country's textile production to a higher cost of production and increase demand of foreign exchange. The solution implemented to improve export performance of the country has opposite effect by holding back the industry sector, especially those factories which are highly dependent on imported inputs. This study will briefly examine the effect of devaluation of birr on the export performance of textile industry along with other independent variables.

1.2 Background of the study

Textile along with apparel (clothing or garment) industry is considered as one of the most important export sectors in the world, particularly for the developing and least developing countries. In 2013, world apparel trade was valued at US$460 billion which represents 7% of the world's tradable manufactured products and nearly 70% of the world apparel exports come from low and middle-income economies (WTO, 2014). In many developed countries such as the United Kingdom (UK) and other West European nations, the United States (US), Japan, and newly industrialized economies including Hong Kong, Taiwan and South Korea, the apparel industry was developed at the first stage of their industrialization and was also the first export industry (Yang and Zhong, 1998; Dickerson, 1999).

Textile industries have a vital role on the economic, social, cultural and political development of countries. Apart from food and shelter, textile has been identified as the most important in the hierarchy of mans need. Textile processing operations are considered an important part of the industrial sector in both developed and developing countries, like Ethiopia (Tafesse, Yetemegne, & Kumar, 2015).

Ethiopia's modern textile industry dated back in 1939, with following the establishment of Dire Dawa Textile Factory. It was the first and the only modern factory in the garment and

textile factory in the country. But slowly factories started following the foot step Addis Garment PLC (formally known as Augusta) was established in 1958.

Since EPRDF came to power and there has been changes regarding to economic policy. Ethiopia used to follow command market policy under DERG; this ended and EPRDF implemented the free market policy. The number of factories participating in the textile industry large and medium has increased from 19 to 290 since 1991.

After EPRDF came in power economic policies and countries strategies were formulated with a time frame GTP I and GTP II in 2010.

Ethiopia's Growth and Transformation Plan II (GTP II) aims to spur economic structural transformation and sustain accelerated growth towards the realization of the national vision to become a low middle-income country by 2025. GTP II focuses on ensuring rapid, sustainable, and broad-based growth by enhancing the productivity of the agriculture and manufacturing sectors, improving the quality of production, and stimulating competition within the economy (National Planning Commission, 2016).

Since the implementation of GTP II, the country has given attention to the manufacturing sector. The government has shown this by building numerous manufacturing sheds in different locations with their infrastructures.

In the last 5 to 6 years, Ethiopia's textile and apparel industry has grown at an average of 51% and more than 65 international textile investment projects have been licensed for foreign investors. The decision of the Ethiopian government to prioritize the sector and design incentives to attract investment in view of worldwide competition has played a major role in the development of the sector's economic status (The Ethiopian Messenger, 2018).

At present, the Ethiopian textiles and apparel industry consists of approximately 188 medium and large-scale factories, 112 of which are foreign-owned. The total industrial sector in the country equals about 17% of the country's GDP, with textiles and leather dominating the exports (The Ethiopian Messenger, 2018).

The plan and strategies of GTP II has given the textile industry priority. Ethiopia's has median age of 17 and 60% of the population age is under 25. Creating job opportunities for country like Ethiopia is priority. It is known fact textile industry is labor intensive; it has contributed a major role in reduction of unemployment. The building of industrial parks and other government efforts has attracted foreign direct investment and many private local investors.

The implementation of devaluation was a strategy implemented by the government to enhance export performance, aiming it will increase export capability and attract international interest in Ethiopian commodities.

Even though the purpose of devaluation is to further facilitate the manufacturing sector and to increase export performance results may not be as expected and till this day the country faces

shortage of foreign currency, low export and high demand of imported products. This has result in country's trade deficit. Bedroom Statement of the problem

Devaluation of currency has been identified as one strategy for developing and underdeveloped countries. It's expected to improve export performance and deteriorated trade balance of a country. But this strategy can bring consequences if not applied carefully. A devaluation effect is not limited to the final destination of end product but all the process that takes to make it. From production of input commodities, process and market destination textile industry is highly exposed to effect of devaluation.

Even though the government has tried to awake the industry sector by devaluating the local currency repeatedly that has created a reverse problem on the sector. The reduced values of birr made it difficult for investors and companies to invest on imported capital goods and input materials. Since the country faces continuous shortage of foreign currency, investor's has limited access.

This has affected produced commodities unable to compete globally with quality, quantity and price. But main goal of devaluation was to create a competitive and lower priced commodities to increase exports in the international market. Devaluation effect made export commodities to be expensive and could not meet expected demands.

The high demand for imported material has increased over the years with increased demand for imported input materials for production and house hold needs.

In Ethiopia textile industry has high import record compared to other manufacturing sectors. Even though the sector uses local inputs, the demand for input material and production could not match.

This research will try to explain the effect of devaluation on the export performance of textile industry. Even though it's repeatedly mentioned that devaluation was frequently implemented to improve the global competitiveness of the export commodities, it seems that the reverse is true. Locally produced commodities price rising will result on the house hold demand for imported items, since the production cost makes the final product expensive. Trade balance has gotten worse over the years and demand for imported commodities had increased.

Along with the implementation of Devaluation there have been changes on different aspects of the economy. The main objective of this study is to see how the devaluation has affected the export performance of the textile industry along with other variables.

Will further investigate what policy makers should do in order to attract investor that engages in local manufacturing to increase capability of exporting goods. This will solve shortage of foreign currency and improve buying power of local currency.

In theory if foreign currency shortage is fixed and manufacturing sector improves it will strengthen the economy by higher GDP gain, export will increase with better quality, quantity and competiveness.

1.3 Statement of the problem

Globally devaluation has been used as a strategy to improve country's economy by making export commodity price competitive. For third world country like Ethiopia the strategy does not seem to work. And the continuous devaluation has brought its own problems to the economy. It has made export items to be price competitive but for imported items it has created the reverse effect. The industry sector is affected by the devaluation because it is highly dependable on imported input materials.

Textile industry has numerous inputs which are not produced locally. The only material input Ethiopia can offer for the industry is cotton. Materials inputs from chemicals to accessories are imported with foreign currency. In cases where there is shortage, cotton gets imported from other African countries as well. An expensive input material influences on the final product price which makes it difficult to be price competitive on global scale by making it expensive.

Even though Ethiopia has resources for instance cheap labor, cotton, land, location and others advantages but the textile export performance could not gain much out of the sector. Devaluation along with other factors has contributed directly and indirectly for the sector low performance.

Pertinent to previous studies, different attributes have been reflected on the area of e-banking by various scholars. Studies carried out on effect of devaluation locally and internationally are mainly not sector specific. In some studies even though it focuses on textile industry sector it's coupled with other independent variables which are different form this research.

On the other hand research on the effect of devaluation of birr on textile export performance is insufficient.

Although a number of earlier studies have made to add their own contribution to the effect of devaluation of birr on textile export performance and stated their own implication, most of the studies were out of contexts where the cultural, geographical, and economic conditions are different from Ethiopia.

So the theme of this research is to examine the effect of devaluation of birr on textile export performance of Ethiopia by adding variables: Real effective exchange rate used to measure exchanges rate, GDP, FDI, Number person employed, Imported input, Actual production output. This study therefore intends to fill these relevant gaps in literature by studying the effect of devaluation of birr on the export performance of textile industry by considering all the above variables on the Ethiopian textile industries and by providing other factors that are untouched and that affect textile export performance.

1.4 Research Questions

- Does real effective exchange rate affect export performance of textile industry?
- Does real gross domestic product affect export performance of textile industry?
- Does foreign direct investment affect export performance of textile industry?
- Does a number of person employed with in textile industry affects export performance of the industry?
- Does imported inputs expenditure for production affect export performance of textile industry?
- Does actual production output affects export performance of textile industry?

1.5 Research objectives

1.5.1 General Objective

The general objective of the study is to assess the effect of devaluation of Birr and other crucial variables on the export performance the textile industry in Ethiopia.

1.5.2 Specific Objective

The specific objectives of the study are:

- To examine the effect of real effective exchange rate on export performance of textile industry.
- To examine the effect of real gross domestic product on export performance of textile industry.
- To examine the effect of foreign direct investment on export performance of textile industry.
- To examine the effect of number of person employed on export performance of textile industry.
- To examine effect of imported inputs on export performance of textile industry.
- To examine the effect of actual production output on export performance of textile industry.

1.6 Significance of the study

The research will give insight how repeated devaluation of birr has affected the country's textile industry, especially textile export performance of the industry.

To this end, it is hoped that the results of this study will:-

- Provide relevant information to policy makers at National Bank about effect of repeated devaluation and others variables on the export performance of textile industry. Policy makers
- Academicians can use this study as an input for further investigation on related subject matter.

1.7 Scope of the study

This study will be delimited only to the assessment and examination of textile industries within Ethiopia. Data's included in the study has all the 290 factories of large and medium factories engaged in production of textile in Ethiopia. The study focuses in the continuous devaluation implemented on 2008. The analysis wills cover the data from 1999 up to 2017.

Testable Research Hypothesis

The study will have a set of propositions tested. The propositions of interest will be the following:

Hypothesis 1: Real effective exchange rate has a negative and significant role on export performance of textile industry.

Hypothesis 2: Real gross domestic Product has positive and significant role on export performance of the textile industry.

Hypothesis 3: Foreign direct investment has a positive and significant role on export performance of textile industry.

Hypothesis 3: Number of person employed has a positive and significance role on export performance of the industry.

Hypothesis 4: Imported input has a negative and significance role on export performance of textile industry.

Hypothesis 5: Actual production output has a positive and significance role on export performance of textile industry.

1.8 Limitation of Study

The limitation of this paper is the insufficient detailed data on specific subject matter. Trying to get access to past years reports and data's was very difficult. Most private companies do not have the culture to share their reports outside of the organization to support such academicals research. Time and resources are limitation of this study. Reports are not complete in their content, collecting the necessary data from different reports was time consuming.

1.9 Organization of the paper

This research will be organized in to four chapters. The first chapter primarily deals with introduction. Background of the study, statement of the problem, objective of the study, delimitation, and methodology that will be used to collect and analyze data will be addressed in this chapter. Review of related literature including conceptual framework for the analysis will be discussed in chapter two. Under this section relevant published and unpublished

literatures, journals and other researcher's work that are previously prepared on similar areas will be thoroughly reviewed in a manner to achieve the objective of the study and help the data analysis. Chapter three give insight about the methodology implemented along with econometric model and explanation of variables with hypothesis. Chapter four provides analysis of data and econometric result on relationship between devaluation of birr and export performance of textile industry. Chapter five provides summary conclusion recommendation for and lays a ground work for further research work.

CHAPTER TWO

2 LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Ethiopian Textile Industry

Ethiopian textile industry has a long history of traditional based methods which was limited in home grown industry, with limited activities spinning drop wheel and handloom.

The modern Ethiopian textile history began when the Italians introduced the first factory in 1939 in Dire Dawa, the Dire Dawa Textile Factory. Addis Garment PLC (formerly known as Augusta) was established in 1958. From then to 1991, the growth of the sector was sluggish; in fact by 1991 there were only 19 textile and garment factories in Ethiopia. All owned by the state due to the command economic policy of the country (The Ethiopian Messenger, 2018).

Ethiopian economy has shown different characters; Emperor Haile Selassie was characterized by modicum of free market economy while the DERG regime used command economy. After the downfall of DERG in 1991 EPRDF again started to practice free market economy in most of the sectors. But in this time there was commodities pricing that have government intervention to overcome inflation and access to basic necessities.

After 1992, the country went through major changes in the economy sector. The highest devaluation was made in the same year. The government in power focused on poverty reduction by facilitating investment and expansion of existing industries. Textile industry was one of the major sectors identified by the government in Growth and Transformation Plan I & II alongside leather and other exportable goods. The objective of GTP was to make Ethiopia middle income country by 2025.

The support continued by investing, expanding and building of industry parks in different geographical locations. The objective of the strategy was to enhance and facilitate the manufacturing sector, which is expected to share the burden of agricultural lead economy of Ethiopia.

Far East countries with strong economies for instance; China, Malaysia and Singapore are some of the countries Ethiopia follows as a role model. Those countries have managed to upscale their economy by increasing their manufacturing and export capacity. Even today China is known to devaluate its currency intentionally to increase export commodities.

The vision of GTP I and II goes beyond increasing export and production capacity, it is to make Ethiopia the biggest textile and apparel hub in Africa. The industry has been given a great attention by the government. It’s expected the sector will decrease unemployment rate since textile is a labor intensive industry. As many countries in Africa Ethiopia’s trade balance has been deteriorating. Economic policies formulated by the government are focused on export to increase export performance and improve trade balance. For a country’s trade

balance to improve one must export more than its imports. This has a direct effect on inflation rate and product pricing.

According to Ethiopian Textile Development Institute, Ethiopia has currently five major public textile factories producing mostly work wear garments for the domestic market, while about 180 privately-owned local and international factories produce shirts, suits, work clothes and uniforms for national and foreign markets. According to data's from Central Statistical Agency 251 textile factories out of 290 are operating in Addis Ababa (CSA, 2017).

"Currently, Ethiopian textiles and apparel industry encompasses spinning, weaving, finishing of textiles, manufacture of cordage, rope, twine, netting, knitting mills, and manufacturing of wearing apparel. The firms in the industry produce products such as cotton and woolen fabrics, nylon fabrics, acrylic and cotton yarn, blanket, bed sheet, shirts, carpets, gunny bags, wearing apparels, and sewing thread." (Zebib, S. 2017)

"Ethiopia has a comparative advantage in exporting textile and garments, leather and leather products, processed agricultural products as a result of its natural resource endowments. It is widely acknowledged that a competitive and private sector-led manufacturing sector plays a key role in socio-economic transformation of the economy and development and development of the sector as a whole. It is also the heart and soul of many developed and developing country's economy and it has also the highest multiplier effect of any other sector (Tekeba, E. 2018)."

Textiles and apparel exports from Ethiopia have increased substantially over the last decade. Based on figures from the Ethiopian Revenue and Customs Authority, Ethiopia's textile industry obtained about $89.34 million worth of exports in the 2015/2016 fiscal year.

Ethiopian textile and apparel industry has grown an average of 51% between 2011- 2017. Foreign direct investment has a direct impact on growth of textile industry and its exports. Proximity to potential market (Europe, and Middle East), availability of resources, cheap labor and government incentive to the sector has given Ethiopia comparative advantage for foreign direct investment. FDI will not only increase export output of the country but it will also facilitate transfer of knowledge and technology for developing countries like Ethiopia.

Ethiopia has caught attention of retailers like H&M, Primark and Tesco. They have established offices in Ethiopia on 2012 and are buying clothing finished products from Ethiopian manufacturers.

Producers lacking technical knowledge of regional and international market have made it difficult to Ethiopian textile products penetrate international market. According to (Eyelachew, M. 2018) One of the reasons Ethiopia is lagging behind is the fact that the country is unable to utilize developed countries as well as regional market opportunities for textile and garment industry; such as AGOA, EBA and COMESA. The reason stated was the Non- Tarff Barriers (NTB) and Technical Barriers to Trade (TBT).

(Zebib, S. 2017) says that improvement in infrastructure, power, supply, production shed, regional trade integration has a direct impact to improve the textile industry export performance.

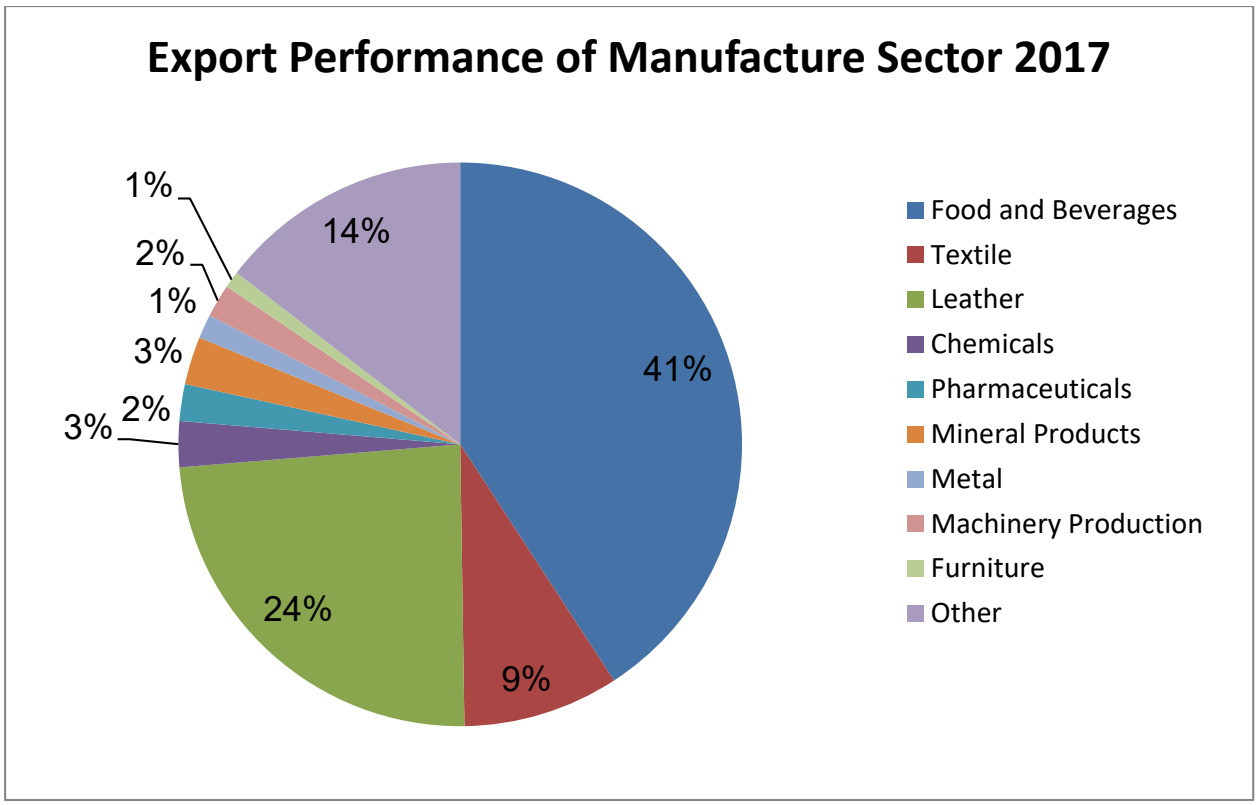

Figure 1: Export Performance Compared with Other Manufacturing Sectors.
Source: Author's illustration from CSA 2017, annual report.

