

**ADDIS ABABA UNIVERSITY**  
**SCHOOL OF BUSINESS AND ECONOMICS**  
**DEPARTMENT OF BUSINESS ADMINISTRATION**



**MACROECONOMIC DETERMINANTS OF TEXTILE AND GARMENT EXPORT  
PERFORMANCE IN ETHIOPIA (A TIME-SERIES ANALYSIS)**

---

**A thesis submitted to Addis Ababa university school of business and economics,  
department of business administration for partial fulfillment of the requirements for the  
degree of master's in business administration**

**By: Tigist Ibrahim**

**Under the Supervision of: Yitbarek Takele (PhD)**

March, 2020

Addis Ababa

## Declaration

I declare that the thesis entitled “Macroeconomic determinants of textile and garment export performance in Ethiopia (a time-series analysis)” is a record of independent research work carried out by me under the supervision and guidance of Yitbarek Takele (PhD). This has not been previously submitted for the award of any other diploma, degree or other similar title.

Place: Addis Ababa University

Name: Tigist Ibrahim

Addis Ababa

Date: March 2020

Signature: \_\_\_\_\_

## Statement of Certificate

The undersigned certified that the thesis entitled “Macroeconomic determinants of textile and garment export performance in Ethiopia (a time-series analysis)” submitted to the Addis Ababa University, Addis Ababa for the award of degree of Master of business administration is a record of independent research work carried out by Ms Tigist Ibrahim, under my supervision and guidance. This has not been previously submitted for the award of any diploma, degree or other similar title.

Place: Addis Ababa University

Name: Yitbarek Takele (PhD)

Addis Ababa

Date: March 2020

Signature: \_\_\_\_\_

## **Examiner Approval Sheet**

The undersigned have examined the thesis entitled “Macroeconomic determinants of textile and garment export performance in Ethiopia (a time-series analysis)” presented by Tigist Ibrahim , a candidate for the degree of Master of business administration and hereby certify that it is worthy of acceptance.

_____	_____	_____
Advisor	Signature	Date

_____	_____	_____
External Examiner	Signature	Date

_____	_____	_____
Internal Examiner	Signature	Date

## **Acknowledgment**

I would like to express my sincere gratitude to my advisor Dr.Yitbarek Takele, for his endless support and guidance in the preparation of this study and completing it successfully. Next, my honest gratitude goes to my parents my mother konjit bekele and Father Ibrahim Abagero for their priceless support throughout my education. My next thanks go to my sister Tizita Ibrahim and her husband Mr. Temesgen Tesema for they have given me their time and shared their knowledge with me. Moreover, I would also like to express my appreciation for my best friend Estifanos Mesfin for his tireless support and encouragement.

## ABSTRACT

*Since the beginning of the twenty-first century, textile and garment retailers of the developed countries have started to source globally instead of manufacturing products domestically to reduce costs and become more competitive in textile and apparel markets. Agriculture is a primary source of income (50 per cent of the GDP) for Ethiopia; but in recent years the government is focusing on industrialization and new sectors. Textile and garment being one of the sectors received a lot of attention the government with an objective of becoming the major sourcing destinations in the world. Ethiopian textile export has shown a significant increment from 2010 to 2018 and decreased in 2019 by 16 percent. The main objective of this study was to identify the macroeconomic determinants of textile and garment export performance in Ethiopia using time series data from 1982 to 2019. The research framework in this study was built on international trade theories and global value chain framework. Auto-regressive distribution lag (ARDL) model has been employed to analyze the long run and short run relationship between variables and test the developed hypothesis. The stability of the data was checked and all the data was found to be stationary by differencing; besides all the CLRM assumptions were tested. Accordingly, the result of the regression model revealed that foreign direct investment, trade openness, labor-capital and Domestic infrastructure have significant positive impact on textile export, whereas inflation has a significant negative effect. Exchange rate has a negative relationship with textile export in the long-run but has a positive relationship in the short-run. This study demonstrated that attracting foreign direct investment, reducing trade related bureaucracy, maintaining economic stability and improving infrastructure can lead to increase in textile export performance; furthermore the country's labor-capital may be a comparative advantage for attracting investors. This study tries to make an important step towards understanding the determinants of textile and garment export performance, and aids in building a research model of determinants for textile and garment export performance in Ethiopia.*

**Key words:** *export, labor, FDI, Exchange rate, textile and garment*

## TABLE OF CONTENTS

Declaration .....	I
Statement of Certificate .....	II
Examiner Approval Sheet .....	III
Acknowledgements .....	IV
Abstracts .....	V
Table of Contents .....	VI
List of Tables .....	IX
List of Figures .....	IX
Abbreviations .....	X
Definition of Terms .....	XI

### CHAPTER ONE

#### 1. INTRODUCTION

1.1. Introduction .....	1
1.2. Background of the study .....	1
1.3. Statement of the problem .....	4
1.4. Objective of the study .....	5
1.4.1. Main objective .....	5
1.4.2. Specific objective .....	5
1.5. Research questions .....	6
1.6. Scope of the study .....	6
1.7. Limitation of the study .....	7
1.8. Significance of the study .....	7
1.9. Organization of the Study .....	7

### CHAPTER TWO

#### 2. LITERATURE REVIEW

2.1. Introductions .....	9
2.2. Theoretical review .....	9
2.2.1. The Classical Theory of International Trade .....	9
2.2.2. Neo-Classical Theory of International Trade .....	12
2.2.3. Post-Heckscher-Ohlin Theories of Trade .....	13
2.2.4. The Product Cycle Theory .....	14
2.2.5. Global value chain framework .....	16

2.3. Export performance .....	17
2.4. Textile industry development in Ethiopia .....	19
2.5. Empirical review .....	22
2.5.1. International studies.....	22
2.5.2. Local studies.....	25
2.5.3. Research gap.....	27
2.6. Hypothesis development .....	28
2.6.1. Foreign Direct Investment (FDI) and Export Performance .....	28
2.6.2. Gross Domestic Product (GDP) and Export Performance .....	29
2.6.3. Exchange Rate and Export performance .....	31
2.6.4. Trade Openness and Export Performance .....	33
2.6.5. Inflation and export performance .....	34
2.6.6. Labor and export performance .....	35
2.6.7. Domestic infrastructure and export performance .....	36
2.7. Conceptual framework .....	37

## CHAPTER THREE

### 3. RESEARCH METHODOLOGY

3.1. Introduction .....	38
3.2. Research design.....	38
3.3. Source and Type of Data .....	38
3.4. Sample Size .....	38
3.5. Data Collection Method .....	39
3.6. Model Specification .....	39
3.7. Variable Description and measurement .....	40
3.7.1. Dependent Variable .....	40
3.7.2. Independent Variables .....	40
3.8. Method of Data Analysis and Presentation .....	43
3.9. Model Testing Procedure .....	43
3.9.1. Classical linear regression diagnostic testing .....	44
3.9.2. Co-integration Tests .....	46
3.9.3. The Normality (Bera-Jaque) Test .....	46

## CHAPTER FOUR

### 4. Results and Discussion

4.1. Introduction .....	47
4.2. Descriptive statistics .....	47
4.2.1. Ethiopian Textile export and Country of destination .....	47
4.2.2. Textile export performance .....	49
4.2.3. Descriptive statistics of variables .....	54

4.3. Classical linear regression diagnostic testing .....	55
4.3.1. Multicollinearity Test .....	55
4.3.2. Model Misspecification Test .....	55
4.3.3. Model Stability Test .....	56
4.4. Econometrics analysis .....	57
4.4.1. Stationary Test of the Variables .....	57
4.4.2. ARDL Bound Test to Co-integration .....	58
4.4.3. Optimal Lag Selection .....	59
4.5. Interpretation of the Long-run Coefficients .....	60
4.6. Interpretation of the short-run Coefficients .....	64
4.7. Post estimation diagnosis tests .....	66
4.7.1. Test for Heteroscedasticity .....	67
4.7.2. Serial Correlation Test .....	67
4.7.3. Normality Test: Jarque-Bera (JB) .....	68
 CHAPTER FIVE	
5. CONCLUSIONS AND RECOMMENDATIONS	
5.1. Introduction .....	69
5.2. Conclusions .....	69
5.3. Recommendations .....	71
5.4. Limitations and Future Studies .....	72
References .....	74
Appendix	

## List of Tables and Figure

### List of tables

Table 3-1: Measurement of variable, expected outcome and Abbreviation.....	41
Table 4.1: Total export, Textile export value, Textile export intensity and Textile export growth for Ethiopia (1999-2019).....	49
Table 4.2: Descriptive Statistics of Variables.....	53
Table 4.3: Correlation Matrix for Variables.....	55
Table 4.4: Ramsey RESET Test result.....	55
Table 4.5: Summary of ADF test.....	57
Table 4.6: ARDL Bounds Test result.....	58
Table 4.7: ARDL estimate of long run Model for determinant of textile and garment export....	59
Table 4.8: Short-Run Coefficients dependent variable D (LNTXEXP).....	64
Table 4.9: Heteroscedasticity Test results.....	66
Table 4.10: Serial Correlation Test results.....	67

### List of figures

Figure 2.1: conceptual frameworks.....	36
Figure 4.1: Textile export value in million USD by destination in 2016.....	47
Figure 4.2: Textile export destination % in 2016.....	48
Figure 4.3: Textile export intensity for Ethiopia (%), 1999-2019.....	50
Figure 4.4: Textile export value for Ethiopia, 1999-2019.....	51
Figure 4.5: Textile export growth rate for Ethiopia, 1999-2019.....	52
Figure 4.6: Textile export growth rate and total export growth rate for Ethiopia, 1999-2019...	52