The sector has been given attention from the government and been supported by different strategies but still the contribution to export is very low. The above figure shows the export performance of different sectors in 2017. The textile sector contribution stands fourth place following food and beverages, leather and other sectors.

Even though Ethiopia is showing fast transformation regarding to the sector, the country is still a working progress.

According to Tekeba's data (Sourcing Rioba Evans M.) Comparing East African countries Kenya has a leading export role on the sector followed by Brundi, Uganda, Tanzania, Rwanda and Ethiopia in that order. Between 2000 – 2013 Kenya and Uganda has positive reputation on the record.

Currently the construction of the industrial parks has awakened investment activity regarding to the textile industry. The newly established Industry Parks at Bole Lemmi, Eastern Industrial Zones, Hawasa and Kombolcha has contributed a lot on job creation and export maximization at national level. Textile sector in Ethiopia is expanding rapidly and employed over 40,000 people in 2017.

Ethiopia can use integrated regional trade system which has not been fully utilized to boost export performance. Even though the country is member of COMESA and can benefit from reduced tariff rates, the country has limited trade agreements in the region because did not utilize fully with the existing ones. Ethiopia is expected to be a part of the Tripartite Free Trade Area between COMESA, SADC, EAC, and other regionals trade agreements. These are some of the agreements in the region, but still a working progress to be part of the Free Trade Area. Recently with the new reform the government is making an effort to liberalize its trade policy. Negotiations are taking place to become member of WTO.

Internationally the country has another advantage is the comprehensive market access that Ethiopia enjoys in major textile and cloth markets (such as the United States, EU and Japan) as a result of its least developed country status and various trade agreements.

2.1.2 Characteristics of Textile Industry

Textile industry is considered as one of labor intensive and essential way enhancing economy especially for developing countries. The industry can absorb high labor resulting high production output which characterizes the industry as highly export oriented with a global scope. Its different segment of production takes place in different geographical location is another reason that the industry is export oriented. Its known production takes place in developing countries where there is low labor cost, while other segment of production that requires technical experience and technological advancement takes place in developed countries.

Similar idea was shared by Kumar Roukova & Krishnamurthy saying competitive labor cost, trade liberalization and organizational flexibility are major reason of delocalizing production segments (Kumar S. 1997; Roukova P. 2008; Krishnamurthy V. 2009).

Developing countries are active in the lowest value chain which is major activities relate to the production of textile. These activities are based on the resource availability, market proximity and labor availability. On the contrary developed countries are focused on the design and innovation of product, marketing and branding.

2.1.3 Supply Chain of Ethiopian Textile Industry

Supply chain refers to the combination of all activities involved in the process of sourcing, procurement, conversion and logistics.

It is the interconnection of all the functions that starts from the manufacturing of raw material into the finished product and ends when the product reaches the final customer.

It focuses on operations management in the production line until the product reaches customer. It gives great deal in efficiency, in terms of time, quality and cost of operations.

Understanding the supply and value chain of the textile industry is very important. A manufacturing industry cannot be portrayed without those chains.

Textile industry was given attention in GTP I & II, for its demand in international market and it labour intensive which creates job opportunity.

It's known Ethiopia has a suitable natural resources and environment to produce cotton. Yet the country imports cotton as input materials from abroad. The imported inputs are particularly from China, India, and Pakistan.

Even though the industry has high import record, Quality tends to be the major question that could not be answered with many of the factories producing textile in Ethiopia. Factories owned by local investors target local consumers because the international market demand a high quality standardized products. On the contrary those factories owned by foreign investors focuses on the international market with knowledge and experience of international market.

According to International Trade (2015),the world most influential buyers has fast evolving criteria's, it's says producers (suppliers) need to assure product quality in the production line by implementing product testing before launching, delivering products on time, provide competitive pricing, creativity in product development, social guidelines which provides wellness of workers, capacity to meet demands with product availability & vendor managed inventory capabilities.

China is accounted for 40% of textile export in the international trade. The increment of private consumption of textile and apparel will create trade gab at the international level. This is seen as an opportunity for upcoming textile producers to take part in the international market share. By assessing the demand and analysing the trade gap Ethiopian textile can benefit from this opportunity.

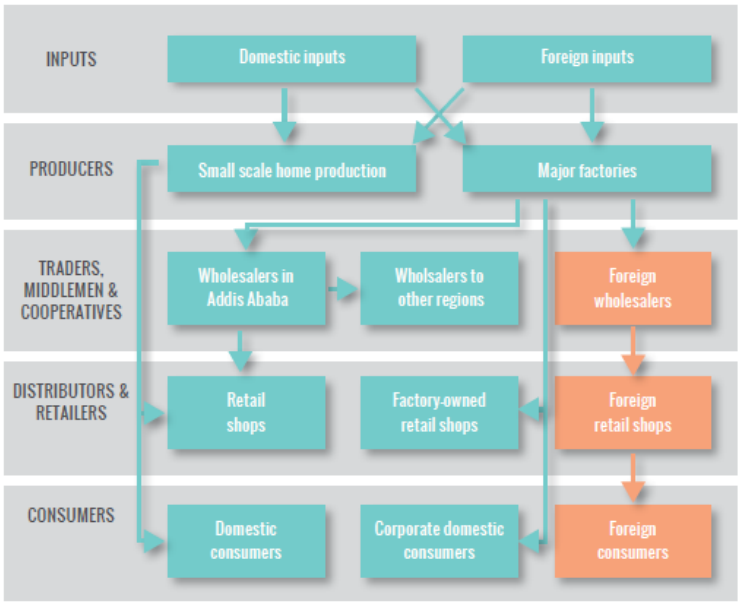

Figure 2: Showing the Supply Chain of Textile in Ethiopia
Source: "Ethiopian Economic Update: The Inescapable Manufacturing Service Sector Nexus: Exploring the Potential of Distribution Services." By World Bank, 2017.

2.1.3.1 Input

It's known that Ethiopia is rich in natural resources which it very suitable for the production of textile. For instance the country's climate and geographical location is suitable for cultivation of cotton.

Input materials are not limited to domestic ones but production of textile uses imported input material as well. Imported Items include raw cotton, cotton yarn, fabrics, fiber (polyester), fiber (acrylic), jute (fiber), sisal (leaves), wool, acrylic (yarn), cotton (lint), nylon yarn and chemical dyestuff.

According to International Trade (2015) Awash valley is known for cotton production along Omo-Gibe, Wabi Shebelle, Baro Akobo, Blue Nile and Tekeze river basins. From 3 million suitable hectares only 123,000 hectors of land are cultivated for the production of cotton. Commercial farms account 70% of cotton production.

In 2009/2010 Ethiopia produced 3,392 tons of cotton. Even though within the years there were fluctuation of cotton production on 2015/16 and 2016/2017 the highest number of cotton production was recorded, 142,582 and 88,420 tons cotton respectively.

Shortage of foreign currency has affected access to pesticide and fertilizers for cotton farms, which has a direct effect on gross production and quality of cotton.

Incentives, new policies and strategies have been implemented to facilitate activities in the textile sector. By using these privileges given to exporters, private cotton producers tend to export abroad than fulfilling the domestic needs of cotton by local textile factories. This has created shortage of cotton availability locally. This factor has forced textile factories to import cotton which influenced final product's quality, cost and delivery time. The demand for cotton is rising from time to time. The country imports cotton from Egypt, India, Uganda, Sudan and Pakistan.

Import of semi-finished goods stood at USD 2.6 billion, about 9.5 %lower than last year while that of textile fabrics import increased by 11.4%. As a result, the share of semi-finished goods in total merchandise import bills fell to 16.6 % from 17.3 % last year on 2016/2017 (International Trade, 2015).

Supply chain management and matching market demand is main operating problems for 187 textile factories in Ethiopia.

Cotton has been the major natural fibre input in Ethiopian textile production history. Globally the trend of input has changed from natural fibre to manmade fibre in the past ten years. "In 2013 man-made fibres accounted for 70 % of fibre production worldwide, compared with just 55.5 %4 in 2007 (International Trade, 2015 p19)". Synthetic filaments are imported from a variety of countries including China (US $ 100 million in 2014), India (US $ 12,650,000), Korea (US $ 3,535,000), Chinese Taipei (US $ 2,520,000), Indonesia (US $ 2,490,000) and Turkey (US $ 1 million). Most of the country's capital goods and inputs for textile industry

are imported from China and India. But different countries have different parts in the supply chain managements of Ethiopian textile industry. The dyes and chemicals are mainly imported from Japan, Pakistan, Switzerland, Turkey, Germany and Italy. On the other hand Turkey, China, Italy, Germany, U.S.A, and United Kingdom are some of the export destination of Ethiopian Textiles.

The advancement in manmade yarn has impacted the production line positively. It has given the industry to increase productivity, flexibility, product differentiation and quality while providing lower cost of input material.

Ethiopia can use the manmade fibre as input to increase efficiency in production line. Currently the country import items for instance; manmade yarn (synthetics), chemicals for dying and accessories. This has increased the expenditure of input material of the industry sector. To overcome costs related to imported manmade inputs the country should develop the chemical industry sector. This will solve any shortage regarding to chemical inputs which helps produce synthetic materials and other customization works.

Textile input has diversified with addition of man-made yarn but still it has not solved the shortage of inputs. In Ethiopia 93 factories are not operating to their full capacity (CSA, 2017). The reason for not operating full capacity is different for different factories. As the data shows, 39 factories have shortage of raw material, while 16 out of 93 factories faces absence of market and demand for their products.

The other strongest resource input the country has is its young population. This has a direct impact in production. In 2009 the textile sector employed only 21,382 people, the following year employment has shown a drop of 38% within the sector, after that the highest employment was recorded on 2013 which was 56,386. In 2017 the sector has employed 35,590 even though the expectation was more than 40,000 (CSA, 2017).

According to Eyelachew, (2018) the availability of high young population and lowest priced power supply makes the country to be strategic choice for the production of textile industry. The long history of Ethiopians in textile spinning and weaving history also has great input for this young industry.

2.1.3.2 Process

The process of making a textile majorly has a physical change process starting with gaining of cotton along spinning, weaving and knitting. In case of producing synthetic material or manmade fabric, the major process are chemical processes. After producing textile in either of the methods customizing stage will take place. The customization stage includes the dyeing and printing which solely based on the clients demand or designed appearance of the final product.

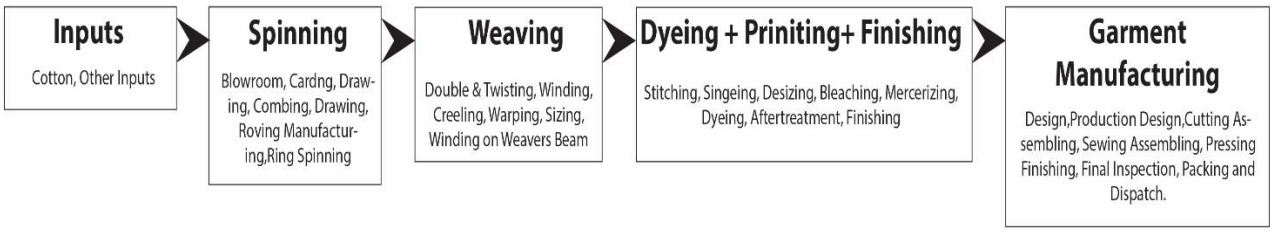

Figure 3: Showing the General Textile Production Process.
Source: Author Illustration from Textile Learner Blog 2020.

2.1.3.3 Post Production

The post production process depends on market or buyer. Textile itself can be sold as an output or it can be further processed.

The garment production takes place immediately in the cloth industry, where the production of textile is followed by the design, cut and trim. Most developing counties are engaged in the lower value chain cut and trim, where the textile is prepared for sewing. In Ethiopia the innovation and creativity is lagging behind compared to international competitors. But still there is high manufacturing of garment, mostly for local demand that serves as a uniform solution for organization. The products produced by these stages are very limited, for instants t- shirts, night wears, socks, bed sheets, shirts and household items. The country has sluggish export performance because the product lacks deign and innovation.

2.1.4 Value Chain of Ethiopian Textile Industry

2.1.4.1 Value Chain

Value chain implies the series of business operations in which utility is added to the goods and services offered by the firm so as to enhance customer value. It involves both the physical transformation and input of services. Usually those enhancement and value additions are what set a textile firm apart in the market. In value chain the major tasks are related to business management operations.

According to Philp Kotler and Kavin Lane Keller, value is provided by a producer that benefits and also costs a customer. In can be perceived as the integration of for three things; quality, service and price. It's called "customer value triad". Value has direct relationship with quality and service. Customers are always on the lookout for the highest quality, fair price and on time delivery (Zebib S. 2017).

According to Michael Porter, value is how much buyers are willing to pay for the product or service rendered by a producer. Customers demand certain criteria's from a product is seen as a source of value. A value is measured by the total revenue and how many unit it can sell. A firm can benefit from creating a value only if the value is greater than the cost of producing the product. And that's most firms' strategy. Attention should be given in the process of creating value for a customer it should not exceed the production cost of a product. Some firms exceed their cost of production to achieve premium price by achieving differentiation.

The value chain shows how a product is made from initial stage of production up to the final delivery of a product to the end user. But the main focus of a value chain is adding or creating value without incurring significant costs in the production process. “Value adding activities are not independent but interrelated and interdependent within the value chain” (Morden, 1999; Porter, 1985).Porter states: “value activities are related by linkages within the value chain. Linkages are relationships between the one value activity is performed and the cost or performance of another” (Porter, 1985: p48).

2.1.4.2 Value Chain of Ethiopian Textile Industry.

In economic terms and theories value addition refers to adding extra function or worth to the product. Factories add diverse values to the original finished product to penetrate and control market share. Products value addition can be achieved in numerous ways by aesthetics (appearance) of a product, function (usefulness), affordability (cost effectiveness in production process).

In developed countries a client chooses one product over the other with knowledge of how a product is made. For instance clients have become more sensitive on how products are made and how much effects it has on nature. Fair Trade, women empowerment and job creation are popular agendas around the western culture. Factories with sustainability, Fair Trade, and community based schemes that have direct positive impact on society are considered as greater value by the customers abroad.

In textile industry the story is no different from other industries. Its known textile is among world’s top industries and it’s often considered as backbone of the economy for most developing countries.

China, India, Pakistan, Bangladesh, Turkey and Indonesia are some of the developing countries who have used textile industry to contribute high percentage to their overall GDP. Since clothing is one of the basic necessities, textile is one of the top five manufactured products along with chemicals, office equipment & telecom, automotive products, iron and steel.

According to Textile Value Chain (2020), China generates about 4$ billion from one million bales of cotton, India 2 billion whereas Pakistan lagging behind at $ 1 billion only (Textile valuechain.com, 2020).

The economic scheme applied by the Ethiopian government was similar as that of Asian countries. The introduction of GTP was to make Ethiopian economy from agricultural lead economy to manufacturing. But the country has not benefited from manufacturing industry as it was expected since input materials are imported. The reason behind is the country is still based on exporting primary products than value added products. This has impacted the employment rate, pricing and competency of the country’s export items in general.

Referring the data released on 2017 by CSA, Addis Ababa holds 39.43% textile factories and Oromia, Amhara, SSNP and Tigray 25.97%, 13.48%, 8.19 %and 7.03% respectively. 251

factories are working on manufacturing of textiles the rest are working on wearing appeal except fur apparel; number of factories has reached 290 in overall the country. In manufacturing sector textile holds about 8% while apparel holds 2.81% according to the same data.

"According to ADB, Manufacturing Value Added (MVA) per capita is highly desperate across East African countries. Kenya, which ranks second highest in the region in market value added per capita, registered strong growth in this indicator up to 2008, more than doubling from USD 39 in 2002 to USD 85 in 2008, but then experienced a decline with the crisis. Several countries in the region (Rwanda, Tanzania and Uganda) have managed to sustain relatively strong growth in this indicator since the mid-2000s from very low levels, while Burundi and Ethiopia have lagging behind." (Tekeba, E. 2018:p32)

"Even though most developing countries where only engaged in cut make & Trim (CTM) but now there is a growing interest in adding more value to the product that has been created." (International Trade, 2015:pxiv)

Value Creation in textile can be achieved in major four ways function (usefulness), Aesthetic (Style), Price (Affordability), Suitability (appropriateness of material). And Ethiopia has 130 textile firms that complete the entire value chain, including ginning, spinning, weaving / knitting, dyeing and printing, home textiles, and knitted / woven garment production. ETIDI estimates that there are roughly 16 units throughout the value chain capable of processing textiles ; this includes three stand-alone dyeing and printing enterprises as well as a number of the semi-integrated and integrated textile mills. "Even though most developing countries where only engaged in cut make & Trim (CTM) but now there is a growing interest in adding more value to the product that has been created(International Trade, 2015:xiv)."

According to CSA in the case of Ethiopia the main values added after the production of the textile are:

- ✓ Lint Cotton
- ✓ Cotton Fabrics
- ✓ Nylon Fabrics
- ✓ Acrylic Yarn
- ✓ Cotton Yarn
- ✓ Woolen Fabrics
- ✓ Blanket (Woolen)
- ✓ Blanket (Waste Cotton)
- ✓ Blanket (Others)
- ✓ Bed sheet
- ✓ Shirts
- ✓ Carpets
- ✓ Gunny Bags
- ✓ Hosieries
- ✓ Wearing Apparel (Except Leather)
- ✓ Wearing Apparel (Leather)
- ✓ Sweater
- ✓ Sewing Thread
- ✓ Embroidery Thread
- ✓ Jano Thread

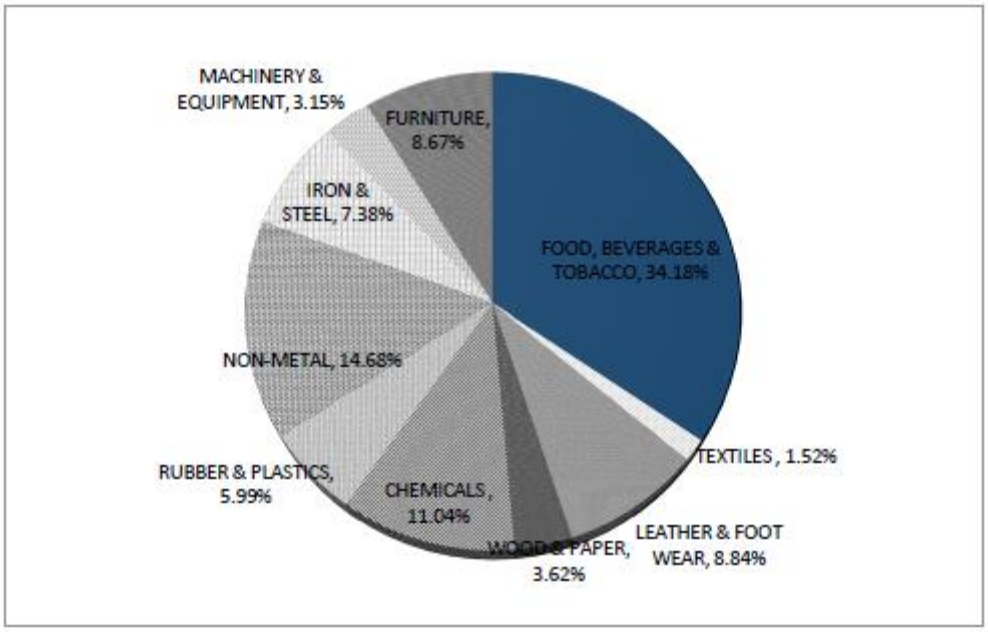

Figure 4: Showing Percentage Distribution of Value Added by Major Industrial Group 2016/2017.
Source: CSA Annual Report 2017.

The above figure shows percentage distribution of value added by major industrial 2016/17 according so CSA, Food beverages & tobacco 34.18 takes the lion share and 14.68%, 8.84 and 8.67% non -metal, chemicals, Leather Foot Wear and Furniture Respectively. From this textile industry share is only 1.52%.

Consumption of imported commodities within textile industry is high but it's not returning favour by increasing export as expected.

Ethiopia exports primary agricultural goods to the international market, which makes the country to be in the lower chain of the value addition process. Similarly, less diversified item with the combination of low value addition has made the textile industry not contribute bigger share in overall GDP of the country. Ethiopia's most important textile export items are cotton yarn (39.8 %), cotton fabrics (14.5 %), bed, table, toilet and kitchen linens (13.6 %) and special woven or tufted fabric, lace, tapestry, etc. (8.1 %) on 2015 (International Trade,2015). Market destination of the product is mostly the same. Exploring new market and providing different product is a still working progress in most Ethiopian textile industries.

Addis Ababa Chamber of Commerce and Sector Association (AACCSA) in October 2015 Under "an Overview of Ethiopian Manufacturing Sector", mentioned as a result of integrated efforts by the government and the private sector, Ethiopian and foreign investors are recently moving aggressively in the direction of higher value addition through investing in balancing, modernization, establishing and up-gradation of the textile manufacturing industry by acquiring new technologies (Zebib, S. 2017).

Opportunities are wide and diverse for Ethiopia to expand export of textile product. The first reason is the cost of doing business in Asian countries like China and India is rising, which

forces western countries to find other cheap labour and prime location for production. New producers from Asia are coming to picture including Viet Nam, Myanmar and Cambodia. These countries are some of the fastest growing exporters in textile and cloth sector.

Main reason for European producers has turned to Africa, is for its location, availability of resources and low labour cost. More than 200 Ethiopian textile firms have invested in capital goods and technical capabilities. 600 new production lines developed by yarn, textile & apparel production. It's expected the sector will hold 45,000 new jobs in at the time of the report. The plan for the sector is "…to increase annually by 35 % to US $ 320 million. All companies comply with international standards, working conditions, quality management and sustainability. (International Trade, 2015 :pxiv)"

But still there are lots of activities to be done to be competitive and deliver quality products to the international market.

2.1.5 Devaluation in Ethiopia

History of devaluation in Ethiopia can be seen parallel to the political regimes that took power since 1945.

In 1945 at a time of Emperor Haileselasies Ethiopian currency with US dollar was 2.48 birr per US dollar. After twenty years on first of January, 1964 devalued to 2.50 Birr per US dollar.

In Derg regime exercised fixed rate exchange rate system as that of Emperor Haileselasie era. In fixed exchange rate system the government was the one in charge of deciding the exchange rate system until the end of 1991. In Derg era the devaluation of US dollar by 10 % resulted in valuation of birr to 2.07 Ethiopian birr per US dollar in February 1973. But this scenario followed by wide spread of unofficial foreign currency market (Black Market). While the price of Ethiopian birr against US dollar was 2.07 on those black market it has reached 6 to 7 Birr per US dollar (Taye, 1999). This price continued unchanged almost for 17 years until Ethiopian People's Revolutionary Democratic Front (EPRDF) came in power in 1991.

After Ethiopian People's Revolutionary Democratic Front (EPRDF) came to power in 1992 Ethiopia started to implement an exchange rate policy which is closer to managed floating foreign exchange system. In other words the government intervenes whenever intervention is needed to stabilize the exchange rate. This was different from previous exchange rate systems which were controlled by the government. The highest devaluation of birr took over in this period.

In 1993 the government has introduced an auction system for foreign exchange. According to Tewabe (2010), the auction system was done to liberalize the foreign exchange market so as to achieve market determined exchange rate. Objective was to strengthen official reserve. The auction system takes place once a week. National Bank has made foreign exchange available to licensed importers. Commercial banks, importers, public industries, enterprises and

organizations participate in the auction system. This has opened the door for commercial banks to be engaged in retail trading of foreign exchange. This has resulted exchange rate to be determined daily to encourage output of export sector. The period transitioned from fixed exchange rate to a free floating exchange rate system (Mulat and Tewodros, 2003, cited in Teshome, 2007) (Tewabe G. 2010).

From 1992 up to 2019 four devaluation has been made. The first one took place 1992 the official exchange rate of the nation jumped from 2.07 birr/dollar to five birr/dollar. This accounted for 142% the highest in Ethiopian devaluation history. The second one took over in September, 2010; the rate was changed from 13.6 Ethiopian birr per US dollars to 16.3 birr/dollar accounting about 16.7% devaluation. The third one is the official devaluation of birr against US dollar by 15% in November, 2017. This moved up the exchange rate from 23.3 birr per dollar to 27 birr per dollar. Central bank also announced that it has raised the main interest rate to 7 percent from 5 percent to stimulate savings as well as to counter the inflation (NBE, 2017).

The latest devaluation made by NBE took place in November 13, 2019 without being publicly announced. The government did not address the reason for devaluation officially. A report by Fortune Newspaper staff Dibora Samson wrote the news about the devaluation that has not been public by NBE. Further the report says the devaluation which took place silently on November 13, 2019 has decreased with the birr falling by 5.6% against United States dollar. The exchange rate of birr against US Dollar has drop from 30.8 Birr against a dollar to 31.76 Birr by December 7, 2019. On October and November Commercial bank of Ethiopia rose value by 2% for the dollar. On other word it means dollar would buy 0.01 Birr more than it did on the previous day. Value of a dollar is increasing by 10 cents every day. This means dollar could by 10 times more than the previous devaluation. According to the same report Birr is devaluating on daily basis by 0.3%.

According to Debel, (2019), Ethiopia implemented devaluation to improve the current account balance and the export performance of the country. The result shows the trade balance has worsened in the past few years. “Specifically, between 1985 and 2010 exchange rate was falling in value but trade balance remained to be less than unity.” (Debel, G. 2019:p5)

Devaluation Years	1945	1964	1971	1973	1992	2010	2017	2019
Birr vs. USD	2.48	2.50	2.30	2.07	5	16.35	26.92	31.76

Table 1: Continues devaluation of birr against USD, Constructed by Author
Source: Ameha Zewde, 2018

Weakening of currency has resulted growth issues for many developing countries. IMF and World Bank insist that devaluation of currency will support economic growth by improving export performance of a country, beside the loans and the assistance they give to fellow

member countries. It's expected it will increase competitiveness of firms, production of domestic products and final out puts.

In fact, Ethiopia has the lowest goods export-to-GDP ratio 7 % among populous developing countries (NBE and World Bank report, 2014). Imports of goods and services have slowed down from 32 % growth in 2007/08 to 12 % in 2009/10 and projected to level off at an annual average rate of 10 % once the impact of recent 40 % plus devaluation takes hold (IMF Country Report, 2010).

World Bank report titled "Ethiopia Economic Update Part 1" says total goods and services exports do not exceed 10 percent of GDP significantly below the 24 percent expected. For a country size of Ethiopia at its level of development it's very small. The improvement in the trade balance was driven by a slowdown in imports rather than acceleration in exports. This underperformance is mainly due to structural competitiveness issues, including an exchange rate (World Bank, 2018).

WB and IMF still impose that current value of the Ethiopian currency is not the true value and suggesting the government must implement the true market price of the currency by devaluation.

At the end of 2019 the government of Ethiopia announces there is a long term plan of implementing floating exchange rate, where value of foreign exchange rate will not be fixed anymore instead it will be decided based the market value. Floating rate was used as monetary tool until now but the foreign exchange value was decided by the central bank intervention. After the practical implementation, the value of the currency will be decided by the market, based on the demand and supply.

2.1.5.1 Devaluation as Economic Tool

Devaluation is used to facilitate the export sector but sectors which benefit from devaluation, would be realized only in the long run. Inevitably, devaluation would have contradictory effects in the short run. It would take time for investment decisions to be made and actual investments to take place. Some economist say that devaluation coupled with higher interest rate will have a negative impact on the economy. Cost of borrowing will increase, resulting increase in cost of doing business. This will make investors take longer time to increase their capacity and actually start investing on textile or other industry sectors.

Goshu (2019) citing Meng (2015) says increase in export performance for one country is a way to increase export competitiveness and foreign exchange rate. Meng says fiscal expansion will make housing expensive and a rise of foreign exchange rate. He argues strongly countries like China with strong economy but cheap currency will create disadvantage for other countries to compete in the international level (Goshu, D. 2019).

As much as devaluation is used to avoid such competition of pricing but it has a direct effect on the national income and welfare of the nation. Bonsa (2017) argues against implementation of the devaluation by criticizing the high expenditure of imported goods for

public infrastructural projects. He underlines and criticizes the government which implemented devaluation to discourage imports is engaged in importing capital good in massive scale. (J.Bonsa, 2017).

The country has been engaged in constructing infrastructures, mass housing, large scale production sheds and high rise buildings since 2010. Avoiding those infrastructures is inevitable. Those activities are basic to answer most crucial question of the citizen. Refraining from building such mega structure cannot be permanent solution to the trade balance deficit and high demand of imported goods. Short term solution has long-term effects. Improving export performance is the only solution to build strong economy. Different schemes and strategies can be used to achieve a sustainable export capacity. Mega construction projects goes hand to hand with the strategy of improving export performance of the country, since infrastructures has direct impact in facilitating the manufacturing sector.

Debela (2019) says exchange rate on one country affects country's export competiveness. He says that "the effectiveness of exchange rate devaluation in improving current account has long been an issue of considerable interest to many economic analysts and policymakers." Debel, D. 2019)

To check whether implementation of devaluation is contributing to the economy or not, referring to export performance is not enough. The success story should be measured with devaluation effect on deferent export sectors along with their trade balance. Trade balance is the difference between total income from export and expenditure on import. Growth in export should be more than to cover the import expenditure to land on the conclusion that devaluation has helped the economy.

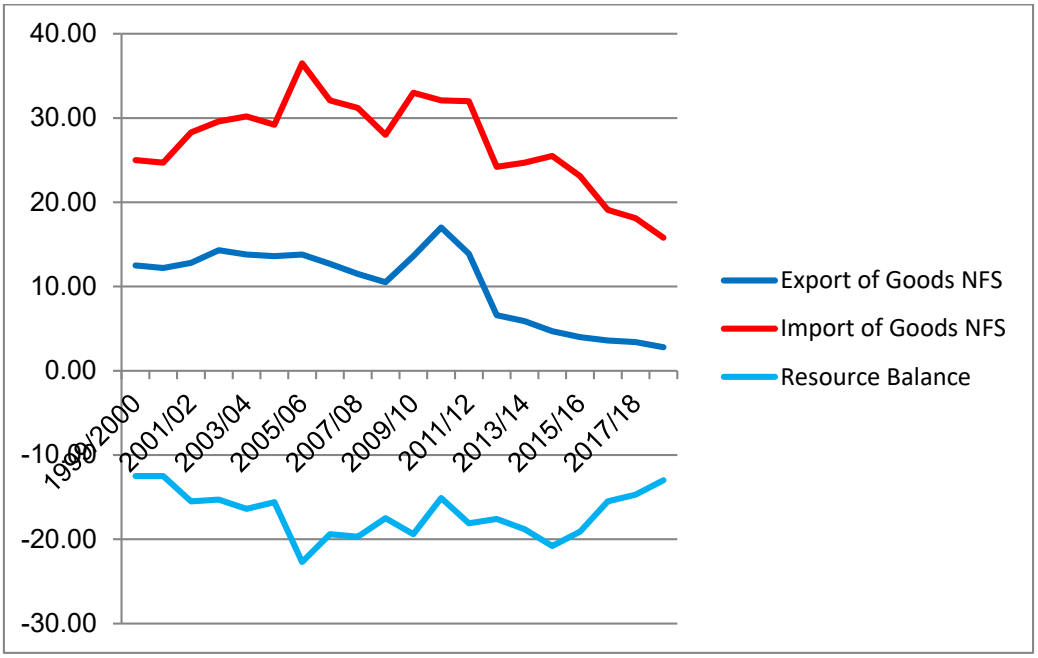

Figure 5: Showing Import and Export Performance along with Resource Balance.
Source: Author Computation from NBE Annual Reports from 2005-2019.

Looking at the graph Ethiopian trade balance has been in deficit for the past nineteen years. The graph shows the trade balances seem to recover for the last five years. The country's private business actives and government expenditure has mostly stopped because of political unrest in the nation. Import of goods has shown a great drop in this year's resulting in the improvement of the trade deficit. The export sector also has shown a major drop in 2011 but seems to continue with constant rate. This shows that the improvement of the trade balance is a result of decrease in import commodities rather increase in export.

In 2014 Ethiopian textile firms exported 35.9 million USD of textile products, which has shown an increment from 2009 which has a record of 14.9 million USD. Ethiopia has 235 million trade deficits in 2014. This happened majorly because textile and garment industry is dependent on foreign inputs; man-made (synthetic) fabric takes the largest share in import record by 52%. Home textile import only makes 26%. The highest trade deficit record of the country is with US with $ 152 million and $ 28 million with China (International Trade, 2015).

According to the same publication Ethiopian textile has most exports to Turkey, which makes up 58% of the total export followed by Germany (14 %), Italy (13 %), China (11 %) and the United States (2 %). The reason why Turkey is a major export destination is because Turkey textile firms based in Ethiopia covered the entire chain up to their global value chain (International Trade, 2015).