## Acronyms and Abbreviations

ACP-EU:	The African, Caribbean and Pacific - European Union
AIC:	Akaike Information Criteria
ADF:	Augmented Dickey-Fuller
AGOA:	The African Growth and Opportunity Act
ARDL:	An autoregressive distributed lag
CLRM:	Classical Linear Regression Model
ERCA:	Ethiopian Revenue and Custom Authority
ETIDI	Ethiopian Textile Industry Development Institute
FDI:	Foreign Direct Investment
FG:	Flying-Geese
GDP:	Gross Domestic Product
GTP:	Growth and Transformation Plan
GVS:	Global value chain
HOS:	Heckscher-Ohlin-Samuelson
IPDC:	Ethiopian Industrial Parks Development Corporation
IMF:	International Monetary Fund
IPDC:	Ethiopian Industrial Parks Development Corporation
NBE:	National Bank of Ethiopia
PCT:	Product Cycle Theory
OECD:	Organization for Economic Co-Operation and Development
OLS:	Ordinary Least Square
SME:	Small and medium enterprises
SSA:	Sub-Saharan Africa
TIDI:	Textile industry development institution
TOT	Terms of Trade
UNECA:	United Nations Economic Commission for Africa
UNCTAD:	United Nations Conference on Trade and Development
USD	United States Dollar
WAMZ	West African Monetary Zone

## Definition of Terms

**Export performance:** - The composite outcome of a firm's international sales, which includes three sub-dimensions: export intensity, export sales, and export growth (Katsikeas et al, 2000); (Shoham, 2006).

**Exchange rate:** An exchange rate is the value of a country's currency vs. that of another country or economic zone. *Currency appreciation* is an increase (rise) in the value of one currency in relation to another currency, which means a decrease in the numerical value of the exchange rate of a country. *Currency depreciation* is the decline of a currency's value relative to another currency, which means an increase in the numerical value of the exchange rate of a country (<https://www.investopedia.com>).

**Global sourcing:** - The integration and coordination of procurement requirements across worldwide business units, looking at common items, process, technologies, and suppliers (Monczka & Trent, 1991).

**Trade openness:** - the degree of integration of a country to external market which is measured as proxy by the sum of export and import of goods and services to GDP (Fujii, 2017).  
 $TOT = \frac{M+X}{GDP}$  where M is Import, X is export and GDP is gross domestic product

# CHAPTER ONE

## 1. INTRODUCTION

### 1.1. Introduction

The introductory chapter will start with a background of the subject followed by a problem discussion and objectives of the study. The research questions, scope, and limitations of the study are also included in this section. This chapter will end up with an explanation of the study's significance and organization of the study.

### 1.2. Background of the study

Textile Industry is one of the earliest large scale economic activities that led the industrialization process centuries ago. It is also the primary manufacturing industry to possess a worldwide dimension. This sector is the most geographically dispersed of all industries across the developed and developing countries. Textile might be manufactured using relatively simple technology and low-skill labor. The traditional skills of hand spinning, weaving and sewing served as a basis for larger industries. English inventors in the 18th century began to automate textile cottage industry processes including carding, spinning, and weaving (UNCTAD, 2008)

The share of African countries within the world trade of textiles and garments isn't the same as Asian countries, the EU and USA. However, currently, as the labor cost in South East Asia is showing an inclination of accelerating, the market is setting out to shift to Africa. The geographical trends in the production of the textile industry show a clear pattern of continuous decline in the developed countries, and a geographical shift of production to developing countries (TIDI, 2012). The African Growth and Opportunity Act (AGOA) encouraged substantially new investments, trade, and job creation in Africa. It has helped to market Sub-Saharan Africans integration into the multilateral trading system, and a more active role in global trade negotiations. It has also contributed to economic and commercial reforms which make African countries more attractive partners for U.S companies (African Growth and Opportunity Act, 2016). The African, Caribbean and Pacific - European Union (ACP-EU) and other agreements have also a chance for the textile and garment industry.

Ethiopia is striving to create the manufacturing sector to play an excellent role in GDP growth, job creation, foreign exchange earnings, and SME development. The Government of Ethiopia is supporting the private sectors which are engaged within the manufacturing sector with different incentives and support to ensure accelerated industrial growth and improve foreign exchange earning needed for development and investment. These incentives and promotions are used as tools of achieving transformation into the industry-led economy and improving the business environment for domestic products to be competitive in the international markets (GTP I 2009 - 2015). The GTP II (2016 - 2020) envisions Ethiopia as a lower middle-income country by 2025 through the belief of structural economic transformation.

A key instrument for the government's industrial policy and transition to manufacturing is the development of industrial parks. Ethiopia's industrial parks are aimed towards attracting high quality particularly foreign investment in specific manufacturing sectors which will contribute to export growth, enter global export markets, and better integrate the country with the world economy (World Bank, 2019). The establishment of industrial zones is a necessary strategy for implementing industrialization in developing countries and regarded as one of several instruments of industrial policy (Zeng, 2015). In economies that are largely agrarian in nature like Ethiopia, industrial zones can foster new manufacturing investment, stimulate exports and expand employment opportunities which underneath a step towards structural transformation (Brautingem and Tang, 2014).

Industrial zones also are thought to be a prerequisite for balanced regional development, especially when the regions concerned don't possess appropriate sites for the location of industries (Ganne, and Lecler, 2009; Rohne, 2013). Within the new context of globalization and liberalization in addition, the development of industrial parks is taken in to account as a very important vehicle for reviving the industrial sector and absorbing challenges in the competitive global world (Sefrioui, 1999; UNCTAD, 2015). Therefore, if implemented effectively, zones can play a critical role in catalyzing economic growth, diversification, upgrading, and competitiveness (Farole and Akinci, 2011).

The Government of Ethiopia is striving to establish industrial zones that are thought to facilitate and encourage its industrial transformation plan. Per the Ministry of Industry the leading objective of the industrial zones development program is to contribute to job creation through

attracting investments, promoting exports and improving enterprise competitiveness in the targeted industrial zones. To the current effect, the government has identified potential areas, established policy and regulatory frameworks and is pushing the program forward as part of its consecutive five-year development plans. Currently, the government has eight operational industrial parks and most of the companies working on them are textile and garment factories.

The government has contributed to the expansion of the textile and garment industry by prioritizing the industry as a strategic sector. As a result, the government has set ambitious targets for the industry in its Growth and Transformation Plan (2016-2020), which aimed to elevate annual earnings from \$160 million in 2007 to \$1 billion by 2025 and increase direct foreign investment by \$1.6 billion to build 191 new textiles and garment factories. The goal is to increase export from the present 20% of total garment and textile production to 80% of the entire garment and textile production by 2020, so that garment and textile exports will eventually account for a complete of twenty-two percent of all exports. In order to achieve these stated targets, the government created several incentives to draw in foreign companies, such as export incentives, low-cost land lease options, low-interest loans (as low as 3%), corporate tax holidays and custom duty exemptions on imported equipment (Wall Street Journal, 2015).

Despite government incentives, the initial enthusiasm that brands had for Ethiopia has yet to result in the large increase in production that the Ethiopian government was aiming to achieve. Moreover, several buyers who were initially interested haven't started production in Ethiopia, while several brands that are currently producing in Ethiopia are producing at lower volumes than initially expected. Ethiopia's textile and garment sectors achieved less than half of their export target for the 2017-2018 fiscal years. The sectors achieved a paltry 46.3 percent of their export targets for the financial year. The Government's plans to grow textile exports to US\$1bn by 2025 are looking increasingly far-fetched, with exports hovering round the hundreds million marks.

Having these unsatisfactory performances and given the Government's endeavor to increase the country's foreign exchange earnings by tracking concrete policy measures and incentive schemes calls for specific studies concerned with systematic identification of factors affecting the export performance of Ethiopia's textile and garment industries. This study focuses on investigating the macroeconomic determinants of textile and garment export performance in Ethiopia by using an

autoregressive distributed lag model to analyze how the independent variables affect the dependent variable which is textile and garment export performance. The paper also aims to add value to the existing body of knowledge.

### **1.3. Statement of the problem**

Improving export performance is one of the macroeconomic objectives of many countries, both developed and developing. This is because export plays a vital role in economic growth and is the means for improving the current account balance. Export is one of the components in the aggregate demand and, thus, low export implies a low level of income in terms of GDP. Textile and garment sector in Ethiopia has shown a significant growth in the past fifteen years but the export performance in the recent years is shrinking. The sector is facing many challenges at firm and industry level which can be considered as internal and external factors which are the causes for the decreasing performance. Therefore, it is important to explore the trends in textile and garment export and the determinants of Ethiopia's textile and garment export performance.

The majority of previous studies have explored the complex process of export performance at the micro level (e.g. Abiy (2018); Derese, (2019); Gizaw, (2018); Fikreselassie (2017); Eusebio, Andreu, & Belbeze, (2007); Kang & Jin, (2007); Lau, Zhang, & Chen, (2009)) while a few studies have focused on the macroeconomic level (e.g., Degef (2018); Tigist, 2018; Muhabaw 2013; Yimam, (2018); Athukorala, (2009); Jin, (2004); Kaplinsky & Morris, (2008);) and others included both (e.g., Adugna, (2018); Muluye (2018); Kassa, (2012); Wang, (2013)). In the present study, the determinants of export performance for textile and garment sector will be discussed at the macroeconomic level. The micro level studies have examined export performance determinants with in the domain of the sector like, managerial perceptions towards exporting, the firm's resources, and capabilities and market strategies; and the variables are controllable by the firms individually or as a whole. In the contrary the studies that focused on macroeconomic level examined the factors that are external to the industry and are not controlled by the firms.