Even though it's true that after devaluation of birr the demand for imported items increase, it has to be supported with data's and research to land on such conclusions. The main objective of this paper is to give a brief explanation of devaluation & its effect on export performance of textile industry. It's true the devaluation of local currency against strong currency will have a direct impact on the economy. In theory devaluation is expected to support locally manufactured goods since it will increase the price of imported materials. But in Ethiopia the case is different devaluation of birr has resulted in high production cost resulting increase demand of cheap imported goods. The reason behind is most of country's manufacturing factories are dependent on imported input materials. To say devaluation has positive or negative impacts on the economy it has to be carefully researched with a specific time frame. And results should be presented with its long term and short term effects.

Devaluation effect cannot be concluded by the overall economy without testing each variable that makes up the economy of a country and its relation with devaluation. This is the main reason why the study focused on one of major manufacturing sector that is textile industry.

2.1.6 Devaluation and Textile Industry in Ethiopia

As it's covered previously economy plans and strategies objective is to improve the economy by building a strong manufacturing sector. The sector accompanied by agricultural commodities is expected to increase country's export performance. The measures alone could not be a solution, so the application of devaluation was applied as a means to improve different aspects of export sector.

Devaluation is intentional adjustment of value of country's money relative to another currency (usually strong currency globally). The application of devaluation majorly occurs in countries usually uses fixed exchange or semi fixed exchange rates as a monetary policy tool. In theory devaluation of currency is supposed to enhance the export performance of a country, yet there are lots of arguments regarding to the long and short term effect of devaluation on the overall economy.

According to Kandil devaluation of currency will increase price in countries import relative to export. The main concept lays in here, exporters is expected to gain higher domestic currency and imported items require higher domestic currency making imported items very expensive.

In theory this is supposed to encourage people to consume local products and encourage manufacturing of local goods for export purposes. On the other hand when the export performance improves devaluation is expected to improve a country's trade balance, which increases country's output in the economy. (Kandil, 2007).

The country's central bank has the key role is the decision making. In case of Ethiopia the National Bank of Ethiopia is responsible for any monetary related decisions.

Mengistu,(2014) strongly argues theoretically devaluation of local currency has an intention to facilitate the export sector, resulting increase in competiveness in foreign markets. But the reality is different for countries like Ethiopia which are highly dependent on import inputs. Devaluation would result in higher inflation along with increment price on imported industrials needs. Therefore Mengisitu says it's better to look the impact of devaluation further (Mengistu, 2014).

The objective behind devaluation is to reduce country's cost and to help reduce trade deficits. Export price will be cheap giving competitive advantage on global market. On the other hand this results increase cost imported commodities. In theory this condition is supposed to encourage local business, since imported items will be expensive for users one will be forced to buy local products. Resulting in export increase and import decrease, it favors a better balance of payments by shrinking trade deficits. That means a country that devalues its currency can reduce its deficit because of the strong demand for cheaper exports.

The above statement is positive side of devaluation but that's not always the case. Devaluation has its own downside. Increasing price in imported items does not stop on affecting the house hold only; it has huge effect on major economic sectors.

Devaluation will support local producers since imported items will be expensive. But this affects price of input materials in textile industry resulting high cost of production. As price increases in imported fertilizer, machinery, and pesticide resulting on agricultural products price rise on the global market. Price escalation on fertilizers has direct impact on the production of cotton which is a major input in textile industry. Textile industry uses chemicals which are solely imported from foreign countries. This shows major inputs of

textile industry are imported. These imported inputs are highly vulnerable to devaluation making the items very expensive resulting in higher production cost. In addition, construction of industrial parks, infrastructures and machineries are all affected by devaluation.

The real world example for devaluation is China. China is leading country known of devaluation intentionally. The reason behind china's devaluating is to be dominant force in the trade market.

Some accused China of secretly devaluing its currency so it could revalue the currency after the 2016 presidential election and appear to be cooperating with the United States. However, after assuming office, U.S. President Donald Trump threatened to impose tariffs on cheaper Chinese goods partly in response to the country's position on its currency. Some fear this may lead to a trade war, putting China in a position to consider more aggressive alternatives if the U.S. were to go ahead (Investopdia.com, 2020).

For poor countries like Ethiopia inputs for textile production are majorly imported, factory plants, machinery even in some cases professionals. Lack of skilled professional is another obstacle the country faces in manufacturing sector.

Textile industry from establishment of a factory to the production of output, the process is vulnerable and sensitive to foreign exchange. Devaluation is closely related with all operation of textile production. In other words all the items mentioned above are highly reliable on the exchange rate. It ties the production of textile with the effective exchange rate of foreign currency. Therefore government must take serious consideration before implementing devaluation as means of economic tool. Literatures and different data show that devaluation might work for those countries with strong economy. It makes one leader in global trade, for instance China. But for under developed countries like Ethiopia it may not provide a quick fix it will take longer time show the intend objective. Until then it will continue backfiring on the economy itself.

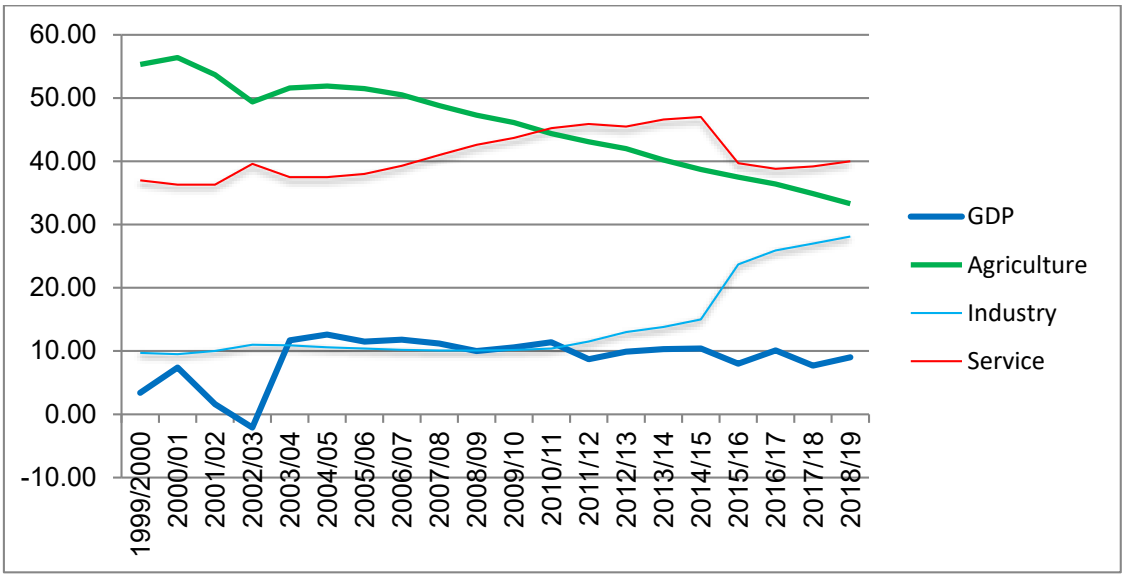

Figure 6: Showing Sectors Contribution to the GDP.

Source: Author Computation From NBE Annual Reports from 2005-2019.

The above figure shows sector contribution to export by percentage, the industry sector is showing growth, mainly because the high investment of public sector on manufacturing. Meaning industry is mainly expanded from public expenditure. The building of industry sheds is one example. It attracts foreign direct investments and interest to the sector.

Even though there had been devaluations in 2010 and 2017, the industry could not exceed 40% contribution to overall GDP. While service sector is around 43% in 2017, which should have been reverse in order to accomplish the goal of growth and transformation plan. Literatures show that the devaluations may have decreased demand of imported items. Imported capital and manufacturing intermediate goods takes 70% of the total import coverage according to Alemayehu (2014), the industry export performance is about 12% which is less that of agriculture which takes 8% of import expenditure. This clearly shows that the agriculture takes the lion share of export with a very minimal import while the manufacture sector largely contributes to Ethiopia's negative trade balance by having a high import inputs but negligible record of export performance.

The industry sector improves even though its less than what is expected but the agriculture which takes the large portion of the export commodity could not gain much from the devaluation.

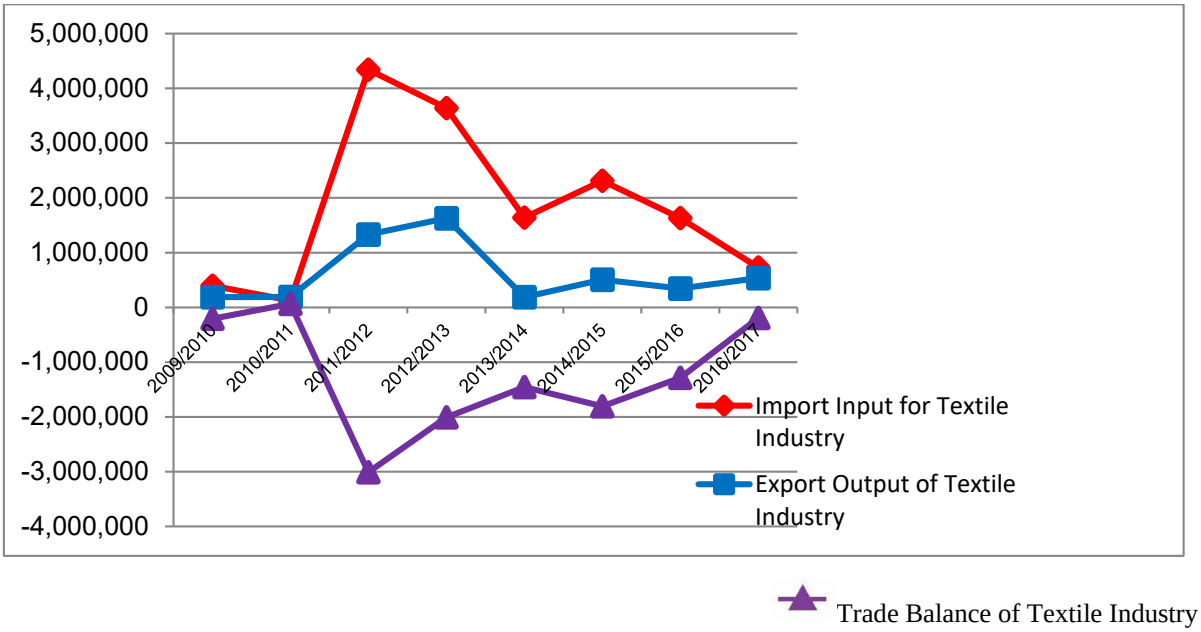

Figure 7: Showing Export, Import and Trade Balance of textile sector from 20010-2017.
Source: Authors computation from NBE annual report.

The above graph shows that how textile industry has a higher import but very lower export especially after 2014. Even though the trade balance for the sector is improving it is majorly because the textile sector decreased importing commodities. The export performance is nearly constant at lower pace not as expected.

2.1.7 Challenges of the Ethiopian textile industry

The construction of industrial parks and incentives provided to investor's shows how much the government has targeted the sector to boost the country's economy. But the sector could not improve as much as it is expected. Local investors lack the stamina to compute in the international market. There are number of reasons behind why this specific sector has not given much as it's supposed to.

"The CSA second quarter report for the manufacturing sector indicated that, the share of manufacturing export from all manufacturing sales was only 3.8% where the rest of the balance is for local market." (Tekeba E. 2018:p45)

Some of the challenges textile firms' faces are stated below.

- ✓ **Limited Input Material**

Low production of local cotton (input) is the main reason for low export performance of textile industry. Ethiopia cultivated cotton on 75,000 hectares of land in 2010/2011. It planned to cultivate 265,000 hectares by the end of 2014/2015 but it managed 125,000 hectares. Matching supply and demand has been a grant challenge for the industry. Local production of cotton in 2010 was 2,500 ton which was equal to the demand of textile factories and even had a surplus. The year after the production surged to 79,500 ton while the demand stood at 39,000 ton (CSA, 2017). Even though data's shows cotton production has been surplus in some of the years, most of the cotton produced targeted export market. Cotton export was one of the sectors highly incentivised by the government. The incentive has made investors to focus on exporting cotton rather than fulfilling the demand of local textile producers. This scenario has leaded the country to import cotton from abroad in times where there is outsized shortage of cotton.

- ✓ **High Import Tax**

Generally importing input material for the manufacturing industry has increased the import goods in the country. To be competitive in international market countries should need of imported goods at national level. And this has a direct impact on finished products quality and pricing. But this is difficult to achieve for Ethiopian textile firms. The high cost of imported input materials with lower qualities due to the import tax, the firms are unable to compete with their international competitors both in quality and pricing.

The textile industry could have been a way of acquiring additional foreign exchange for the country. Since import tax is high it's creating additional irrelevant cost to the manufacturing sector in general. Avoiding or minimizing the import tax might help in favor of the textile industry so that it can increase its export performance.

- ✓ **Weak Currency**

Buying power of the local currency is purposely devalued by the intervention of the National Bank of Ethiopia. Even though IMF and WB are still saying it needs further devaluation. Since Ethiopian Birr has a weak buying power; manufacturing firms find it difficult to acquire inputs from aboard with reasonable price. This is a result of devaluation of Ethiopian Birr. The weaker the currency large amount of Birr will be needed to buy a certain product from abroad.

- ✓ **Delay in Delivery of Inputs**

Even though Ethiopia has the resources to manufacture textile and yet there are inputs imported from abroad. In particular the country imports items majorly from China, India, and Pakistan. A major problem is the delay in shipment and the quality of these inputs.

These results the items to be expensive and have lower quality cause of delay and problem in shipment. Delay on the delivery of the inputs and the import tax has added extra cost on the finished products. All the obstacles have made the firms to simply produce even though the cost of production has increased over time.

- ✓ **Financial Capacity of Firms and Access to Loans**

Access to loans to private firms is another constraint that is limiting the export performance of textile firms. Firms should expend their infrastructure and should acquire technologies; in order to implement that access to finance is crucial. But many Ethiopian firms do not have access to loans. And if one did get such a loan it's with extremely high rates.

- ✓ **Lack of Educated Professional & Skilled Labour**

The only university providing the professional trainings and education in the textile industry for a long time is Bahir Dar University, now there are additional five universities Dessie University (Kombolcha Campaus), Dire Dawa University, Aksum University, Wolkite Universiy, Hawassa University (Ethiopian Textile and Apparel Profile, 2017). The rest of universities give industrial design but little attention is given to the textile course matter. Expanding institution who gives quality training regarding the sector will directly contribute on the quality of finished product and the implementation of new technologies with better work flow.

Even though Ethiopia has the youngest population the labour productivity is very low according to Tekeba, (2018), labour productivity has higher growth in the service sector, and on the contrary the productivity growth of the manufacturing sector is relatively low.

- ✓ **Shortage of Electricity**

Electricity shortage is a problem at national level, Discouraging direct foreign investments. This has created an obstacle in delivering products on time for whole sellers.

- ✓ **Low Quality Perception**

The low quality perception about Ethiopian textile has been a great constraint for textile firms to build business networks. Lower quality input has contributed to the lower quality finished goods. The image created at the international level has made it difficult to penetrate the international market.

- ✓ **Lack of Diversification in Products**

Challenges of the industry are directly or indirectly related to one another. Weak currency and limitation to financial access has made firms to lag behind international practices. Since it's very hard to expand and upgrade technology of a firm without having access to financial support, this has led many of locally owned firms to produce very limited product differentiation.

- ✓ **Limited Exposure to International Market**

The local firms' not exposing themselves to international trade fairs and events has made it difficult for them to sustain their business relation consistent. Acquiring new clients and maintaining already existing business relations.

The building of the industrial parks in different region has shown the government commitment to the textile industry but more support is needed to support private investment.

The industrial parks are built with the objective of exporting to international trade. Famous and giant brands have entered the market and many are showing interest. This is expected to change the awareness on Ethiopian textile quality. Due to low quality inputs Ethiopian textile is known for lower quality products and for so many years it's been difficult for the firms to compete and sustain business relations in the international trade. So Market destination has been similar in the past few years with a same number of products.

- ✓ **Trade Facilitation Issues**

The major headache investor's face is slow backward customs systems which results in delays and higher costs.

The system of clearing custom products not being up to date has contributed for slow processing time. According to a report prepared by International Trade on 2015, 77% of the time is consumed with paper works, clearance and inspections. This process alone cost around 1090 US dollars in Ethiopia. This is an entire trade cost for many Ethiopian textile competitors out side of Ethiopia. This costs highly results on the competiveness of Ethiopian textile factories on time of delivery, quality and costs of product. Custom official lacks knowledge about custom products needed for production of textile. For instance, chemicals, agents, thread and textiles has no specific well known category or standard for custom processing's. This has led to wrong taxation and deterioration in quality of the products and

wrong pricing. To receive imported inputs it would take 1.5 month and once production is finished to take export the products it will take another 1.5 month. Three month in total is invested on receiving and exporting of goods without considering production time. Even though Ethiopia has close proximity to potential market and cheap labor export performance could not improve. Ethiopia being a land locked country has made trade process very expensive and time consuming.

2.1.8 Summary of Merits and Demerits of Devaluation on Ethiopian Textile Industry

Devaluation has both positive and negative impacts on the economy in general.

Positive effects

- ✓ Export competiveness will increase (even tough devaluation of currency does not assure diversity and volume of export with in the textile industry).
- ✓ Less import (increasing demand in local produced commodities).
- ✓ Improved trade balance.
- ✓ Encourages private investment.
- ✓ Inflow of foreign direct and indirect investment.

Negative effects:

- ✓ Rise in inflation.
- ✓ Increase market prices of imported goods, services, raw materials and semi-finished goods which result in increasing the cost of production of existing operating businesses.
- ✓ Devaluation of the present value of existing businesses.
- ✓ Lead to corporate migrations, closures, or bankruptcy.

2.2 Theoretical Framework

2.2.1 Marshall-Lerner condition

The Marshall-Lerner condition refers to the impact of a depreciation, or devaluation, of a currency on the current account and balance payment of a country. The condition states that the current account will improve, after depreciation, if the sum of the price elasticity's of demand for imports and exports is greater than 1. The further above 1 the sum of the elasticity's is, the greater the improvement in the current account will be.

2.2.2 J-curve

Evidence around the world suggests that the Marshall-Lerner condition does not hold in the short-run, but does in the medium- to long-run. This is because in the short-run, there will be few extra exports sold when prices fall people overseas do not react immediately and so export demand will take time to change. Generally this is due to exports being on contracts and these need renegotiating.

However, extra money will have to be paid for imports immediately contracted amounts stay the same and so the current account will tend to deteriorate. In the medium term, however, the lower export prices will lead to an increase in demand for exports and so the current account will start to improve. The price elasticity of demand for exports is lower in the short run, but will be higher in the long run. This leads to the pattern shown in Figure 1 below an initial deterioration of the trade balance followed by an improvement.

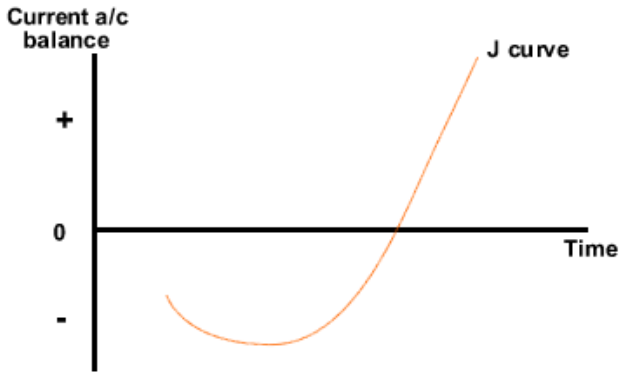

Figure 8: Showing J Curve Effect (short and long term effect of the devaluation over the current account balance.)
Source: Author Illustration

2.3 Review of Empirical Studies

2.3.1 Related Empirical Studies in the World

Xinxin (2013) analyzed textile and apparel export performance among 11 Asian countries over twelve years data from 2000 – 2011 using vector autoregressive (VAR) errors model. The export performance of the Asian countries has shown improvement after the removal of the quota system in 2005 by giving countries comparative advantage. Result of the study shows labor cost has positive effect on apparel export value since buyers from developed countries are sensitive about fair trade. But number of employees only had negative relationship with textile export intensity, since the cost of production will increase. This results in less contribution of the export intensity. In the regression number employees showed that the variable effect is insignificant over textile and apparel export performance. Exchange rate had significant negative relationship with textile and apparel export value because of the removal of the quota system. With the existence of the quota system exchange rate has a positive direct impact on the export. The study has concluded that devaluation of the currency exchange rate will contribute to increases profitability and export performance. Number of production facilities, number of employees, lead time, logistics performance, exchange rates, tariffs, and quotas has also a direct impact on export performance, value and intensity (Xinxin, W. 2013).

Mariko (2002) studied the effect of devaluation on Japans export cotton and raw silk export performance. The study has assessed devaluation after 1931 has benefited Indian export performance from (1932 – 34) on the contrary it has not affected the export performance of United States on the same period.

The study further justifies in order for devaluation to work there should be other precondition to be met. First the decline of sales locally because of devaluation of currency should contribute to export demands. In other words following devaluation it's necessary for local sales to decline to facilitate export. Exchange rate devaluation does not only affect the export of cotton fabrics and raw silk but also the price of import inputs. The sector is highly venerable to the price of raw cotton (Mariko, H. 2002).

Rahul & Sharma (2015) studied Indian textile and export performance. The study has seen labor costs influenced export performance many Asian developing countries. The higher the cost of the labor it has a negative impact on the export performance. From exporter side India has benefited from devaluation of Rupee since most buyers enjoys cheap imported textile products. Procedural delays and poor infrastructure affects the sector negatively. On importer side GDP, population rate has also significant impact (Rahul, D. & Manoj, S. 2015).

Mark (2004) the study was carried using firm level data in Mexico. The aim of the study was to check if the traditional theory of devaluation benefits the export performance or not. Result shows after devaluation firms have shown increment in export performance without increasing production capacity. On the contrary the floating of Peso has resulted in decreases in investment even though export has increased from existing firms Mark, A. (2004).

Juthathip (2007) has carried his study with econometric model and regression. Present the results effect of variables based on in their short run and long run effects. The dependent variables are total export, manufacturing exports and standard international trade classification. The independent variables are real effective exchange rate, world demand, production capacity and trend. The study focused on Asian countries; China, Honk Kong, Indonesia, Korea, Thailand, Singapore, Philippines and Malaysia. In china the result of the econometric analysis shows real effective exchange rate has a positive and significant effect both in a long run and short run. While production capacity has a positive and significant effect in the short run and world demand shows a small positive effect. For Honk Kong the effect of real effective exchange rate has similar effect both in short and long run as that of China. The effect is a bit lower in the long run. Production capacity has positive and significance on the contrary world demand has similar effect in the long run. Indonesia's results showed the higher positive and significant effect on the export performance in all the three variables compared with the other Asian countries within the study.

In Korea the effect of real exchange rate and production has small positive and significant effect which is exactly opposite in long run along with world demand. Thailand shows a smaller positive and significant effect in the short run. But the effect of real effective exchange rate increase in the long run with a huge gap in between. Singapore, Philippines and Malaysia share similar scenario with Thailand (Juthathip, J. 2007).

Liu & Shu (2001) based on the analysis carried on determinants of export performance of Chinese industries. Labor costs or labor intensity, the level of FDI and firm size has significant influence on export performance at firm lever.

Weeraratne (2004) Sri Lanka the textile and apparel sector had been impacted by the high import demand for input materials according to the statistical analysis made on 25 year period data. On the other hand the country faces lots of competition from dominant market holder china. So Sri Lanka is more focused on taking smallest share of the textile and apparel industry by survival strategy.

The study held in Pakistan by Wasif, Nawaz, Abdul & Kamran (2012) shows that GDP has a highest role in defining the export performance of the country. Further the study recommends for the country to focus in product differentiation and value addition other than exporting lower value added goods like yarn. Increase in price of the exported items will increase demand. Decrease in price alone cannot play single role. It has to accompany with value addition and product differentiation (Wasif, S. Nawaz, A. Abdul, A. & Kamran, Y. 2012).

Neil & Linda (2019) carried case study to draw lesson for textile and apparel industry of Tanzania has shown different perspectives. The countries taken as a model for the case study are Bangladesh, Cambodia, Ethiopia, India, Lesotho and Madagascar. All the countries have different approaches and strategies to enhance their export performance in textile and apparel industry. Even though the approaches differed from one another, trade openness has shown similar effect in all cases. Openness to trade and FDI has been playing a major role in growing cotton to textile value chain & improve export performance. The study underline that in all six countries FDI has a positive impact in the backward integration and increasing production capacity has direct positive impact in export performance of textile industry (Neil, B. and Linda, C. 2019).

The study carried by Lila & Dale (2010) in South Africa domestic input and foreign intermediate goods will likely affect impact the international trade and the overall country's balance of payment. The data's used with in the study shows imported input expenditure for apparel and textile industry is high compared to other inputs with in the sector. Increase in price of labor and domestic intermediate has a positive impact. The study conclude there must be substitution for imported intermediate inputs since price changes highly affects imported commodities results in production cost (Lila J. & Dale B. 2010).

2.3.2 Related Empirical Studies in Ethiopia

Jiffara, (2019) has researched devaluation of Ethiopian birr using Vector Error Correction Model. The result obtained from Johansson test of co-integration indicates the existence of one co-integrating equation, by studying variable long run and short run effects. Real gross domestic product and nominal effective exchange rate positively affects trade balance positively. The coefficient of the nominal effective exchange was insignificant and was not one of the variables that affected the overall trade balance. Form the Descriptive analysis it showed country's export performance has grown following devaluation. Earning from export commodities has increased since the country currency is devalued. This has results decrease

in domestic consumption of export commodities since price has increased. Devaluation was supposed to create reverse effect by decreasing imports of a country but Ethiopia's case is different. Imports have increased and devaluation of birr did not stop it. The commodities imported are inevitable, since commodities are essential and necessary that cannot be easily substituted easily. "In Ethiopian case even though exports earning have increased, an increase in export earning fall to cover an increase in import payment following devaluation. For this reason, Ethiopian trade balance deficit exacerbates after devaluation of Birr." (Jiffara, A. 2019:p65)

Selamawit, (2018) has carried qualitative research to identify challenges and prospects of textile and apparel manufacturing sector in Ethiopia. According to the study the finding shows that FDI contributed in high export performance of the sector. The second variable that has positively affected the export of textile and apparel is incentives and support provided by the government. Strategy and objective of the country has made textile and apparel sector its center of focus, and it's been helping firms to get training for their employees, access to lease, working sheds, and market access. Training for employees engaged in producing the product highly affects the overall productivity of the sector along its ability to deliver quality products for the international market that increase demand. Backward logistic methods negatively effects on the overall supply chain of textile and apparel industry. Since Ethiopia is a land locked country exporting and importing commodities takes longer time to be delivered. Input materials quality deteriorates until it reaches factory and also exports commodities takes longer time to reach destination. Logistic is one the main factor that affects the sector negatively by incurring extra cost and delays. This has led the commodities to be less competitive. High import record of the industry has made export commodities to be expensive and not be competitive in pricing. Quality control has is not well monitored by the government or the firm themselves which has impacted on the end products demand on international markets. Shortage of foreign currency, skilled labor, lack of financial support for capital goods and new technology and market knowledge's are identified has variables which a has impacted the sector negatively. And suggested the country must improve this weakness to improve the sector (Selamawit K. 2018).

Wondu, (2018) has investigated those factors both external and internal, that affects the export performance of textile and garment sector in Ethiopia using both quantitative (OLS regression and questionnaire) and qualitative (FGD) method of analysis. The study shows that GDP and investment has a positive and statistically significant in the export performance of the textile and garment industry. The real effective exchange also has the same effect. However, according to the OLS result trade openness has affected the export performance negatively. Domestic firms were unable to compete with their international competitors. To compete with international competitors local firms were exposed to a long run average cost which was hard to cover. Because of this reason providing lower price to compete with in the market is really hard for most of this domestic firm (Wondu, A. 2018).

Yigermal, M. (2018) the research has used a data from 2000 up to 2017 on the exchange rate, and considered different variables for instance, balance of payment, output measured with

GDP, money supply, external debt servicing, inflation, interest rate and foreign asset reserve were used. Theoretical and empirical relationships were examined between currency devaluation, balance payment and output dynamics in Ethiopia. The analysis carried using different econometric models. Yigermal, has concluded that devaluation has a contractionary effect. The effects are explained at different level. "First, devaluation increases money supply, a rise in money supply has inflationary pressure on market prices and this intern forces output to decline. Second, devaluation increases interest rate and an increase in interest rate forces output to decline. Third, devaluation reduces foreign asset reserve, a reduction in foreign asset reserve leads to a fall in the balance of payment. A reduction in the balance of payment led to a decrease in output. Finally, devaluation increases external debt burden." (Yigermal, M. 2018):p95.

Tamerayehu, (2015) says continues devaluation in Ethiopia has not contributed much in increasing export performance or in decreasing demand import commodities instead it has contributed trade deficit to be worse which shows the reverse effect of devaluation. Further since Ethiopia is dependent on imported material starting from household up to the factory input commodity. Devaluation has not stopped the demand of the imported items; this has worsened country's trade balance. Ethiopian export commodities could not be competitive because most African countries have same product on the similar market. The results were similar both the descriptive and analysis made using econometric model. The analysis show terms of trade and real effective exchange short run relationship is negative. This explained by the negative relation of real effective exchange rate with trade of balance. Tamerayehu, further recommends that repeated devaluation may not achieve expected results quickly and other monetary policies should not be undermined. Finally concludes that Ethiopia's economic cycle will be highly exposed to inflation because of the repeated devaluation. External balance can only benefit from devaluation is in the long run (Tamerayehu, G. 2015).

Aklilu, (2018) has studied the wide impact of the devaluation of Ethiopian currency. In the research agriculture is the leading sector contributing 49.1% service sector make up 40.1%. The manufacturing sector only makes 10.2% of the overall GDP on 2017. In the same year countries trade deficit of 74.4 billion birr. The proposed solution by IMF and WB was for Ethiopia to devalue its currency. According to the analysis both export and import has shown price increase. While the demand for imported commodities decreases and export demand has increased. This has impacted the trade balance of the country positively. "However, the increment is less enough to offset the decline in private consumption and fixed investment for real GDP to boost up. Moreover, higher prices of imports will further bring inflationary situations on the economy which is another big headache for the government." (Aklilu, A. 2018:65)

Devaluation has benefited the agriculture sector only by providing lower price for the international market, which will enhance the incentives for production within the agricultural sector. On the other hand, devaluation has a negative impact on the industrial sector making imported input products to be very expensive. Firms were unable to compute in international market due to high product pricing resulted from expensive imported input items.

According to Aklilu, devaluation has a positive impact only in reducing the trade balance to some extent but generally rescue the real GDP growth. Devaluation scheme is not practical for country like Ethiopia, because the country depends on exports of agricultural products and this sector is less affected by the change in effective exchange rate. On the other hand this measure is forcing the country to decrease its imports which affects the real GDP of the country.

Fasil, (2017) the study aimed at examining the effect of Birr devaluation on trade balance of Ethiopia for the period of 1970 to 2014 using the Johansen co-integration analysis. The study shows that devaluation can only benefit Ethiopia in a long run showing a J Curve effect. The short run effect is mainly due to inflation, increase in cost of imported capital intermediate and final goods. Infrastructure availability is main determinant of export performance. Devaluation can improve the trade balance of the country. Devaluation may be a practical monetary policy when the country develops strong international market oriented export stamina. And Ethiopia being highly dependent on import commodities has worsened trade balance of the country. The need for imported intermediate inputs for industry and import of capital good will suffer highly from devaluation (Fasil, E. 2017).

Kaleab, (2018) says textile and garment sector in Ethiopia is still untouched sector, it has not given results which are expected according its targets. According to the shift-share analysis results it's seen that the garment products export category is contributing around three quarters of Ethiopia's textile and garment export and it also has contributed 79% of the positive net shift in the T&G sector. The sector the value shift also has increased from 61%-99% (Kaleab, D. 2018).

Amakele, (2018) studied factors influencing export performance of textile in Ethiopia using econometric model. FDI positively affects the export performance of textile industry by 54.9 %, MNC's has contributed in boosting the export performance while having a strong interaction of MNC with local firms which has contributed in transfer of knowledge, increase in competitive capacity and international market opportunity. Expansion of local firms by 27%, improvements of labor skills by 24.2 % and availability of low cost electricity influence export performance of the sector by 23.7 %. However, Trade capacity building programs does not significantly contribute to predict export performance of textile industry in Ethiopia (Amakele, Y. 2018).

Birtukan, D. (2018) has analyzed using both qualitative, quantitative analysis and econometric models to study garment export performance of Ethiopia. The variables used were political, economic, social, natural, technological factors and export performance of garment industry. It was found that macro environment had a significant relationship with export performance in all identified factors are predictors of export performance ($r2= 0.704$). Pearson correlation results technology has the height effect with correlation of 0.829, political and legal factor with a correlation of 0.811, environmental factor with correlation of 0.799 and finally social factor with a correlation of 0.741. Concluded on the study that technology, political and legal factors were the most influential factors in export performance of garment sector (Birtukan, D. 2018).

Daniel, T. (2016) unlike Birtukan (2018) summarized that technology has the least effect on the export performance of garment industries in Ethiopia, by showing access to capital is the most sever critical factor affecting the industry negatively. Since to obtain working capital the interests is high, the collateral requested is too much on top of that the loan application process is long and time consuming. The absence of skilled labor, lack of skill in marketing affects the performance negatively; lack of infrastructure and management skill has different degree of effects on the industry (Daniel, T. 2016).

Deribe, (2019) has studied determinants of export performance on textile and garment firms in Ethiopia. The study has supported its results with statistical evidence; there is positive relationship between independent variable marketing mix strategy and firm's specific characteristic and independent variable export performance (Deribe, D. 2019).

Therefore, Exporting Ethiopian Textile and Garment Firms can increase their export by performance 44.5% by investing a unit dollar/birr in Marketing Mix strategy.

Eyelachew, (2018) considered determinants; export market knowledge management competence, technology, product competence, product quality, infrastructure and policy and regulation on export performance. With the necessary hypothesis formulation and testing, finding shows the independent variable has a positive and significant effect on export performance of textile and garment. Management competence has a great influence while, infrastructure has a positive relation on export performance, even though it is not statistically significant (Eyelachew, M. 2018).