This study will offer detailed analysis of Ethiopia's textile and garment export performances developing trends in terms of intensity, value and growth. The present study will also fill a void in the area of analyzing the current determinants of Ethiopia's textile and garment export

performances by using many explanatory variables. Even though several pieces of research have been conducted in this area, there is inconsistency in their findings. Besides, the variables used as independent variables to see their impact on the dependent variables varies from one research to another and previous studies conducted by local researchers did not incorporate variables like inflation rate, labor, and domestic infrastructure. Most of the researchers only focused on foreign direct investment, GDP, trade openness and exchange rate as determinants. The other issue is the methodology used to analyze textile export determinants is a regression using gravity model or VAR model but this study applies the autoregressive distribution lag model to analyze the determinants of textile export performance in Ethiopia. Therefore, it is quite necessary to research this issue due to the above-mentioned gaps. Moreover, this research is intended to study the determinants of textile and garment export performance by adding more data and variables unlike previous researches conducted so far, thereby enhancing the validity and generalizability of the study.

#### **1.4. Objective of the study**

##### **1.4.1. Main objective**

The main objective of the study is to determine the macroeconomic factors influencing the export performance of the textile and garment industry in Ethiopia

##### **1.4.2. Specific objective**

- To determine the impact of Foreign direct investment on the export performance of textile and garment industry in Ethiopia.
- To examine the impact of Gross domestic product on the export performance of textile and garment industry in Ethiopia.
- To examine the impact of Exchange rate on the export performance of textile and garment industry in Ethiopia
- To determine the influence of trade openness on the export performance of textile and garment industry in Ethiopia.
- To examine the impact of inflation on the export performance of textile and garment industry in Ethiopia.

- To determine the effect of labor-capital on the export performance of textile and garment industry in Ethiopia.
- To determine the effect of Domestic infrastructure on the export performance of textile and garment industry in Ethiopia.

### **1.5. Research questions**

In accordance with the stated problem and the objectives indicated above, the study presents and looks for answers to the following questions.

- How does foreign direct investment affect the export performance of textile and garment industry in Ethiopia?
- How does Gross domestic product affect the export performance of textile and garment industry in Ethiopia?
- How does Exchange rate affect the export performance of textile and garment industry in Ethiopia?
- How does trade openness affects the export performance of textile and garment industry in Ethiopia?
- How does inflation affect the export performance of textile and garment industry in Ethiopia?
- How does labor capital affects the export performance of textile and garment industry in Ethiopia?
- How does Domestic infrastructure affect the export performance of textile and garment industry in Ethiopia?

### **1.6. Scope of the study**

This study is confined only to identify the macroeconomic determinants of textile and garment export performance in Ethiopia. In the study, time-series data of 32 years are considered to analyze the relationship between dependent and independent variables. The study is limited to only quantitative data due to time constraints and the difficulties of finding qualitative data from companies working in industrial parks, as a result, the qualitative aspects are not considered. Also, the study is unable to consider data for more than 32 years due to the unavailability of organized data on some macro-economic variables. However, quantitative factors considered and

time serious data of 32 years are enough to perform the regression; the above-mentioned limitations will not compromise the result of the study.

### **1.7. Limitation of the study**

The study has several limitations. First, the present study is conducted using secondary data collected from government organizations and World Bank indicator databases. A particular concern was the accuracy of data sets since the data collection process cannot be fully controlled by the researcher. Second, some data sets were missing for certain measurements in specific years so the researcher used a moving average value for the missing data in some particular years.

### **1.8. Significance of the study**

Ethiopia has the fastest population growth rate in Africa and the unemployment rate is increasing alarmingly. Fostering an enabling environment for investment has enormous importance to develop an economy that can end extreme poverty and boost shared prosperity in the country. This study is expected to identify the determinant factors that affect textile and garment export performance which can be used as practical information that should be considered in the expansion of the industry. The study provides information to policymakers to enable them to come up with the appropriate policy regarding the growth of the sector and the economy as a whole. This study also is expected to add new knowledge to the existing literature, as it comes from Ethiopia. Therefore, apart from getting current research findings, the study also provides the room for comparison with the previous research findings for further studies.

### **1.9. Organization of the Study**

This thesis is organized into five chapters. Chapter one provided a brief review of the research background and problem statement, discusses the objectives, the scope and significance of the study as seen above. Chapter two reviews theoretical and empirical literature from previous research regarding determinants of export performance, including FDI, GDP trade openness, exchange rate, inflation rate, labor, and domestic infrastructure. Consequently, a theoretical framework is presented describing the determinants of textile and garment export performance and the hypothesis is drawn. Chapter three reports the method used in the main study, including

research design, research model and hypothesis testing, measurements of variables, data collection, and data analysis. In chapter four, data analyses and results are discussed. Chapter five concludes with the study findings and implications. It also addresses the limitations of the current study and suggestions for future research.

# CHAPTER TWO

## 2. LITERATURE REVIEW

### 2.1. Introduction

This chapter presents a review of the theoretical framework for export performance and its measurements. The framework is developed by examining the existing literature by reviewing the past and current empirical studies on the determinants of export performance. Over the past decades, considerable attention has been paid to the determinants of export performance for both micro and macro levels. Micro-level research revolves their attention on specific firm-level variables since firm attributes lead to performance differences and have significant influences on a firm's export performance. Some factors identified include managerial perceptions towards exporting, the firm's resources, and the firm's capabilities. At the macro-level, several researchers have examined variables including exchange rate fluctuations, foreign direct investment comparative advantage, government policies, and domestic market characteristics. As the study aims to investigate the macroeconomic factors that determine textile and garment export in Ethiopia, the theoretical justification for the dependent and independent variables are also discussed here.

### 2.2. Theoretical review

The principal objective of any theory of international trade is to explain the cause and pattern of trade. Two other objectives of a theory of international trade are to explain the composition and volume of external trade. A theory, which explains these three issues: cause, composition structure and volume of trade is conventionally said to be a “complete” theory of international trade (Davis and Cobb, 2010). Two theories dominate international trade analysis namely the Classical and Neo-classical theories. In addition to the two theories Post–Heckscher Ohlin theories and The Product Cycle Theory are discussed.

#### 2.2.1. The Classical Theory of International Trade

Over time, schools, the great scientific personalities, and operators within the field of trade have displayed their ideas concerning the main classical theories about international trade (Terzea, 2016). Classical economists were oriented primarily toward growth economics and their main

concern was explaining how the “wealth of nations” was increased. In explaining increased output, specialization and division of labor got special attention. The classical theory of international trade was formulated primarily with a view to its providing guidance on questions of national policy. Although it included considerable descriptive analysis of the economic process, the choice of phenomena to be scrutinized and problems to be examined was nearly always made regarding current problems of public interest.

In the realm of foreign trade, the classical economists were mainly concerned with two questions. First, within the production of what product a country should specialize or which goods a country will export and which it'll import. Second, once different countries produce different goods; what's going to be the ratio of exchange between goods (Terzea, 2016). Here three main classical theories are discussed.

### **I. Mercantilism (William Petty, Thomas Mun, and Antoine de Montchrétien model)**

Mercantilism is a philosophy from about 300 years ago. The base of this theory was the "commercial revolution", the transition from local economies to national economies, from feudalism to capitalism, from a rudimentary trade to a bigger international trade. Mercantilism was the financial system of the main trading nations during the 16th, 17th, and 18th centuries, supported the premise that national wealth and power were best served by increasing exports and collecting precious metals reciprocally . It superseded the medieval feudal organization in Western Europe, especially in Holland, France, uk , Belgium, Portugal, and Spain. The monarch controlled everything. Their policy was to export in the countries that they controlled and not to import (i.e. to have a positive Balance of Trade).

The state exercised much control over economic life, chiefly through corporations and trading companies. Production was carefully regulated with the thing of securing goods of fine quality and low cost, thus enabling the state to carry its place in foreign markets. The theory states that the world only contained a fixed amount of wealth and that to extend a country's wealth; one country had to require some wealth from another, either through having a higher import/export ratio. So, this tendency, to export more and import less and to receive in exchange gold (the deficit is paid in gold) is named mercantilism. The theory was criticized by the newly appeared class because extra money was associated with fewer products and inflation and the quality of

living is weaker. Mercantilist ideas did not decline until the coming of the Industrial Revolution and laissez-faire (Terzea, 2016).

## **II. The Absolute Advantage (Adam Smith model)**

In the second half of the eighteenth century, mercantilist policies became an obstacle for the economic progress. Adam Smith (father of liberalism and economical science) brought the argument in his book "The Wealth of Nations", published in 1776, that the mercantilist policies favored producers and disadvantaged the interests of consumers. Adam Smith's theory starts with the thought that export is profitable if you'll import goods that would satisfy better the necessities of consumers rather than producing them on the inner market. The essence of Adam Smith's theory is that the rule that leads the exchanges from any market, internal or external, is to work out the worth of products by measuring the labor incorporated in them. To demonstrate its theory, Smith analyzed for the start country A, using one factor of production, the productivity of labor, evaluated within the necessary hours needed to supply a unit of measure of the products X and Y. He used a unifactorial system of economy. Symbolizing H-hours, L-labor, and the unitary necessary of labor for product X is HLX and for Y HLY. Because all the economies have limited resources, there are limits within the level of production, and if a rustic wants to supply much of 1 product it's to relinquish producing another product.