2.4 Research Gap

Textile industry is one of the major manufacturing sectors identified by the government to boost economy of country with GTP I & II time frame work. The sector has been given great focus long with other identified sectors. Further investment opportunities, incentives have been provided to foreign and local investors to increase the export performance of the textile industry. Along with other strategies, the government has used devaluation as one of economy strategy and means of increasing export performance. The effect of devaluation in short and long run has not been studied well with sector specific.

For instance Jiffera (2018) The study has seen the effect of nominal effective exchange rate and nominal gross domestic product has a positive effect on the trade balance even though the coefficient of nominal effective exchange rate is insignificant. It further says that the export sector has benefited from the devaluation and import has suffered from price escalation that resulted from weakening of local currency. But the study has not specified which export sector has benefited and which sectors have suffered from the devaluation. So it is hard to conclude if the devaluation has a positive or negative effect without specifying major economic variables and sectors. While on the other hand Selamawit (2018) has carried qualitative research on the challenges and prospects of the Ethiopian textile and concludes that FDI has a great contribution in the growth of the sector while the logistic and custom process has made the industry to suffer from deteriorated input products because the inputs where not cleared on time from customs.

Wondu (2018) carried a study which shows that there are more variables to consider painting the overall picture. In the study it is seen that FDI and investment has a positive impact on the export performance of the sector similar with the real effective exchange rate while trade openness has a negative effect. Even though this study has shown a close to full picture on the determinants on export performance of the textile and garment industry, the study still failed to incorporate other major variables for instance production capacity of firms and person engaged within sector which has a direct impact in the overall output and export performance of the textile industry.

The above few mentioned studies and other researches carried locally are focused on the effect of real effective exchange rate, GDP, firm management, logistic and custom process. And made conclusion based on those few variables.

It's observed that there is gab in literature about the effect of devaluation. It has not been assessed well with sector specific. Most studies focused about devaluation and its general effect on the economy or those with sector specified studies failed to incorporate major independent variables that affect the export performance of textile industry.

This specific study will cover the effect of devaluation on the sector along with other major variables. The study has considered independent variables such as real effective exchange rate, GDP, FDI, import input expenditure, outstanding loan given to the sector, person engaged. This study will fill in the gabs by incorporating the above variables and providing their effects on the export performance of Ethiopian textile industry.

2.5 Conceptual Framework

The research paper will cross examine effect of the devaluation on export performance of Ethiopian textile industry. Ethiopian textile industry is vast and is expected to have the largest share contribution to the GDP alongside with other manufacturing sectors.

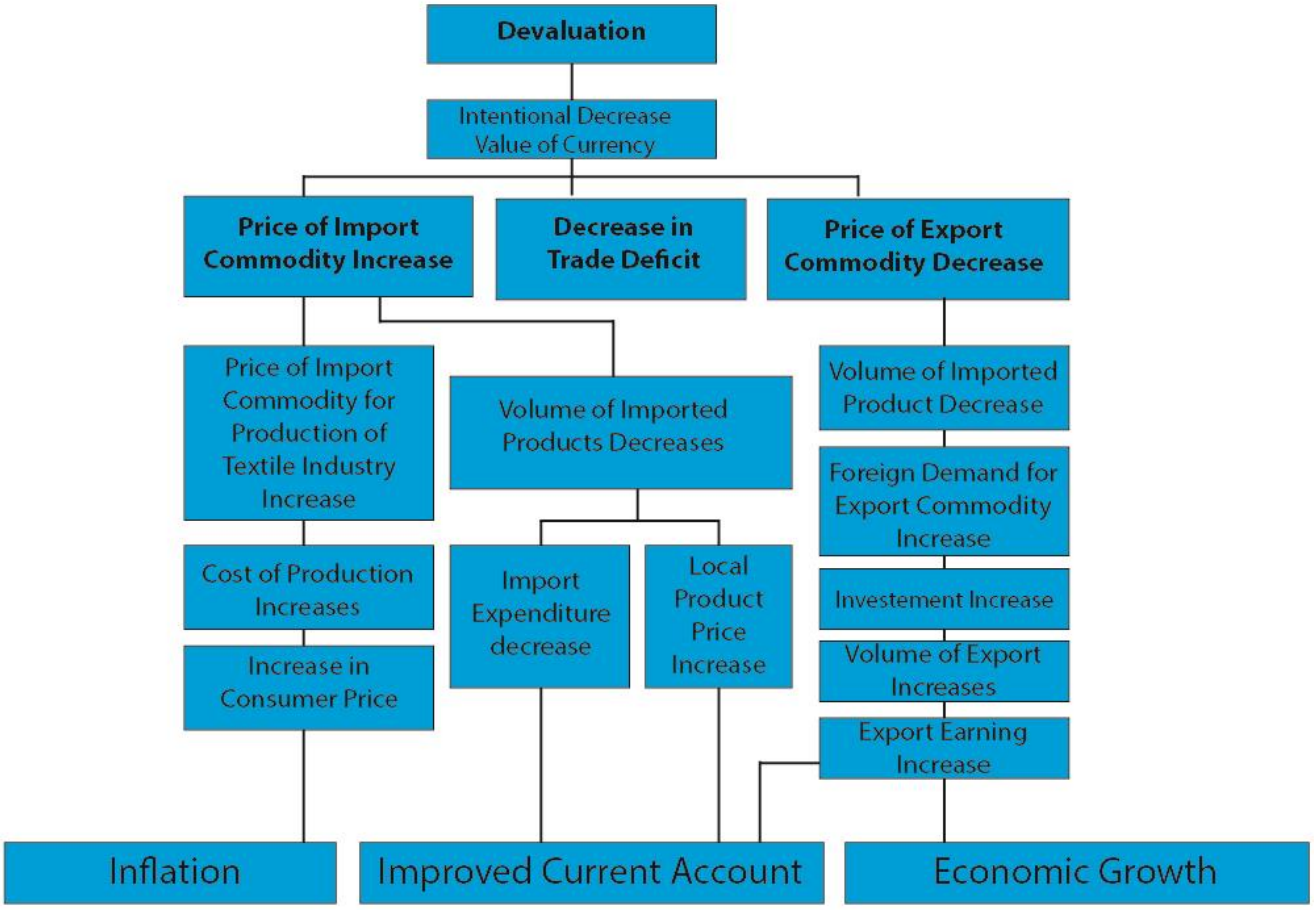

Figure 9: Showing Effect of devaluation
Source: Illustrated by the Author

The above illustration shows how devaluation affects each economic aspect within the country's economy. This structure will help in analyzing the effects in detail.

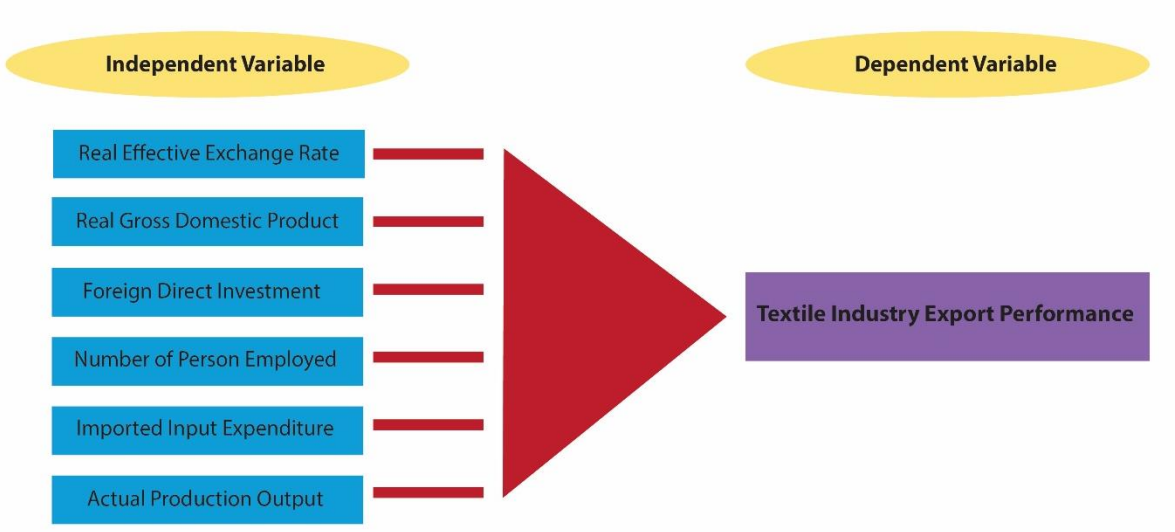

Figure 10: Conceptual Frame Work
Source: Illustrated by the Author

CHAPTER THREE

3 REASERACH DESIGN AND METHDOLOGY

This study aims to examine effect of devaluation on Ethiopian textile industry. This chapter covers the data research procedure that is used to proceed with the study. It covers about research design, population of the study and sampling techniques, data analysis, source of data and data type, descriptive and econometric analysis in this order.

It will illustrate the econometric model that is going to be used to do the analysis and discuss each variable with in the model.

3.1 Research Design

According to De Vaus (2006) Research design is overall strategy that is used to combine the different parts of the study in coherent and logical way. It contains collection of information's, measurement and analysis of data. Quantitative research design was used to meet the goal of the study and cross check the hypothesis formulated (Vaus D. 2006).

This paper used is time series data which uses number of observation over specific time along with other variables in the model.

3.1.1 Population of the Study

The sample size for a time series data set is the number of time periods over which are observed in the analysis and always the number of sample should be greater number of variables considered within the analysis.

The target population of the study is all the textile industries that are operating only in the production of textile in Ethiopia. Even though it's covered that devaluation has a long history in Ethiopia, data's are not well organized to check within the long period of time. Most of the data's provided by the responsible government bodies did not have a record of the data before 1996. For this reason the research paper has focused on devaluations that has taken since 1991. The data that are going to be analyzed for this paper will cover the time starting from 1999 up to 2017 on all the 290 textile factories.

3.1.2 Sources of data and type

This study has employed secondary data to meet the objective of the study. The data were collected on the identified macroeconomic variables. The explanatory macroeconomic variables include Textile Industry Performance is (export volume of textile), real effective exchange rate, real growth domestic product, foreign direct investment, number of person employed, import input expenditure and actual production output of Ethiopian textile industry. The major data source used in the analysis obtained from Central Statics Agency annual reports from 1999 to 2017.

In addition to CSA data other reliable and official publication were used. Variables are from the latest world development indicators data of (2018) generated by National Bank of Ethiopia (NBE), African Economic Outlook (2018), World Bank and IMF annual reports are included. The periods for the collected data cover from 1999 up to 2017.

3.1.3 Method of Data Analysis

The methodology frame work employed to examine the effect of devaluation on the textile industry are discussed below.

The first analysis method is descriptive analysis which overviews the trends of devaluation and the textile industry performance of Ethiopia are discussed in this chapter.

The second analysis method is the econometric analysis in which the relationship between identified macroeconomic variables and the textile industry export performance. In the analysis, diagnostic tests were used to be sure that the functional form of the model was appropriate.

3.1.4 Descriptive Analysis

In the descriptive analysis which shows the overviews how the textile industry performance is affected by the independent variables. Different presentations are employed to demonstrate the trend with given time frame.

3.1.5 Econometric Analysis

Economic and Econometric Model Specification

The data considered is a time series data.

Economic Model: TIEP= f(REERt, RGDPt, FDIt, NEMPt, IMPOINt, APRODOt)

Econometric Model: $TIEP = \beta 0 + \beta 1REER,t + + \beta 2RGDP,t + \beta 3FDI,t + \beta 4NEMP,t + \beta 5IMPOIN, t + \beta 6APRODO, t + Є i,t$

Where:

TEXEXP = Textile export performance is revenue acquired from textile export.
REER = Real effective exchange rate of birr.
RGDP = Real gross domestic product.
FDI = Foreign direct investment with in textile industry.
NEMP = Number of person employed with in the textile industry.
IMPOIN = Imported input expenditure made for production of textile.
APRODO = Actual Production output of textile industry.

$\beta 1, 2, 3 \ldots 7$ are parameters to be estimated.

$Є$ = is the error term.

t = the index of time periods.

3.1.6 Variables Definition and Hypothesis Development

3.1.6.1 Dependent Variable

Textile Industry Export Performance is to be considered on the revenue Ethiopia earned by exporting locally produced textile on yearly basis.

3.1.6.2 Independent variable

Real effective exchange rate

Real effective exchange rate is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies in this research) divided by a price deflator or index of costs. And the data's regressed are going to be taken in each given year. It's also considered as international trade competitiveness is measured by the real exchange rate of a country. For in this model the yearly average real effective exchange rate is considered.

Real Gross Domestic Product

Real Gross Domestic Product (RGDP) is a broad measure of a country's economic activity, used to estimate the size of an economy and growth rate. In this model it's used a yearly record of GDP.

FDI

Foreign Direct investment has a great input in over all countries output. By creating job opportunity and increasing country's output. In this model number of foreign direct investment made on the textile industry per year is considered. This variable is expected to have positive impact on the independent variable.

Number of Person Employed

As it's covered in the literature section labor has the greatest impact in producing quality value added products in the textile sector. The demand for product in the market is directly related to quality output of an employee. This variable is expected to have a positive impact on the textile export performance. Increase in number of people engaged within the industry is expected to result increase in production.

Imported Input Expenditure

Many developing countries like Ethiopia which depends on imported item for production are highly exposed to high expense to input materials. This has made the textile industry to have a high cost of production since most of the input items are imported items which requires foreign currency. Input expenditure is expected to have a negative impact by adhering and increasing the cost of production within the textile industry. This will result finished products to be expensive and incompatible in the international market.

Actual Production Output

Increase in production output directly will increase the textile export performance. It will provide product diversification with good pricing that will make textile produced to be competitive in global market.

3.1.6.3 Hypothesis testing

Hypothesis 1: Real effective exchange rate has a negative and significant role on export performance of textile industry.

Hypothesis 2: Real gross domestic product has positive and significant role on export performance of textile industry.

Hypothesis 3: Foreign direct investment has a positive and significant role on export performance of textile industry.

Hypothesis 4: Number of people employed has a positive and significance role on export performance of the industry.

Hypothesis 5: Imported input has a negative and significance role on export performance of the textile industry.

Hypothesis 6: Actual production output has a positive and significance role on export performance of the textile industry.

	Variable	Notation	Measurement	Description	Expected Sign
Dependent Variable	Textile Industry Export Performance	**TEXEXP**	Revenue acquired from export of textile in birr per year.	Exported textile in birr per year.	
Independent Variable	Real Effective Exchange	**REER**	Natural log of Real Effective Exchange.	Devaluation of the local currency against the currency of trading partners will lead to an increase in exports to those countries resulting increase demand for imported materials locally. This makes the cost of textile production higher, increase in price and decreases textile export performance.	-
	Real Gross Domestic Product	**RGDP**	Natural log Gross Domestic Product.	Higher RGDP shows a higher domestic production which will increase textile export performance.	+
	Foreign Direct Investment	**FDI**	Natural log Foreign Direct Investment.	Foreign direct investment in the country with in the textile industry will have a positive impact increasing textile export performance.	+
	Number of Person Employed	**NEMP**	Natural log of Number of Person Employed.	A number person engaged in the production has a positive impact. Having more productive labor will boost the textile export sector.	+
	Imported Input Expenditure	**IMPOIN**	Natural log of Imported Input Expenditure.	Import input expenditure for the textile industry which will result in higher price decreasing in export performance.	-
	Actual Production Output	**APRODO**	Natural log of Production Output.	Increase in production output directly will increase the textile export performance. It will provide product diversification with good pricing that will make textile produced to be competitive in global market.	+

Table 2: Showing Dependent and Independent Variables and their expected Sign.
Source: Compiled by Researcher

CHAPTER FOUR

4 DATA ANALYSIS AND INTERPERATION

This chapter contains the analysis and presentation of the results of the study. Stata 14.2 econometric software was used to analyze the data. The analysis has followed all the necessary steps to fulfill the assumption of the classical linear regression model along with the diagnostic tastes. Then, econometric analysis and discussion of the main finding of the study were presented. Finally, the results of the regression analysis were discussed by supporting empirical evidence.

4.1 Descriptive Statistics

Table 4.1 provides a summary of the descriptive statistics of the dependent and independent variables for all 290 textile factories in Ethiopia between 2000 – 2017 having 18 observations. The table demonstrates the mean, minimum, maximum, standard deviation and number of observations for the dependent variable Textile Export Performance (TEXEXP) and independent variables: Real effective exchange rate of birr (REER), Real gross domestic product (RGDP), Foreign direct investment (FDI), Number of person employed (NEMP), Imported input expenditure (IMPOIN), Actual production output (APRODO).

Table 3: Descriptive Statistics.

Source: STATA14.2 result descriptive statistics.

```
. sum logTEXEXP logREER logRGDP logFDI logNEMP logIMPOIN logAPRODO
```

Variable	Obs	Mean	Std. Dev.	Min	Max
logTEXEXP	18	12.08814	1.039011	10.61884	14.30411
logREER	18	2.495954	.3917811	2.09679	3.109061
logRGDP	18	19.57983	.9773611	17.3286	21.25342
logFDI	18	10.90294	2.362027	7.183112	14.65991
logNEMP	18	10.0966	.3532245	9.400547	10.93998
logIMPOIN	18	12.83607	1.332693	11.39934	15.28392
logAPRODO	18	14.15884	1.145999	11.1978	15.63914

Table 4.1 above presents the descriptive statistics of the dependent and independent variables of the study. Basically, a small standard deviation means that the values in a statistical data set are close to the mean of the data set, on average, and a large standard deviation means that the values in the data set are farther away from the mean, on average. It is a measure of the average distance between the values of the data in the set and the mean. A low standard deviation indicates that the data points tend to be very close to the mean; a high standard deviation indicates that the data points are spread out over a large range of values.