## **III. The Comparative Advantage (David Ricardo model)**

David Ricardo, the 18th-century British economist, was the author of the classical theory of international trade and therefore the doctrine of comparative advantage. Ricardo was the first to demonstrate that external trade arises not from a difference in absolute advantage but the difference in comparative advantage. By "comparative advantage" is supposed by "greater advantage" Thus, within the context of two countries and two commodities, trade would still happen albeit one country was more efficient within the production of both commodities (provided the degree of its superiority over the opposite country wasn't identical for both commodities).

The theory assumed the existence of two countries, two commodities and one factor of production and labor. Labor was fully employed and internationally immobile and that the product and factor prices were perfectly competitive. There aren't any transport costs or other

impediments to trade. In step with Ricardo, differences in climate and environment tend to result in differences in comparative advantage; differences in comparative advantage lead to a trade. Within the context of a model of two countries, two commodities and one factor of production, Ricardo obtained the result that a country will tend to export the commodity in which it's a comparative advantage and to import the commodity during which it's a comparative disadvantage. Since comparative costs are the opposite side of comparative advantage, the classical theory is definitely couched in terms of comparative costs. Specifically, the theory now states that a country will tend to export the commodity whose comparative cost is lower and import the product whose comparative cost is higher in pre-trade isolation (Appleyard, Field and Cobb, 2010).

### **2.2.2. Neo-Classical Theory of International Trade**

The Neo-classical theory of trade evolved in an effort to transform some assumptions of the classical theory. The Neo-classical theory, also called the modern theory, advanced a more satisfactory explanation for the existence of comparative cost differences between countries. The theory introduced capital as the second factor of production; and allowed for international differences in the pattern of demand. The Neo-classical theory is, therefore, a 2\*2\*2 model, that is, it assumes the existence of two countries, two commodities, and two factors of production. The introduction of the second factor of production seems to its importance because it explains the link between factor allocation, income distribution, and international trade. As an example, the fundamental insight of the Heckscher-Ohlin-Samuelson H.O.S Model is that traded commodities are really bundles of factors (land, labor, capital). The exchange of commodities internationally is, therefore, indirect factor arbitrage, transferring the services of otherwise immobile factors of production from the locations where these factors are abundant to a location where they're scarce. Under some circumstances, this indirect arbitrage can completely eliminate factor price differences. The foremost important implication of the H.O.S Model is that the choice to sell factor services externally (through the exchange of commodities) transforms an area marketplace for factor services into a global market. As a result derived demand for inputs becomes much more elastic and also more similar across countries (Appleyard, Field and Cobb, 2010).

The framework of trade proposed by Heckscher in 1919 and Ohlin in 1924 departs from the Ricardian model therein it emphasizes the roles of land, labor, and capital in both agricultural and industrial production and attempts to elucidate how variations within the provision of those factors of production determine a country's nature of specialization and patterns of trade. Paul Samuelson added elegance to the present framework by developing a two-factor, two-sector and two-country version of the Heckscher-Ohlin model that became the cornerstone of the modern theory of international trade. In keeping with the H-O-S theory of trade, a country should specialize in and export a product that uses more intensively the factor of production with which the country is well endowed. Therefore, a capital-rich country just like the US should export the capital-intensive products while a labor-rich country like Bangladesh should export various labor-intensive products. While this theory offers a more logical way to think about trade among nations than the Ricardian approach, it also exclusively focuses on the provision side of the economy and suggests that differences in factor endowments can explain specialization patterns and the volume of trade between countries. The demand side is muted through the assumptions of and homothetic preferences of consumers and that countries trade to homogeneous products. The refinement of the H-O-S trade model continues together with the development of empirical implications of the factor content of net trade flow (Helpman, 1999). Therefore based on this theory, it is expected that since Ethiopia has plenty of land and a high level of the working population as to to expand its trade it should produce and export labor-intensive commodities. In turn, it should import capital intensive commodities including machines to be utilized in the construction of processing industries which can add value for the products to be exported.

### **2.2.3. Post-Heckscher-Ohlin Theories of Trade**

The imitation Lag hypothesis in international trade theory was formally introduced in 1961 by Posner. The theory relaxes the postulation of the Heckscher-Ohlin theory about identical technology. It assumes that an equivalent technology isn't an always available altogether country which there's a delay within the transmission or diffusion of technology from one country to a different. Consider countries I and II. Suppose that a brand new product appears in country I due to the successful efforts of research and development teams. Keeping with the imitation lag theory, this new product won't be produced immediately by firms in country II. Incorporating a

time dimension, the imitation lag is defined as the length of time (For instance, 15 months) that elapses between the product's introduction in country I and the appearance of the version produced by firms in country II. The imitation lag includes a learning period during which the firms in country II must acquire technology and know-how to produce the same products. Besides, it takes time to purchase inputs, install equipment, process the inputs, and introduce the finished products to market, and so on (Appleyard, Field and Cobb, 2010).

In this approach, a second adjustment lag is the demand lag, which is the length of time between the product's appearance in country I and its acceptance by consumers in country II as an honest substitute for the products they're currently consuming. This lag may arise from loyalty to the existing consumption bundle, inertia, and delays in information flow. This demand lag also can be expressed in a number of months, say, four months.

A key feature in the Posner theory is that the length of the imitation lags with the length of the demand lag. As an example, if the imitation lag is 15 months, the net lag is 11 months that is, 15 months less 4 months (demand these 11 months) period. Country i will be able to export the merchandise to Country II. Before this era, country II had no real demand for the product; after this era, firms in country II also are producing and supplying the merchandise therefore the demand for country I's product diminishes. Thus, the central point of importance in the imitation lag hypothesis is that trade focuses on newly manufactured products. How can a country become a continually successful exporter? By continually innovating! This theory has considerable relevance for present-day concerns about the global competitiveness of United States firms. Further, it seems to be capable of handling "dynamic" comparative advantage than are the Heckscher-Ohlin and Ricardo models (Appleyard, Field and Cobb, 2010)

#### **2.2.4. The Product Cycle Theory**

In 1966 Vernon developed the Product Cycle Theory of trade which builds on the imitation lag hypothesis in its treatment of delay in the diffusion of technology. The PCT relaxes several other assumptions of traditional trade theory and is more complete in its treatment of trade patterns. The PCT cares with the life cycle of a typical "new product" and its impact on international trade. Vernon emphasizes that manufactured goods therefore the theory begins with the development of a new product in the United State. The new product will have two

principal characteristics: (i) it'll cater for high-income demands because the United State may be a high-income country; and (ii) it promises, in its production process, to be labor-saving and capital-using in nature (It is additionally possible that the product itself e.g. a consumer durable such as a micro ware oven will be labor saving or the consumer). The rationale for including the potential laborsaving nature of the production process is that the United States of America is widely regarded as a labor-scarce country. Thus, technological change will emphasize production process with the potential to conserve this scarce factor of production (Appleyard, Field and Cobb, 2010).

The second stage of the life cycle is termed the maturing-product stage. During this stage, some general standard for the product and its characteristics begin to emerge, and production techniques start to be adopted. With more standardization within the production process, economies of scale start to be realized. This feature contrasts with Heckscher-Ohlin and Ricardo, whose theories assumed constant returns to scale. Additionally, foreign demand for the product grows, but it's associated particularly with other developed countries, because the product is catering to high-income demands. This rise in foreign demand assisted by economies of scale resulted in a trade pattern whereby the U. S. exports the product to other high-income countries. Other developments also occur in the maturing-product stage. Once U.S firms are selling to other high-income countries, they may begin to assess the possibilities of producing abroad in addition to producing in the United States of America. Then U.S firms tend to invest in production facilities in the other developed countries. If this is often done, export displacement of U.S.-produced output occurs.

The final stage is the standardized-product stage. By this time in the product life cycle, the characteristics of the product itself and of the production process are well known; the product itself and the production process to producer. Vernon hypothesized that production may shift to the developing countries. Labor costs again play a crucial role, and therefore the developed countries are busy introducing other products. Thus, the trade pattern is that the United States of America and other developed countries may import the product from the developing countries.

In summary, the PCT assumes a dynamic comparative advantage because the country source of exports shifts throughout the life cycle of the product. At the early stages, the innovating country exports the goods but then it is displaced by other developed countries which are

ultimately displaced by developing countries. For example, electronic products such as television receivers were for many years a prominent export of the United States of America. But Europe and particularly Japan emerged as competitors, causing the U.S. share of the market to diminish dramatically. More recently, Japan has been threatened by South Korea and other Asian producers. The textile and garment industry is another example where developing countries (especially China, Taiwan, Malaysia, and Singapore) became major suppliers on the planet market, displacing especially the United States of America and Japan. Automobile production and site also relatively from the us of America and Europe to Japan and later still to countries such factor mobility and economies of scale, make the product cycle theory an appealing alternative to the Heckscher-Ohlin model (Appleyard, Field and Cobb, 2010).

#### **2.2.5. Global value chain framework**

Globalization implies functional integration between internationally dispersed activities (Dicken, 1998). Buyer-driven value chains are common within a labor-intensive industry, like textiles and apparel, footwear, toys, and handicrafts. Different from producer-driven value chains, which lie in technology, the critical asset of buyer-driven value chains is the brand name design, marketing and an ability to organize the decentralized and horizontal production system (Gereffi, 1994). In step with Sturgeon and Memedović (2011) the concept of global value chains or global supply chains is that the international extension of these definitions, responding to the growing phenomenon of global production fragmentation the very fact that business functionalities and production activities along a worth chain are increasingly administered by various entities located in several countries. As a result, GVC related international transactions became a crucial aspect of cross-border trade, and GVCs are recognized as a crucial driver of structural change within the world economy.

In this pattern of trade-led industrialization, third-world contractors, who make finished goods for foreign buyers, complete production, while large retailers or marketers, who order the products, supply the specifications. The worldwide apparel value chain consists of the subsequent components: textile materials supply; manufacturing of finished products; transportation services and logistics; and marketing (Gereffi and Frederick, 2010). This framework explains the method of worldwide sourcing within the textile and garment industry. Furthermore, in the textile GVC, brand companies in developed countries control the above

activities, such as design, branding, retailing, and set-up dispersed production networks in a variety of locations, usually in developing countries (Gereffi and Frederick, 2010).. They make sourcing decisions, based upon the supplier-related components of textile materials supply, manufacturing of finished products, and transportation services and logistics. The current trend is textile production relocates from the U.S. and Western Europe to developing countries in South East and Southern Asia and Africa (Kilduff and Chi, 2007). Therefore, the countries, which have comparative advantages for these supplier-related components, could become more competitive within the global economy

### **2.3. Export performance**

As described by Katsiakeas et al, (2000), Export performance is one of the most widely researched but least understood and most contentious areas of international trade. This is often because of the rising tendency towards economic globalization, the increasing liberalization of the markets, the economic and monetary unions, and because a great number of countries depend on on their export performance to achieve economic growth (Cavusgil and Zou, 1994). Export performance measurement is a topic that has been debated in the literature. The literature reflects remarkable inconsistency in defining export performance, and a large variety of elements are adopted in export performance studies (Sousa et al, 2008).

Despite being a deeply studied area, this issue is actually the subject of lack of consensus and synthesis concerning its conceptualization, operationalization, methodology and also its determinants and performance measures (Katsikeas et al, 2000; Shoham, et al, 2006; Sousa, et al, 2008). Another element that contributes to the present controversy is the fact that the scale of export performance has different degrees of importance for the country and investors, also employees and customers (Sousa et al, 2008).

According to UNCTAD (2004), export performance determinants can generally be divided into external and internal factors. External factors are related to market access conditions, a country's location regarding international markets, a country's macroeconomic status and, other factors affecting the import condition of foreign countries. Internal factors refer to supply-side limitations. Supply conditions are fundamental in defining the export potential of an economy and countries with better supply conditions are expected to export more. Supply capacity is

affected by access to raw materials and factors related to costs. Besides resource endowment, policy and therefore the institutional environment also affect the availability capacity of the country.

Another approach is to look at export performance in terms of export effectiveness, export efficiency, and export adaptiveness. Export effectiveness is concerned with the degree to which exporters achieve their exporting goals and objectives. For example, a firm might evaluate itself in line with whether export profit or export sales revenue objectives are achieved, or whether a certain penetration level is achieved or exceeded. Export efficiency refers to the comparison of outputs to inputs, and so includes traditional profit ratios, such as return on investment (Katsikeas et al, 2000).

However, the export performance indicators of greatest interest are the economic measures: these contain sales-related dimensions, such as sales growth and revenues relative to competitor's market share, and profit-related dimensions, such as profit margins, ratios, and growth trends. Ultimately, all profit-oriented businesses are seeking success in terms of economic performance dimensions and, justifiably, economic export performance indicators receive most research attention. In terms of modeling determinants of export success, economic performance indicators are the ultimate endogenous variables, with non-economic indicators playing important but subservient mediating roles. Economic performance indicators can be of the effectiveness kind or the efficiency kind, or both simultaneously, since the operational distinction between effectiveness and efficiency is often vague (Cadogan et al, 2009).

In this study, export performance is measured in terms of export intensity, export value, and export growth. Export intensity, defined as the ratio of export sales to a country's total sales (Katsikeas et al, 2000), it shows the contributions of commodity exports to a country's total exports. For this study as we are focused on textile and garment export, it is described as the ratio of textile and garment export to a country's total export. Export value, defined as the size of export earnings in dollar value for a country (Shoham, et al, 2006), it's an indicator to directly measuring a country's export performance in this case, the export value of textile and garment. Export growth is the increase in exports over a certain time period. It reflects the changing rate and developing trends of export values.

## **2.4. Textile industry development in Ethiopia**

Ethiopia having long years' of experience in the textile industry produces traditional apparel in cottage industries by using a method of hand looming to cater the needs of the people. These traditional apparels are made of woven cotton threads made by hand from twisted lint or yarn. These activities were traditionally held by handloom weavers. This traditional cottage industry is inherited and continued, currently making an important contribution to provide to the needs of the local demand. The industry was introduced to Ethiopia by establishing the Dire Dawa Textile factory in 1939 E.C when the Italian occupation started from a period of 1935 to 1940 E.C. Following this, the imperial government established Akaki textile factory in collaboration with the Indian government in the year 1960 E.C. Although the sector remained constant without significant change during the DERG regime it became a priority sector in the E.F.D.R with the aim to promote export and investment. Since the shift to a market led economy in 1991, the Government has identified the textile and apparel sector as precedence for poverty reduction and economic development, given its labor intensity.

The shift of the government policies from an agricultural led economy to an industrial led economy is quite visible in its plans. Ethiopia successfully took advantage of the African Growth and Opportunity Act (AGOA), and since the early 2000s, the textile and apparel business began to grow. (Van der Pols, D., 2015), with reports that there were less than 20 firms in 1991, which increased to above 80 in 2012 and nearly 110 in 2013, having reached around 130 medium- and large-scale factories today. To add to AGOA, the Ethiopian Government established AGOA Center within the Ministry of Trade with a goal to help Ethiopian firms take advantage of this agreement. According to the information of Ethiopian Textile Industry Development Institute (ETIDI, 2016), Ethiopia also has duty-free access to 16 other nations, namely, Australia, Belarus, Canada, China, India, Japan, Norway, New Zealand, Russia, Switzerland, Turkey, etc., and it is member of the Common Market for Eastern and Southern Africa (COMESA). Some of the other policies that provide an incentive to invest in favor of the textile and apparel sector are duty-free access to the European Union, USA and global markets through Everything but Arms (EBA) and duty-free quota-free (DFQF) trade agreements.

The Ethiopian Government showed its diligence to the cotton value chain at its first (2010-2015) and second (2015-2020) growth and transformation plans by striving to be one of the leading

textile sourcing destinations and with a goal to achieve middle-income status by 2025 (Dessaiegn, Z., 2016). Besides, industrial policies have a selective character, providing direct support for and, hence, influencing resource allocation toward priority sectors (Brautigam et al, 2015); (UNECA, 2015).

Even though Ethiopia could be considered as a latecomer in the manufacturing sector in SSA, the recent progress in the value chain entitles it to be as a “Rising star” in the textile and apparel export sector and Africa’s largest staple supplier for the leather industry. According to (Staritz et al, 2016), apparel exports from Ethiopia have increased impressively, jumping almost eightfold from US\$9m in 2009 to US\$68m in 2014, and Yost and Shields (2017), suggest that export earnings have grown from US\$60m to US \$160m in the last five years, and the government has a target to reach US\$1bn by 2020. The 2016 ETIDI report shows that the export share of the textile and apparel business in total was 3.5 percent in 2015, and for the manufacturing sector, the export share was 23 percent.

Leading the Ethiopian Government’s long-term vision for economic growth that taps into the country’s huge potential workforce and low labor costs, work is underway a network of specialized and vertical clothing and textile hubs across the country. The Ethiopian Industrial Parks Development Corporation (IPDC) established in 2014, became an engine of rapid industrialization that nurture manufacturing industries, to accelerate economic transformation, promote and attract both domestic and foreign investors. Ownership is diversified in the Ethiopian textile and apparel sector, made up of state-owned enterprises (SOE), endowment-owned firms linked to the dominant party, private locally owned firms. Ethiopian diaspora owned firms and a variety of foreign-owned firms. ETIDI data complemented by interview data by (Staritz et al, 2016) show that there were 127 textile and apparel firms in January 2016, including 24 integrated mills (textile and apparel), 23 textile mills (spinning, weaving or knitting), 72 apparel and eight handloom factories. Also including ginning, accessories, and packaging, there are 155 firms (two accessory firms, five packaging, printing and dyeing firms, and 21 ginneries). Integrated mills account for the majority of the employment of 55,076 in the textile and apparel sector (51 percent) which is followed by apparel factories (32 percent), textile mills (13 percent) and handloom factories (8 percent). In the past five years, foreign-owned firms have increased in the textile and apparel sector. There are 43 foreign-owned firms in the textile

and apparel sector accounting for 34 percent of firms and 49 percent of employment. Turkey is the largest investor accounting for nine firms and 23 percent of total sector employment.

Brautigam et al, (2015) States that Ethiopia has adopted an active, state-driven industrial policy aimed towards incentivizing exports, attracting lead firms and foreign direct investment, supporting local firms and creating local linkages to promote priority sectors such as apparel and textiles. The Ethiopian Government alongside the IPDC is on the verge of building the entire value chain within the country ranging from producing cotton within the Northern Ethiopia to establishing a number of Industrial parks such as Mekelle industrial park(inaugurated by China Civil Engineering Construction Corporation in July 2016), Kombolcha industrial park (in Northern Ethiopia), Adama industrial park, Dire Dawa industrial park, Bole Lemi II textile park, four km from the main airport in the capital Addis Ababa. H&M along with PVH Corp, owner of the Calvin Klein and Tommy Hilfiger brands is an “anchor” at the Hawassa industrial park, Mekelle and Bole Lemi industrial parks (Leonie Barrie, 2017). In the pipeline of this expansion plan Hawassa industrial park has Raymond Group (India), one of the largest integrated manufacturers of worsted fabric in the world and Wuxi Jinmao (China) with customers including Gap, JC Penney, Target, VF Corp, Next and Marks, and Spencer on their way of building manufacturing facilities. The Government of Ethiopia hopes to bring in textile exports worth \$30bn by 2025 and increase the GDP of the country, household income, foreign currency, and employment in the country by establishing these industrial parks throughout the country.