The mean value of TEXEXP of the established textile factories in Ethiopia is 12%. This implies that, the factories have exported 12% of what produced. The textile export growth fluctuates on average of between 10.6% and 14.3%. The factory with the highest textile export is 14.3% and the factory with lowest textile export being 10.6%.The factory which has the highest textile export 14% and the lowest being 10% The standard deviation statistics TEXEXP was (1.0%) which indicate there were higher variation of export performance across factories. The result implied that those factories need to utilize their producing capacity to maximize their export performance.

On the other hand independent variables of the model, the mean value of the REEF is 2.5% meaning the average exchange value of birr is 2.5%, the standard deviation 0.4%, while 2.0% & 3.1% are the minimum and maximum exchange value of birr. The minimum and maximum exchange value has shown small dispersion from the mean value. This shows that within the analysis year REEF has small changes of values, the exchange rate values within years of the study are very close to each other.

The mean value of real growth domestic product of Ethiopia (RGDP) is 19.6%, the standard deviation being 0.97%. The minimum RGDP values are 17.3% and maximum values are 21.3%. The RGDP of the country has a lower difference within the given years.

The mean value of foreign direct investment FDI is 10.9%. The country's maximum FDI are 14.65% and lowest being 7.18%, with a higher standard deviation of 2.36%. This shows there is a higher difference in FDI throughout the years of the study.

The mean vale of number of people employed (NEMP) is 10% meaning the average number of people employed is 10% with a standard deviation of 0.35%. The maximum and minimum numbers of people employed are 10.93% & 9.40% respectively. The number of people employed with in the textile industry has shown smaller dispersion from the mean value meaning (NEMP) has shown small difference throughout the years of the study.

The mean value of import input expenditure (IMPOIN) is 12.83% meaning the average value of (IMPOIN) is 12.83% with a standard deviation of 1.3%. The maximum imported input material for production is 15.28% while the minimum is 11.39%. This shows that there is lower dispersion in (IMPOIN) from the mean value.

The mean value of actual yearly production output (APRODO) is 14.15% meaning the average value of actual yearly production of factories is14.15% with a standard deviation of 1.4%. The maximum actual production value was 15.63% while the minimum was 11.19%.

4.2 Correlation Analysis

Table 4: Correlation Matrix of Dependent and Independent Variables

Source: STATA 14.2 result descriptive statistics.

Pearson correlation

```
. corr logTEXEXP logREER logRGDP logFDI logNEMP logIMPOIN logAPRODO
(obs=18)
```

	logTEX~P	logREER	logRGDP	logFDI	logNEMP	logIMP~N	logAPR~O
logTEXEXP	1.0000						
logREER	0.8281	1.0000					
logRGDP	0.5464	0.7254	1.0000				
logFDI	0.5655	0.7075	0.2483	1.0000			
logNEMP	0.4818	0.5509	0.4317	0.5055	1.0000		
logIMPOIN	0.9000	0.8328	0.5240	0.7251	0.7018	1.0000	
logAPRODO	0.7202	0.8410	0.5234	0.7704	0.5585	0.8316	1.0000

This section of the study will deal with the correlation of the variables used within the study. Correlation is a way to index the degree to which two or more variables are associated with or related to each other. And it's one of the important steps before regression a model is to check whether the model under analysis has a multi-collinearity problem or not. In this study Parson product-movement coefficient, commonly called the parsons correlation is used for bi variant correlation statistics. Correlation analysis is the statistical tool used to study the closeness of the relationship between variables Gujarati (2004).

Correlation analysis will not only indicate the multicollineratity problem but also shows variables movement direction whether it's in the same direction or not and coefficient indicates the strength of a linear relationship between two variables. The correlation coefficient ranges between +1 and -1. +1 indicates the strongest positive correlation possible, and -1 indicates the strongest negative correlation possible. Therefore the closer the coefficient to either of these numbers the stronger the correlation of the data it represents. On this scale 0 indicates no correlation, hence values closer to zero highlight weaker/poorer correlation than those closer to +1/-1.

The above correlation matrix table 4.2 showed the relationship between the dependent variable and independent variables, and also between the independent variables each other used in this study. Based on the correlation matrix TEXEXP has a positive correlation with real effective exchange rate, real growth domestic product, foreign direct investment, number so employees, imported inputs, and actual production output. This indicates when those variable increase TEXEXP would also would increase with different correlation coefficient.

4.3 Classical Linear Regression Model (CLRM) Assumptions & Diagnostic Test

The CLRM is based on several assumptions, such as the errors have zero mean, the variance of the errors is constant and finite over all variables of Xt, the errors are linearly independent of one another, there is no relationship between the error and corresponding X-variate, and the error terms are normally distributed. Hence, if these CLMR assumptions hold, the estimators determined by OLS will have a number of desirable properties that is consistent, unbiased, and efficient. Thus In order to determine the validity of the model, it should pass diagnostic tests such as; heteroscedasticity, autocorrelation, multicollinearity and normality tests.

4.3.1 Test for Average Value of the Error Term is Zero (E (ut) = 0)

The first assumption required is that the average value of the errors is zero. In fact, if a constant term is included in the regression equation, this assumption will never be violated. Therefore, since the constant term (i.e. βo) was included in the regression equation, the average value of the error term in this study is expected to be zero.

4.3.2 Test for Heteroskedasticity Assumption (var(ut) = σ2)

It has been assumed that the variance of the errors is constant. This is known as the assumption of homoscedasticity (Brook, 2008). If the errors do not have a constant variance, they are said to be heteroskedastic. This study used white test to examine the presence of hetroskedasticity across the range of explanatory variable.

In table 4.3 below the p-value in whites test of heteroskedasticity was 0.38, since the *p*-value was considerably in excess of 0.05 we couldn‟t reject the null hypothesis of homoskedasticity. Implying that, there was no significant evidence for the presence of heteroskedasticity.

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(17)     =     18.00
         Prob > chi2  =    0.3888

Cameron & Trivedi's decomposition of IM-test
```

Source	chi2	df	p
Heteroskedasticity	18.00	17	0.3888
Skewness	3.91	6	0.6886
Kurtosis	0.25	1	0.6153
Total	22.16	24	0.5694

Table 5: Heteroskedasticity Test

Source: STATA 14.2 result for white's test

4.3.3 Test for Multicollinearity

Multicollinearity indicates a linear relationship between explanatory variables which may cause the regression model biased (Gujarati, 2004). If an independent variable is an exact linear combination of the other independent variables, then we say the model suffers from perfect collinearity, and it cannot be estimated by OLS Brooks (2008). When independent variables are multicollinear, there is overlap or sharing of predictive power. This might lead to the paradoxical effect, whereby the regression model fitted the data well, but none of the explanatory variables (individually) had a significant impact in predicting the dependent variable Gujarati, (2004).Perfect multicollinearity will usually be observed only when the same explanatory variable is inadvertently used twice in a regression. This assumption does allow the independent variables to be correlated but they cannot be perfectly correlated. How much correlation causes multicollinearity however, is not clearly defined. While Hair et al (2006) argue that correlation coefficient below 0.9 may not cause serious multicollinearity problem. Malhotra (2007) stated that multicollinearity problem exists when the correlation coefficient among variables is greater than 0.75.Although there is no one unique method of detecting multicollinearity, or measuring its strength, among several indicators variance inflation factor (VIF) and the explanatory variables correlation coefficients (CC) were used for this particular study (Gujarati, 2004). Therefore, in examining the correlation matrix of the independent variables shown below in table 4.4 the highest correlation was 0.900 which was between value of imported input and value of textile export.

```
. corr logTEXEXP logREER logRGDP logFDI logNEMP logIMPOIN logAPRODO
(obs=18)
```

	logTEX~P	logREER	logRGDP	logFDI	logNEMP	logIMP~N	logAPR~O
logTEXEXP	1.0000						
logREER	0.8281	1.0000					
logRGDP	0.5464	0.7254	1.0000				
logFDI	0.5655	0.7075	0.2483	1.0000			
logNEMP	0.4818	0.5509	0.4317	0.5055	1.0000		
logIMPOIN	0.9000	0.8328	0.5240	0.7251	0.7018	1.0000	
logAPRODO	0.7202	0.8410	0.5234	0.7704	0.5585	0.8316	1.0000

Table 6: Correlation Matrix between Independent Variables

Source: Stata 14.2 output

The other test used for the presence of multicollinearity was the variance inflation factor (VIF) or tolerance value (1/VIF).Variance inflation factor (VIF) or tolerance value is used interchangeably. According to Gujarati (2004), if the variance inflation factor (VIF) is more than 10 and tolerance level is less than 0.10 it indicates a serious multicollinearity problem. The tolerance value is between zero and one if it approaches zero it indicates collinearity problem and when it approaches 1 no multicollinearity problem. According to Table 4.5 the variance inflation factor (VIF) was less than 10 for both the model (mean VIF) and for each independent variable. All independent variables has a value variance inflation factor (VIF) are less than 10 the highest being 8.32 (REEF) while the lowest being 2.11 (NEMP) and all independent variables tolerance level value is between 0.12 & 0.47.

This test confirmed the presence of lower degree of collinearity among explanatory variables.

```
. vif
```

Variable	VIF	1/VIF
logREER	8.32	0.120183
logIMPOIN	5.59	0.179002
logAPRODO	4.89	0.204653
logFDI	3.56	0.280936
logRGDP	3.20	0.312721
logNEMP	2.11	0.472849
Mean VIF	4.61	

Table 7: Multicollinearity Test:

Source: STATA 14.2 result for Variable inflation factor test.

4.3.4 Test For Normality Assumption (ut –N (0, σ2)

It is assumed that the distribution of residuals is normal. If the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would not be significant at 5% significant level. This means that the p-value given at the bottom of the normality test screen should be bigger than 0.05 to not reject the null of normality at the 5% level (Brook, 2008). The test result for the model provides a p-value of greater than 5% evidencing that residuals were normally distributed. As per table 4.6 below the Jarque-Bera statistic had a P-value of 0.4373 and both the probability of skewness and kurtosis was above 5% which implied that there was no evidence for the presence of abnormality in the data. Thus, the null hypothesis that the data was normally distributed was failed to reject since the p-value exceeded 0.05.

```
. sktest residuals
```

Skewness/Kurtosis tests for Normality

				joint	
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
residuals	18	0.3590	0.4241	1.65	0.4373

Table 8: Test for Normality Assumption: Jarque–Bera

Source: STATA14.2 result for Skewness / Kurtosis test

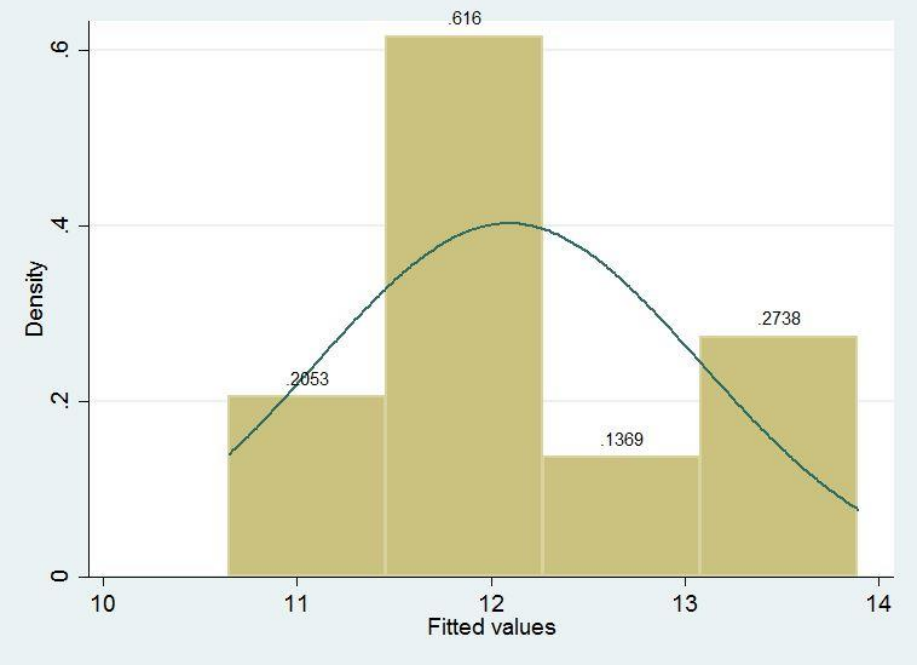

Figure 11: Histogram for Residual
Source: STATA14.2 result for Normality.

4.4 Result of the regression analysis

This section presents the overall results of the regression analysis on the effect of devaluation on the export performance textile industry in Ethiopia. In the study TEXEXP was used as export performance indicator. Under the following regression results the beta coefficient may be negative or positive; beta indicates each variable's average level of influence on the dependent variables. The positive beta coefficient indicates that the variable has on average a positive impact on the dependent variable; and negative beta indicates a negative impact on the dependent variable. Specifically it shows that when independent variables increase/decrease by one percent the dependent variable will increase/decrease by beta amount on average but the independent variables should statistically have significant impact on the dependent variable. P-value indicates at what percentage or precession level each variable is significant.

4.4.1 Operational Model

$$TEXEXP = \beta 0+\beta 1\ (REEFi,t) + \beta 2(RGDPi,t) +\beta 3(FDIi,t) + \beta 4(NEMPi,t) + \beta 5(IMPOINi,t) +\beta 6(APRODOi,t) + Є\ i,t$$