The textile and apparel sector makes a giant contribution to the economy in both the manufacturing and consumer sectors, but they're still lies some gaps which requires to be filled at the earliest. The primary obstacle is the Cotton value chain; the agricultural practices related to cotton production represent the beginning of the value chain need a lot of attention. Khurana, (2018), discussed that there are significant gaps in terms of upright agricultural practices. The barriers include lack of education and training of the farmers, institutional problems, behavior change, the lack of interactive communication between research, pest, and pesticide management extension, water management at irrigated locations, lack of demonstration of techniques and technology transfer. Availability of raw materials is the second challenge for the sector, When raw cotton is exported, the domestic textile mills lose the best quality (grade-A) of the raw material and force the textile mills to use inferior quality (might be grade B and C) raw cotton

with the highest cost (Mesfin, 2010). Because of the challenges in textile manufacturing, the garment factories often face shortages in raw material, yarns, fabrics, and accessories and subsequently disrupt the production flow leading to longer lead times and price as a serious impediment in their operation (Staritz et al, 2016).

Another challenge is the exchange rate fluctuations, the inflation in US\$ value increased by 15 percent in the final quarter of 2017 has affected many apparel companies and the investors. The raw materials which were imported due to shortage or unavailability are now much costlier to the local producer not just in apparel but other sectors also. Logistics and infrastructure is another major obstacle for the textile export. Ethiopia is a landlocked country, and the only shipping port to the world is Djibouti. This has increased times at customs clearance and duties and taxes for the import and export. Because of this, the advantage of low wages is nullified, and it becomes quite impossible to produce and export time-sensitive products. Exposure to foreign markets, Lack of skilled labor, political instability and other factors are considered as obstacles for the development of the sector.

## **2.5. Empirical review**

The empirical literature on export performance of the textile industry has been occupied on either examining factors influencing export performance or measuring the contribution of the sector to the country's economy. As this study intended to examine factors influencing the export performance of the textile and garment industry, this segment reviews international and local empirical literature related to the subject.

### **2.5.1. International studies**

Abeynanda (2017) examined the main factors affecting the garment export performance in Sri Lanka. Inflation rate, exchange rate, Generalised System of Preferences Plus scheme, wage of workers, number of unskilled migrants, tsunami disaster are considered during this study to spot the main factors which influence the exports of the apparel industry . The study concluded that garment industry export of Sri Lanka mainly depends on wage of workers, Foreign Exchange rate, unskilled migrants and, inflation rate. Another study by Ekanayake (2016) has evaluated the determinants of export demand for textiles and garments of Sri Lanka, using quarterly data from 1999 to 2013. A long run relationship is found between export demand and explanatory

variables. The empirical results reveal that the depreciation of the important rate of exchange doesn't increase the demand for Sri Lanka's textiles and garments, as this industry is found to be heavily dependent on imported raw materials. World GDP which proxies the income of buyers is additionally a serious determinant of export demand. It is also found that the generalized System of Preferences-plus and Multi-fiber Arrangement had a positive and significant impact on the demand for textiles and garments of Sri Lanka as they provided duty free access to major textile and garment markets like USA and EU particularly when the worldwide financial crisis and debt crisis had a negative impact on world demand for textiles and garments. But trade openness which proxies the extent of trade restrictions between Sri Lanka and therefore the remainder of the planet shows a negative relationship with export demand for textiles and garments from Sri Lanka.

wang (2013) examined The determinants of textile and apparel export performance in Asian countries. The study analyzed the textile and apparel export performance among 11 Asian developing countries over a twelve year period using a vector autoregressive errors model approach. Trends in textile and apparel export activities for this set of countries were examined and identified the effects of industrial, economic and trade factors including number of production facilities, number of employees, labor costs, lead time, quota and tariffs, logistics performance and, exchange rate on textile and apparel export performance. This study demonstrated that low labor costs is comparative advantages for Asian developing countries to attract buyer sourcing in Asian. However, exchange rates had different impact on different countries. Tariffs had a negative impact on textile and apparel export performance in Asian developing countries.

Yoganandan and Jaganathan (2013) studied the factors affecting the export performance of textile industry in Developing Countries. The study aimed toward reviewing researches conducted within the area of determinants of and factors affecting the export performance of textile industry. The study confirms that the most of the studies have been carried out on establishing the relationship between GDP, exchange rate, labor capital, FDI and, technology with export performance of textile industry. Most of the researchers found a positive relationship between the above said variables and textile exports. It is suggested that future researches can be

done by taking in to account other variables like capital productivity and domestic environment factors

Siddiqi et al, (2012) examined the determinants of export demand of textiles and therefore the clothing sector of Pakistan using annual data for the amount 1971–2009 using the Johansen and Juselius methodology of maximum likelihood co-integration technique. As discussed in their paper, world income is that the major determinant of export demand for textiles and therefore the clothing sector of Pakistan. Trade openness which is employed as a proxy of trade restrictions is that the second major determinant of export demand. Other variables like the worth of textiles within the export market and therefore the rate of exchange were also found to be significant determinants of export demand.

Mold and Prizzon (2011) used a dynamic panel data set for forty-eight African countries over the period 1987 - 2006 to identify the key determinants of export performance. The results from the pooled regression revealed that unit price of exports, real effective exchange rate, taxes on trade and diversification index to affect export volumes negatively and significantly while income per capita, and share of manufacturing in GDP and FDI inflows as a percentage of GDP to affect export volumes positively and insignificantly during the period. A similar study done on analyzing the impacts of trade liberalization on Sub-Saharan African (SSA) export performance by Babatunde (2009) used panel data set from 1980 – 2005. The study summarized the results as follows “The panel evidence supports the view that the real effective exchange rate is an important factor affecting export performance in SSA. Trade liberalization are often said to affect export performance indirectly through the increased access to imported raw materials.

Chan and Sarkar (2008) studied the antecedents to India’s textile exports from 1985 - 2005. The study confirmed that High/low growth in textile export is affected by number of determinants. The determinants including Gross Domestic Product, real exchange rate, GDP per capita and population growth rate of the importers all have a significant impact. Positive GDP rate of growth in India and better value of the importers tend to import more in textiles products. The devaluation of the Indian rupee would boost textile exports thanks to the very fact that the buyers would enjoy cheaper textile products.

### **2.5.2. Local studies**

Derese (2019) performed a study to analyze determinants of export performance on selected textile and garment firms in Ethiopian. This study used explanatory research approach and empirical research design. The findings of this research found that firm specific characteristic and marketing mix strategy appeared to be significant predictors of export performance. The study also claims that environmental characteristic and government support do not influence Export performance. In terms of magnitude of effect marketing mix strategy is superior. In a similar study Gizaw (2018) revealed that 51.3% of export performance can be explained by marketing mix strategies. Moreover, while product, price and distribution marketing mixes shows significant and positive association, promotion marketing mix had positive but insignificant association with garment export performance. Another study by Fikreselassie (2018) examined Firm-Level Determinants of Export Performance of Ethiopian Textile and Garment factories. The study focused on three constructs of management characteristic, firm characteristics and export market strategy capabilities to see their impact on export sales growth. The research used deductive research approach and non-probability sampling technique in a descriptive research method. The study found that both firm characteristics and export marketing strategy capability of firms are significant to predict the export sales growth while Management characteristics are insignificant.

Tigist (2018) examined the effect of demand and supply side factors that affect Ethiopia's export performance. The study employed a panel data analysis to empirically analyze these determinants in Ethiopia for the period 2007 to 2017. A sample of ten major trading partners was selected to research the determinants of total export. Using fixed model the study found that from the supply side factors GDP, Logistics Performance index, FDI and Real Effective Exchange Rate has insignificant effect on Ethiopia's export performance while Corruption Perception Index and institutional quality significantly affects the export performance. Whereas on the demand side the per capita income of the trading partner and trade openness significantly affect the export performance.

Yimam (2018) studied Factors Influencing Export Performance of Textile and garment Industry in Ethiopia. Specifically, the impact of trade capacity building programs including trade agreements, FDI, expansion of local firms, improvements of labor skills and availability of low

cost electricity on Export Performance of Textile Industry. The study found that FDI, expansion of local firms, improvement of labor skills and availability of low cost electricity has significant impact on export performance of textile industry in Ethiopia at 5% level of significance. But trade capacity building program was insignificant to elucidate export performance of textile industry in Ethiopia.

Adugna (2018) investigated the internal and external factors that determine the export performance of textile and garment industry in Ethiopia. The study used primary data gathered using questioners and focus group discussions and, secondary data from international sources. A simple OLS model is used to analyze the data. The study concluded that FDI and GDP have a positive impact on textile and garment export performance but trade openness has a negative impact on textile and garment export performance. Also Price adaptation and ability to offer lower prices can positively affect the export performance of firms.

Muluye (2018) examined determinants of export performance of the textile and garment companies in Ethiopia with reference to export market knowledge, management competence, technology, product quality, infrastructure and policy and regulation. The explanatory research revealed that management competence, export market knowledge, policy and regulation, technology, and product quality have positive and significant effect on export performance. Even though infrastructure also has positive relation on export performance, its effect is not statistically significant

A study by Tewodros, (2016) has investigated factors affecting the performance of garment exporting industries in Ethiopia particularly the case of Addis Ababa. To achieving the objectives of this study, interviews and questionnaires were analyzed using statistical analysis such as descriptive analyses. The information obtained through a self-administered questionnaire from a sample of 16 operators and face-to-face interviews with respondents within the sector was conducted on industries under investigation. The empirical study extracted major factors which seem to affect the export performance of garment industries which include: unavailability of raw material, lack of capital, availability of skilled labor pool , marketing problems, inadequate infrastructures, incapability of management, technological, poor institution and between industry relation and lacking government regulation and incentives. The findings further indicate that, the

supply of staple, skilled labor force, shortage of capital, absence of selling personal and infrastructure being the foremost critical factors impeding garment industries engaged in export.

Muhabaw (2013) investigated the main determinants of export performance in Ethiopia for the period 1974 – 2011. The study tested the impact of terms of trade, trade openness, gross domestic product, real effective exchange rate, domestic credit and capital expenditure over the period. The results from the econometric analysis revealed that all the above listed explanatory variables significantly affected export performance in the long run except capital expenditure. In the short run, terms of trade became insignificant and negative in sign which was unexpected. Capital expenditure was also insignificant like in the case of long run. However, except these two variables other variables were found to have a significant impact on the export performance of the country.

### **2.5.3. Research gap**

Generally, from the above analysis we can understand that, even though, several international studies have been conducted on determinant of textile and garment export performance by considering the variables like GDP, GDP per capita, Exchange rate, Inflation rate, wage of workers, quota and tariffs, number of employees, population growth rate, number of unskilled migrants, labor costs, lead time, labor capital, FDI, technology, Trade openness and, taxes on trade as major determinants. Most of the local researches focused on the micro level (firm – level) determinants of textile and garment export performance such as export marketing strategy, Management characteristics, management competence, export market knowledge, technology, product quality, shortage of capital, availability of raw material poor institution and between industry relations. But studies by (Adugna, 2018 and Muluye, 2018) included both macro and micro level determinants like FDI, GDP, trade openness, Exchange Rate, expansion of local firms, Firm Characteristics, Marketing Strategy. The study by (Tigist, 2018 and Muhabaw, 2013) examined the macro level factors of export performance by considering GDP, Logistics Performance index, FDI, Real Effective Exchange rate, Corruption Perception Index, institutional quality, Terms of trade, Trade openness, Domestic Credit and, capital expenditure as explanatory variables, but the studies are not sector specific they studied determinants of export performance of the country. The study by Yimam (2018) is more similar to the present study because it focuses only on macro level factors and investigates both short run and long run

impacts, but the variables used and the method are different. In addition, there are inconsistencies over research findings in the above mentioned researches and they used small macroeconomic variables. The present study aims to fill the gap by including neglected variables like inflation rate, domestic infrastructure and labor capital with the more common variables like FDI, GDP, trade openness and exchange rate. Moreover, the study offers a sector specific evaluation by focusing the impact of the variables on textile and garment industry. In addition this study uses autoregressive distribution lag (ARDL) model to analyze textile export determinants in Ethiopia unlike the other researches.

## **2.6. Hypothesis development**

Export performance is linked with several variables as the reviewed literature proposes. But for this study the following variables were investigated: Foreign Direct Investment, Gross Domestic Product, Exchange Rate, Trade openness, Inflation, Labor and domestic infrastructure.

### **2.6.1. Foreign Direct Investment (FDI) and Export Performance**

Following the liberalization processes that began in the early 1990s, most countries opened their markets and have been encouraging foreign investment in a broad range of sectors through structural adjustment programs and other policy measures. FDI is supposed to be one of the major determinants of export performance in many countries since it helps to increase the export structure.

The link between FDI and export performance can be traced and hypothesized by applying the flying-geese model, the product lifecycle theory and the new growth theory. The flying-geese model provides a migratory image where Japan is the leading country in industrialization Asia, while other countries behind and follow the Japanese model. It depicts that a country's shifting competitiveness with time lags by paying attention to the dynamic changes in the endowment of factors such as labor, capital, and entrepreneurship (Tong et al 2011). In Far East Asia and Asian countries, the flying-geese type of FDI played a dominant role in the emergence of new industries (Ozawa, 2010). The essential factors in the FG model are labor cost and trade openness, because they can be used as the comparative advantage tool for stimulating trade. Ethiopia owning abundant and cheap labor attracted FDI in labor-intensive industries and light manufacturing industries in the last 10 years (Van der Pols, 2015). Increase the inflow of FDI in

the textile and garment industries ended until the Ethiopia cost advantage on the factor endowment turn down.

The Product lifecycle theory emphasizes the changes in the production process over time. In this theory, production has four stages including the stage of innovation, growth, maturity, and decline. The same firms that initiate a product for consumption in home markets will undertake FDI to produce a product for consumption in foreign markets. Moreover, the theory explains that the phenomenon of an increasing number of multinational corporations in advanced countries shift to developing countries when product standardization and market saturation give rise to price competition and cost pressures. The first stage production, companies tend to produce the new innovative product for the home consumption and foreign market without undertaking FDI. At the stage of growth, companies begin to undertake FDI and incline to joint venture investment with the home countries industry to set up production. In the maturity stage, the main focus of the produce is looking at the cost minimization, the flow investment shifted from advanced countries to the lower-cost countries. However, in this stage, the output which is produced by the companies serves the local market and the rest of the world (Hill, 2011).

The new growth model perceives FDI as a means for technological progress which is a product of the economic activity, and helps to stimulate productivity in the recipient countries. This technological progress and productivity increase the return in the production function; the return leads to economic growth (Shan, 1998). FDI promotes exports of host countries by enhancing domestic capital for exports, helping the transfer of technology and new products for exports, facilitating access to new and large foreign markets and providing training for the local workforce and upgrading technical and management skills (UNCTAD, 2002). Foreign Direct Investment (FDI) particularly those sectors that contribute maximum to the economic growth like the textile sector because the domestic capital may not be sufficient to enhance the production capacity and modernize the entire system (Chaudhary, 2011).

It is established that FDI promotes exports by augmenting domestic capital for exports, help transfer of technology and new products for exports, facilitating access to new and large foreign markets and providing training for the local workforce and upgrading technical and management skills. However, there are some arguments against that FDI may lower or replace domestic saving and investment, transfer technologies that are inappropriate for the host country's factor

proportions, target primarily the host country's domestic market and in fact does not increase exports and others (Zhang, 2006).

**Hypothesis 1:** Foreign Direct Investment has significant positive impact on textile and garment export performance in Ethiopia.

### **2.6.2. Gross Domestic Product (GDP) and Export Performance**

The size of the exporting and importing countries which is represented by GDP or the population of the countries is a basic determinant in explaining exports. The GDP of the domestic economy is believed to reflect the capacity to supply exporting goods. A high level of GDP indicates a high level of production within the exporting country and can be interpreted as a proxy for the range of product varieties available, which increases the availability of exports. The Heckscher Ohlin theory, postulated that export is a key factor to reduce the gap between the rich and poor. Further, Helpman (1999) proposed that export help promote technology and knowledge diffusion and thus accelerates economic growth. The export outcomes can be affected by different factors. These factors can generally be divided into demand and supply factors.

Another famous economic model about export and economy is the Keynesian view of expenditure approach. According to this approach, aggregate demand in the economy highly depends on the personal consumption expenditure spent by households, investment spending, government expenditure and net export where net export is the difference between export and import. Higher export implies that there are higher final goods and services produced within a year. The reverse holds true, in the sense that the better the economy a country registers, the higher the tendency of export will be made to the rest of the world.

In contrast to this, the paradox of plenty theory states that a country can sometimes focus too heavily on exporting only one lucrative export that is not a value-added export and thus neglects the rest of its economy and decreases its GDP. Generally, a higher level of GDP in importing countries indicates a higher level of production and that increases the availability of goods to be imported, thus, the related coefficient is expected to be positive.

Fugazza (2004) empirically examines the impact of real GDP and other factors on real exports. The results show that GDP has a positive and statistically significant impact on export

performance with elasticity of less than 1. Large size of GDP creates environments for investment decisions; however, Majeed & Ahma (2006) argue that, although both GDP and GDP growth have a positive impact on export expansion, growth of the GDP is an indicator of future potential and sustainability of production level. Growth is more valid determinant of exports as compare to GDP because it measures the sustainability of output levels.

Ahdi et al., (2013) analyze the dynamic causal relationship between economic growth and exports using linear and nonlinear Granger causality tests for South Africa for the 1911-2011 periods. The linear Granger causality result shows no evidence of significant causality between exports and GDP. In another study Kalaitzi (2013) examined the causal relationship between economic growth and exports in the United Arab Emirates over the 1980 - 2010 period, applying vector auto-regression (VAR) model. The Granger causality test for the study reveals unidirectional causality between manufactured exports and economic growth.

**Hypothesis 2:** Gross Domestic Product has significant positive impact on textile and garment export performance in Ethiopia.

### **2.6.3. Exchange Rate and Export performance**

It is generally argued that exchange rate movements have important implications for international trade, resource allocation and the choice of financial system. Theoretically, the effect of exchange rate uncertainty on international trade is ambiguous. Rise in real exchange rate means domestic products are more expensive compared to those sold overseas, and are therefore less competitive. Specifically, an appreciation of domestic currency, other things remaining the same, will lift domestic real exchange rate, thereby lowering competitiveness and eventually affect export volumes. In addition, a rise in the exchange rate will affect exporters' returns, making exports less profitable, and this too may affect export volumes if firms cut back on, or even stop exporting. On the other hand, the effect of exchange rate depreciation lowers the price of domestically produced goods, leading to an increase in exports and a reduction in imports; this, in turn, improves the current account balance. Although this makes the exports of the domestic economy more competitive, foreign consumers may not adjust their purchasing power immediately (Pattichis, 2012). The effect of exchange rates on international trade is clearly an empirical issue; however the evidence is mixed.