```
. reg logTEXEXP logREER logRGDP logFDI logNEMP logIMPOIN logAPRODO
```

Source	SS	df	MS	Number of obs	=	18
				F(6, 11)	=	18.13
Model	16.666772	6	2.77779534	Prob > F	=	0.0000
Residual	1.68546501	11	.153224092	R-squared	=	0.9082
				Adj R-squared	=	0.8581
Total	18.3522371	17	1.07954336	Root MSE	=	.39144

logTEXEXP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
logREER	1.301077	.6989957	1.86	0.090	-.237402	2.839556
logRGDP	-.0986743	.1737023	-0.57	0.581	-.4809905	.283642
logFDI	-.1113988	.0758317	-1.47	0.170	-.2783033	.0555056
logNEMP	-.7707581	.3908653	-1.97	0.074	-1.631047	.0895306
logIMPOIN	.8275897	.1683759	4.92	0.000	.4569968	1.198183
logAPRODO	-.1677766	.1831243	-0.92	0.379	-.5708305	.2352772
_cons	11.52187	3.809428	3.02	0.012	3.137378	19.90637

Table 9: Shows Regression Result
Source: STATA 14.2 result for regression

TEXEXP = β0+β1 (**REEF**i,t) + β2(**RGDP**i,t) +β3(**FDI**i,t) + β4(**NEMP**i,t) + β5(**IMPOIN**i,t) +β6(**APRODO**i,t) + Є i,t

TEXEXP = 11.52+1.30**REEF –** 0.098 **RGDP –**0.11**FDI –** 0.77**NEMP** + 0.82**IMPOIN –** 0.16**APRODO** + Є i,t

According to the regression analysis of the model out of six explanatory variables three of them had statistically significant impact on textile export performance. Among the significant variables, real effective exchange rate and number of employment within the production were significant at 10% since the p-value for these variables were 0.090 and 0.074 respectively. Imported input for the production of textile was significant at 1% with p-value of 0.000.

While assessing coefficient of correlation, real effective exchange rate and imported input materials had a positive direct relationship with textile export performance (TEXEXP) of the country. This suggested that, an increase in theses independent variables would result increase in the textile export performance and decrease in these explanatory variables would result in decrease Ethiopian textile export performance. Whereas the rest of the variables such as: real gross domestic product (RGDP), foreign direct investment (FDI), number of employee's (NEMP), imported input's (IMPOIN), actual production output (APRODO) had a negative coefficient, that means these explanatory variables had an inverse relation with textile export performance of Ethiopia.

4.4.2 Interpretations on Regression Results and Research Hypothesis

This section discusses in detail the analysis of the results for each explanatory variable and their importance in determining textile export performance of Ethiopia. Furthermore, the discussion analyzes the statistical findings of the study.

In this study the yearly export revenue earned in birr is used as a measure of export performance of textile industry in Ethiopia.

The relationship between the dependent and independent variables will be discussed on the basis of the findings on this empirical study of regression model. Under the following regression results the beta coefficient may be negative or positive; beta indicates each variable's average level of influence on the dependent variable. The positive beta coefficient indicates that the variable has on average a positive impact on the dependent variable; and negative beta indicates a negative impact on the dependent variable. Specifically it shows that when independent variables increase/decrease by one percent the dependent variable will increase/decrease by beta amount on average but the independent variables should statistically have significant impact on the dependent variable. P-value indicates at what percentage or precession level each variable is significant.

4.4.2.1 Real Effective Exchange Rate and Textile Export Performance

The proxy used to measure real effective exchange rate is natural logarithm of real effective exchange rate in the study period between 1999 - 2017. The result of regression model in table 4.6 above indicated the real effective exchange rate was statistically significant with P-value 0.090 and had coefficient of 1.30. Holding other variables constant, when the value of real effective exchange rate was increased by one percent, textile export performance of the textile factories in Ethiopia would increase by 1.30 percent on average and statistically significant at 10% level of significance. In other words, there was significant positive relationship between real effective exchange rate (REEF) and textile export performance (TEXEXP) of textile factories in Ethiopia within the research time period. Therefore, researcher rejected the null hypothesis that there was a negative relationship between the real effective exchange rate and textile export performance of Ethiopian factories. As there was no sufficient evidence to support there was negative relationship between REEF and TEXEXP.

In contrary to the hypothesis of this research, real effective exchange rate (REER) showed positive relationship with textile export performance (TEXEXP).

4.4.2.2 Real Gross Domestic Product and Textile Export Performance

The proxy used to measure real gross domestic product is natural logarithm of real gross domestic product records of Ethiopia in the study period between 1999 -2017. The result of regression model in table 4.6 above indicated the real gross domestic product was statistically significant with P-value 0.581 and had coefficient of -0.098. Holding other variables constant, when real gross domestic product was increased by one percent, textile export

performance (TEXEXP) of textile factories in Ethiopia would increase by 0.098 percent on average and statistically insignificant.

That is even if the coefficient of real gross domestic product was positive as expected, it was not statistically significant even at 10% significance level (p-value= 0.581), suggesting that its influence was negligible. The hypothesis that stated there was a positive significant relationship between real gross domestic product (RGDP) and textile export performance (TEXEXP) would be rejected as data did not support the hypothesis. Therefore, the researcher failed to accept the null hypothesis that real gross domestic product had a positive significant role on textile export performance (TEXEXP) of textile factories in Ethiopia. As there was no sufficient evidence to support there was positive relationship between RGDP and TEXEXP.

In contrary to the hypothesis of this research, real gross domestic product (RGDP) showed negative relationship with textile export performance (TEXEXP).

4.4.2.3 Foreign Direct Investment and Textile Export Performance

The proxy used to measure foreign direct investment is natural logarithm of foreign direct investment records of textile industries in Ethiopia in the study period between 1999 -2017. The result of regression model in table 4.6 above indicated the foreign direct investment was statistically insignificant with P-value 0.170 and had a coefficient of -0.111. Holding other variables constant, when foreign direct investment was increased by one percent, textile export performance (TEXEXP) of textile factories in Ethiopia would decrease by 0.111 percent on average but statistically insignificant. The explanatory variable FDI is not statistically significant even at 10% significance level (p-value= 0.170), suggesting that its influence was negligible.

The hypothesis that stated there was a positive significant relationship between foreign direct investment (FDI) and textile export performance (TEXEXP) would be rejected as data did not support the hypothesis. Therefore, the researcher failed to accept the null hypothesis that foreign direct investment had a positive significant role on textile export performance (TEXEXP) of textile factories in Ethiopia. As there was no sufficient evidence to support there was positive relationship between FDI and TEXEXP.

In contrary to the hypothesis of this research, foreign direct investment (FDI) showed negative relationship with textile export performance (TEXEXP).

4.4.2.4 Number of Person Employed and Textile Export Performance

The proxy used to measure number of person employed is natural logarithm of number of person's employed in the production of textile in the study period between 1999 -2017. The result of regression model in table 4.6 above indicated the number of person employed was statistically significant with P-value 0.074 and had coefficient of -0.77. Holding other variables constant, when the number of person employed was increased by one percent, textile export performance of the textile factories in Ethiopia would decrease by 0.077 percent on average and statistically significant at 10% level of significance. In other words,

there was significant negative relationship between numbers of person employed (NEMP) and textile export performance (TEXEXP) of textile factories in Ethiopia within the research time period. Therefore, researcher rejected the null hypothesis that there was a positive relationship between the number of person employed and textile export performance of Ethiopian textile factories. As there was no sufficient evidence to support there was positive relationship between NEMP and TEXEXP.

In contrary to the hypothesis of this research hypothesis, number of person employed (NEMP) showed negative relationship with textile export performance (TEXEXP). The result has similarities with other researchers.

In contrary to the hypothesis of this research, number of person employed (NEMP) showed negative relationship with textile export performance (TEXEXP).

4.4.2.5 Imported Input Expenditure and Textile Export Performance

The proxy used to measure imported input expenditure is natural logarithm of imported input expenditure spent for the production of textiles in Ethiopia in the study period between 1999 - 2017. The result of regression model in table 4.6 above indicated imported input was statistically significant with P-value 0.000 and had coefficient of 0.827. Holding other variables constant, when the imported input was increased by one percent, textile export performance of the textile factories in Ethiopia would increase by 0.827 percent on average and statistically significant at 1% level of significance (p-value=0.00). In other words, there was significant positive relationship between imported input expenditure (IMPOIN) and textile export performance (TEXEXP) of textile factories in Ethiopia within the research time period. Therefore, researcher rejected the null hypothesis that there was a negative relationship between imported input and textile export performance of Ethiopian factories. As there was no sufficient evidence to support there was negative relationship between IMPOIN and TEXEXP.

In contrary to the hypothesis of this research, imported input (IMPOIN) showed positive relationship with textile export performance (TEXEXP).

4.4.2.6 Actual Production Output and Textile Export Performance

The proxy used to measure actual production output is natural logarithm of actual production output earned by producing textile per year in the study period between 1999 -2017. The result of regression model in table 4.6 above indicated actual production output was statistically insignificant with P-value 0.379 and had coefficient of -0.167. Holding other variables constant, when actual production output was increased by one percent, textile export performance (TEXEXP) of textile factories in Ethiopia would decrease by 0.167 percent on average and statistically insignificant.

The coefficient of actual production output is negative, it was not statistically significant even at 10% significance level (p-value= 0.379), suggesting that its influence was negligible.

In other words, there was insignificant negative relationship between actual production output (APRODO) and textile export performance (TEXEXP) of textile factories in Ethiopia within the research time period. Therefore, researcher rejected the null hypothesis that there was a positive relationship between the actual production output and textile export performance of Ethiopian factories. As there was no sufficient evidence to support there was positive relationship between APRODO and TEXEXP.

In contrary to the hypothesis of this research, actual production output (APRODO) showed negative relationship with textile export performance (TEXEXP).

Table 10: Summary of Variables, Hypothesis Test and Decisions

Explanatory Variables	Expected Signs	Actual Sign	Decision
Real Effective Exchange	Positive and Significant	Positive and Significant	Accepted at 10%
Real Gross Domestic Product	Positive and Significant	Negative and insignificant	Rejected
Foreign Direct Investment	Positive and Significant	Negative and insignificant	Rejected
Number of Person Employed	Positive and Significant	Positive and Significant	Accepted at 10%
Imported Input Expenditure	Negative and Significant	Positive and Significant	Rejected
Actual Production Output	Positive and Significant	Negative and insignificant	Rejected

CHAPTER FIVE

5 SUMMARY, CONCLUSION AND RECOMMENDATION

The previous chapter presented the analysis of the findings and discussions of the study. The purpose of this chapter is to discuss the conclusions and recommendations. Accordingly, the chapter is organized in three sections; the first section presents summary of the study, conclusion drawn from the results and the third section presents the recommendations provided based on the findings of the study and finally further research area is presented.

5.1 Summary

Ethiopian textile industry has long history since Emperor Haileselasie. But the sector has many difficulties to achieve the expected outcome. This study was carried to show one of the major variables that has significant role on textile industry. While focusing on devalauation of birr on export performance of textile industry in Ethiopia.

The research will analyzed eighteen years of data from 1999-2017. Secondary data from National Bank of Ethiopia, Ministry of Trade, Ethiopian Textile Development Institute and Central Statics Agency are used throughout the study. The variables identified from literature review to explain the effect of devaluation on the textile industry are real effective exchange rate, real growth domestic product, foreign direct investment, number of person employed, import input expenditure and actual production output of textile industry. From rhe above analysis its shown that from textile sector specific variables, number of person employed and imported input expenditure has shown positive and significant roles on the export performance Ethiopian textile industry. As number of work force within the sector increases it has a positive direct impact on production output, which is the same for variable import input expenditure. Increase in inputs for instance labor and input materials results increase in output of production. As output in production increases export performance of textile industry also increases. On the other hand independent variable real effective exchange rate has a positive and significant role on export performance of Ethiopian textile industry. As real effective exchange rate increases export goods will be price competitive on global markets. This will be advantageous for Ethiopian textile products to be competitive from other developed countries. The study suggests that well studied implementation of devaluation of Birr will enhance the export performance of textile industry in big scale. Alongside with the production capacity of people employed and managed imported inputs.

5.2 Conclusion

The main objective of this research was to examine the effect of devaluation on textile export performance of Ethiopia for the period of 1999 to 2017. A balanced time series data of the period 1999 up to 2017 is used total of 18 observations across all the 290 textile factories found in Ethiopia that works in textile production only. This samples data was analyzed using descriptive statistics and classical linear regression model. The dependent variable used was the revenue earned by textile export measured in birr per year that is textile export performance (TEXEXP). The dependent variable TEXEXP was regressed with independent variable such as real effective exchange rate (REER), real gross domestic product (RGDP), foreign direct investment (FDI), number of person employed (NEMP),imported input expenditure (IMPIN), actual production output (APRODO) which are variables included in this study.

The finding of the study confirmed that from measure of international trade competitiveness measured by the real effective exchange rate of a country (REEF) had a positive and significant role on the textile export performance of Ethiopia measured by the revenue earned from textile export per year. This indicated that devaluation of birr had positive impact on textile industry to be competitive on global market by providing price competitive products than developed countries with a strong currency.

And from textile sector specifics variable expenditure on import input (IMPOIN) had a positive role on textile export performance of Ethiopia. This role is reflected by increase in import input for the production textiles has direct result of increase in production which will increase export performance.

In the contrary, number of person employed within the textile industry (NEMP) had a negative role on textile export performance. As number of person employed in the textile industry increases the revenue earned from textile export decreases. This might be as a result of, the higher number of person employed will increase operating cost in the production which will have direct implication on the textile product pricing. The higher operating cost the expensive the textile for international market. This will result textile products to be unable to compete on the global scale.

Real growth domestic product, foreign direct investment and actual production output has a negative and statistically insignificant even at 10% level of significance. From the regression result, it's observed those explanatory variables were not powerful variables to influence textile export performance in Ethiopia.

5.3 Recommendations

The finding of the study has showed that real effective exchange rate, number of person employed, and imported inputs were the significant drivers of textile export performance of Ethiopian textile industry during 1999 – 2017. Hence, focusing and taking necessary actions on these indicators could further enhance textile export performance of Ethiopia. Based on the findings of the study the following possible recommendations are forwarded:

- From this research it's showed that devaluation of local currency had positive influence on textile export performance of Ethiopia. Even though its effects are advantageous the implementation of devaluation has to be considered all other macro and micro economic variables. Since devaluation is one way of improving export performance of a country, the strategy should consider how the devaluation affects the ability to import capital goods, raw material input and interested foreign direct investment. The higher cost of investment at initial stage will make investors to refrain from investment in manufacturing. Especially when those needs are imported from abroad. To avoid the complication and shortage of foreign exchange investors avoid investing on those sectors which requires high import input. In other scenarios investors will be forced to participate in exporting agricultural good as means of earning foreign exchange to support their manufacturing. This will solely contradict with the main vision and goals of devaluation. Devaluation aims to maximize export performance and minimize imports, while the above mentioned scenario will have reverse effect using the agricultural goods as a tool to earn foreign exchange to fulfill

the need for textile production input other than growing the textile industry independently.

- Responsible government bodies and policy makers should consider devaluation and its impacts broadly before implementing so that it won't have a negative impact or at least have a controlled impact on other economic sectors.
- It's evident that increase raw material inputs will grant increased production out puts. Imported inputs may have a positive impact according to the model but those input materials might exposes the country to high import expenses and working on substituting those raw materials by local ones would result in less operating cost. Less expense on inputs will give the opportunity for the Ethiopian textile industry to be competitive in all aspects. Competitiveness on global market should not be limited to minimizing import expenditure; responsible stakeholders should focus on value maximization and product differentiation. As it's covered in literature part most western countries are successful because of their focus on producing value added finished products. This has helped those countries to acquire very cheap textile materials from under developed and developing countries and adds value to the product. This is the value chain Ethiopian countries should aspire in the future. Promoting Ethiopian finished textile products to the global market by covering the whole value chain like China and India. But focusing only on the lower value chain will minimize the amount of return earned.
- With regard to foreign direct investment, it's obvious that FDI has a positive impact on over all country's economy. Specially, developing country like Ethiopia the transfer of knowledge and technology is prominent in establishing a strong industry lead economy. Ethiopian Investment Commission should implement strategies to increase number of FDI in the textile sector by providing different schemes to attract foreign investors. This can be achieved by providing good infrastructures to industrial park for instance road, electricity (being the major one), internet and affordable housing for employees in proximate location to the industrial parks to increase productivity.
- Number of person employed with in a production line has a direct impact on output of textile produced. Providing training and having skillful employees will have enormous change in the general output of the production line. Factory owners should focus on not only cheap labor but skillful ones. Training institutions should formulate a plan to provide skillful employees by means of vocational training. All together production lines will have skillful and productive labor force.

5.4 Further Research Consideration

This study demonstrated that devaluation measured by real effective exchange rate in the model had a positive effect on textile export performance of Ethiopian textile industry. However, not all textile export performance related factors were studied. It is therefore recommended that future studies be carried out on:

- The effect of firm size on the textile export performance of Ethiopia.
- The roles of trade openness in textile export performance of Ethiopia.
- The effect availability of infrastructure in textile export performance of Ethiopia
- The role of access to capital on textile export performance of Ethiopia.

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Appendix I

1. Descriptive Stastics

```
. sum logTEXEXP logREER logRGDP logFDI logNEMP logIMPOIN logPRODO
```

Variable	Obs	Mean	Std. Dev.	Min	Max
logTEXEXP	18	12.08814	1.039011	10.61884	14.30411
logREER	18	2.495954	.3917811	2.09679	3.109061
logRGDP	18	19.57983	.9773611	17.3286	21.25342
logFDI	18	10.90294	2.362027	7.183112	14.65991
logNEMP	18	10.0966	.3532245	9.400547	10.93998
logIMPOIN	18	12.83607	1.332693	11.39934	15.28392
logPRODO	18	14.15884	1.145999	11.1978	15.63914

.

2. Heteroskedasticity Test: white's test

```
. estat imtest, white

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(17)     =     18.00
         Prob > chi2  =    0.3888

Cameron & Trivedi's decomposition of IM-test
```

Source	chi2	df	p
Heteroskedasticity	18.00	17	0.3888
Skewness	3.91	6	0.6886
Kurtosis	0.25	1	0.6153
Total	22.16	24	0.5694

Appendix II

3. Regression Result

```
. reg logTEXEXP logREER logRGDP logFDI logNEMP logIMPOIN logAPRODO
```

Source	SS	df	MS	Number of obs	=	18
				F(6, 11)	=	18.13
Model	16.666772	6	2.77779534	Prob > F	=	0.0000
Residual	1.68546501	11	.153224092	R-squared	=	0.9082
				Adj R-squared	=	0.8581
Total	18.3522371	17	1.07954336	Root MSE	=	.39144

logTEXEXP	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
logREER	1.301077	.6989957	1.86	0.090	-.237402	2.839556
logRGDP	-.0986743	.1737023	-0.57	0.581	-.4809905	.283642
logFDI	-.1113988	.0758317	-1.47	0.170	-.2783033	.0555056
logNEMP	-.7707581	.3908653	-1.97	0.074	-1.631047	.0895306
logIMPOIN	.8275897	.1683759	4.92	0.000	.4569968	1.198183
logAPRODO	-.1677766	.1831243	-0.92	0.379	-.5708305	.2352772
_cons	11.52187	3.809428	3.02	0.012	3.137378	19.90637

Appendix III

4. Correlation Matrix

```
. corr logTEXEXP logREER logRGDP logFDI logNEMP logIMPOIN logAPRODO
(obs=18)
```

	logTEX~P	logREER	logRGDP	logFDI	logNEMP	logIMP~N	logAPR~O
logTEXEXP	1.0000						
logREER	0.8281	1.0000					
logRGDP	0.5464	0.7254	1.0000				
logFDI	0.5655	0.7075	0.2483	1.0000			
logNEMP	0.4818	0.5509	0.4317	0.5055	1.0000		
logIMPOIN	0.9000	0.8328	0.5240	0.7251	0.7018	1.0000	
logAPRODO	0.7202	0.8410	0.5234	0.7704	0.5585	0.8316	1.0000

5. Multi Colinarity Test

```
. vif
```

Variable	VIF	1/VIF
logREER	8.32	0.120183
logIMPOIN	5.59	0.179002
logAPRODO	4.89	0.204653
logFDI	3.56	0.280936
logRGDP	3.20	0.312721
logNEMP	2.11	0.472849
Mean VIF	4.61	

.

6. Normality Test (Skewness & Kurtosis Test)

```
. sktest residuals
```

Skewness/Kurtosis tests for Normality

				joint	
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
residuals	18	0.3590	0.4241	1.65	0.4373