Balogun (2007) investigated the impact of exchange rate policies of the West African Monetary Zone (WAMZ) countries on export supply. The model uses nominal exports as dependent variable while nominal exchange rate, and other factors as explanatory variables. The study findings from the total export function of WAMZ countries show that exchange rates have a positive and statistically significant impact on export performance. The panel regression results, for Gambia and Nigeria, exchange rate is found to have a positive and significant effect on export performance. Contrary to the aggregate pooled results, the results show that export performance of Ghana and Guinea is unaffected by exchange rate changes. Furthermore, contrary to the theory, results from Sierra Leone regression show that exchange rate devaluations have a negative and significant impact on export performance. In a similar study, Mohamad et al., (2009) use panel data to examine the role of the real exchange rate and other macroeconomic variables on the export performance of Indonesia, Singapore, Malaysia and Thailand. They point out that appreciation of real exchange rate has a strong negative impact on export performance. Another study by Umaru and Musa (2013) employs the ordinary Least Square, Granger causality test, ARCH and GARCH techniques to investigate the impact of exchange rate volatility on export in Nigeria. Using annualized data from 1970-2009. The study further showed that exchange rate is impacting positively on exports.

Studies that find positive and significant effect of real exchange rate on export performance, their argument has been that real undervaluation or depreciation increases the profitability of the tradable sector, and leads to an expansion of the share of tradable goods in domestic value added (Rodrik, 2009), while real appreciation or overvaluation hampers exports and leads to a fall in economic growth (Easterly 2005 and Subramanian et al., 2007). However, Rodrik (2009) argues that the positive effect of real undervaluation on export expansion is significant only for countries with low per capita income. Rodrik (2009) finds that in developing countries with per capita incomes below \$2,500, an increase of 50 percent in real undervaluation is associated with an annual 1.8 percent increase in exports over GDP in the corresponding five-year period. In developing countries with per capita incomes lower than \$6,000 and higher than \$2,500, real undervaluation has an insignificant contemporaneous effect.

Other studies (Eichengreen 2007; Haddad & Pancaro 2010 and Eichengreen & Gupta 2013) caution that exchange rate depreciation can be deployed as a policy instrument to spur export and

economic growth only in the short term, because a country cannot maintain a depreciated real exchange rate indefinitely. In the same vein, Eichengreen & Gupta (2014) argue that potential costs such as tensions with other countries, accumulation of foreign-exchange reserves on which capital losses occur may come in the form of inflation. Indeed, Rodrik (2009)'s study reveals that, in the long run, the effect of a real exchange rate undervaluation on exports is insignificant. This also implies that for a competitive real exchange rate to succeed in boosting exports it will have to be accompanied by strong institutions, sound macroeconomic policies, and high savings rates, among others (Eichengreen & Gupta 2014). Therefore based on the above argument it is reasonable to expect that exchange rate fluctuations may have a positive or negative influence to export performance.

**Hypothesis 3:** Exchange Rate has a significant positive impact on textile and garment export performance in Ethiopia.

#### **2.6.4. Trade Openness and Export Performance**

Over the past sixty years, particularly in the last three decades, one of the pronounced characteristics of the world economy has been that developing countries have experienced rapid trade liberalization either unilaterally or as part of multilateral initiatives with the World Bank, WTO and the IMF (Zakaria, 2014). The simplification of import export procedures, the reduction or elimination of quantitative restrictions and the rationalization of the tariff structures are the most widespread reforms (Adugna, 2018). These trade liberalization reforms have important implications for exports, imports and trade balance of the developing countries. Many developing countries are still reluctant to liberalize their economies as it will deteriorate their trade balance as imports will increase more than exports after liberalization.

Theoretical literature has developed mainly three approaches to explore the effect of trade liberalization on the trade balance of an economy namely the elasticity approach, the absorption approach, and the monetary approach. The elasticity approach is concerned with exploring the effects of trade liberalization on export and import price elasticity. The argument for analyzing the relationship between trade liberalization and exports is that the reduction or elimination of trade policy distortions reduces anti-export bias, and therefore improves export competitiveness.

A study by Santos-Paulino (2002) on the impact of trade liberalization on export performance for a sample of developing economies concludes that trade liberalization is a fundamental determinant of export growth in all the countries in the sample. In another study, UNCTD (2008), employing a liberalization dummy as a proxy for liberalization and applying the Generalized Methods of Moment (GMM) estimator on the post-liberalization export performance for 34 African countries reveals that trade liberalization increases the exports-to-GDP ratio by 0.09 percent point. Some scholars such as (Taneja, 2012) and (Kongmanila and Takahashi, 2009) strongly acknowledge that the more open economy to the external world the higher will be its foreign exchange earnings from export. The implication is that a country needs to integrate into the world market by diversifying its trading partners.

Nevertheless, Babatunde (2009), using average tariff rates as the indicator of trade liberalization and fixed and random effects estimation techniques to examine the impact of trade liberalization on export performance across 20 sub-Sahara African countries during the 1980-2005 periods, revealed that there is no significant relationship between trade liberalization and export performance. However, lack of evidence on the impact of trade liberalization on export performance could also be due to the very fact that average tariff rates are not directly associated with exports. Utkulu et al., (2004) argues that strong influence of liberalization on export performance has remained largely unresolved in the literature. Hence, studies on whether trade liberalization results in positive or negative export performance can be examined by taking into consideration the consequence of trade reform, which consists of measures to reduce anti-export bias in addition to traditional model of export supply with explanatory variables such as export prices, domestic and foreign costs, and productive capacity.

**Hypothesis 4:** Trade Openness has significant positive effect on textile and garment export performance in Ethiopia

#### **2.6.5. Inflation and export performance**

Inflation is a condition, when the cost of goods and services rise. High inflation results in economic instability as it erodes the purchasing power of households. High inflation tended to be associated with low exports because it makes domestic goods more expensive to foreigners. In the US economy context, the study of Dexter et al, (2005) shows that international trade has a

significant separate influence on inflation where imports have a negative relationship with inflation and exports have a positive relationship with inflation.

Thorvaldur (1998) Identified four linkages between inflation and exports, inflation induce overvaluation of national currencies in real terms; inflation-induced production distortions driving a wedge between the returns to real and financial capital, the potentially deleterious effects of inflation on saving and investment, and economic mismanagement and structural weaknesses, of which inflation is Symptomatic. Based on the foregoing discussion it is reasonable to expect that high inflation would reduce export performance. This leads to the formulation of the following hypothesis.

**Hypothesis 5:** Inflation has significant negative effect on textile and garment export performance in Ethiopia

#### **2.6.6. Labor and export performance**

Human Capital has been defined by Schultz, (2003) as a key element in improving a firm's assets and employees to increase productivity as well as sustain a competitive advantage. Furthermore, Human capital is defined as "The knowledge, skills, competence, and attributes embedded in individuals that facilitate the creation of personal, social and economic wellbeing" by Organization for Economic Cooperation and Development.

The garment industry is a labor-intensive industry (Isam and Shazal, 2011). In most studies carried out on human capital and their implication on the performance of a firm human capital enhancement will result in greater competitiveness and performance of a firm (Aggarwal, 2004). Many developing countries including Ethiopia are trying to exploit this advantage of skilled as well as unskilled labor force which is found to be the competitive advantage in the garment manufacturing and export sector. According to United Nations projections reported by Mackenzy Sub-Saharan Africa will have the highest growth in the working-age population over the next 20-30 years. It's furthermore reported that the working population in the region is expected to be as large as Chinas today i.e. with 900million people who will serve as a competitive advantage in the manufacturing sector especially the garment sector which is known as a labor-intensive sector. At the same time, many developing countries have unskilled labor force. The effect of the unskilled labor force is opposite on competitiveness in export sector.

However, (Bergstrand, 1985) pointed out that there is an inconsistency in this argument, as larger populations allow for economies of scale which are translated into higher exports resulting in a positive relationship between population and export trade. Nevertheless, several studies have provided empirical support for the hypothesis that population size and population density are positively related to the performance of manufactured exports in developing countries (Thomas, 2004). This indicates the increment in the number of population results in an increase in the active labor, then this leads to the manufacturing industries get the labor in the cheaper price

**Hypothesis 6:** Labor-capital has significant positive effect on textile and garment export performance in Ethiopia

### **2.6.7. Domestic infrastructure and export performance**

One of the major factors affecting export supply capacity is the domestic transport infrastructure development is a key element of a countries ability to produce and move goods. It is widely agreed that more and better infrastructure reduces trade-related transaction costs (Limao and Venables 2001; Vijil and Wagne, 2012). Weak infrastructure is a major impediment to trade, competitiveness and sustainable development in most African countries, particularly landlocked and small Iceland countries (Fracoise & Manchin, 2013). Most African countries, many of which are LDCs, are characterized by poor transport infrastructure, and are found in all periods to be poor export performers (UNCTAD 2008). This appears to indicate that African countries could do much to raise their supply capacity by investing in transport infrastructure. This conclusion is supported by other studies. Limao & Venables, (2001) presents some empirical analysis indicating that levels of trade flows observed for African countries are relatively low, essentially because of poor transport infrastructures. This could be more acute in the case of landlocked countries because of their geographical landscape and location. Ethiopia is also in the same position as it's a landlocked nation using neighboring countries to export.

To be competitive in the present liberalized business environment, a domestic enterprise needs a world-class and cost-effective infrastructure. Better roads, better connectivity, modern airports and railways, efficient ports and affordable and reliable power are all the basic requirements for a competitive economy. Improvements in infrastructure can lead to improvements in export performance. Limao & Venables, (2001) Also show that infrastructure is quantitatively

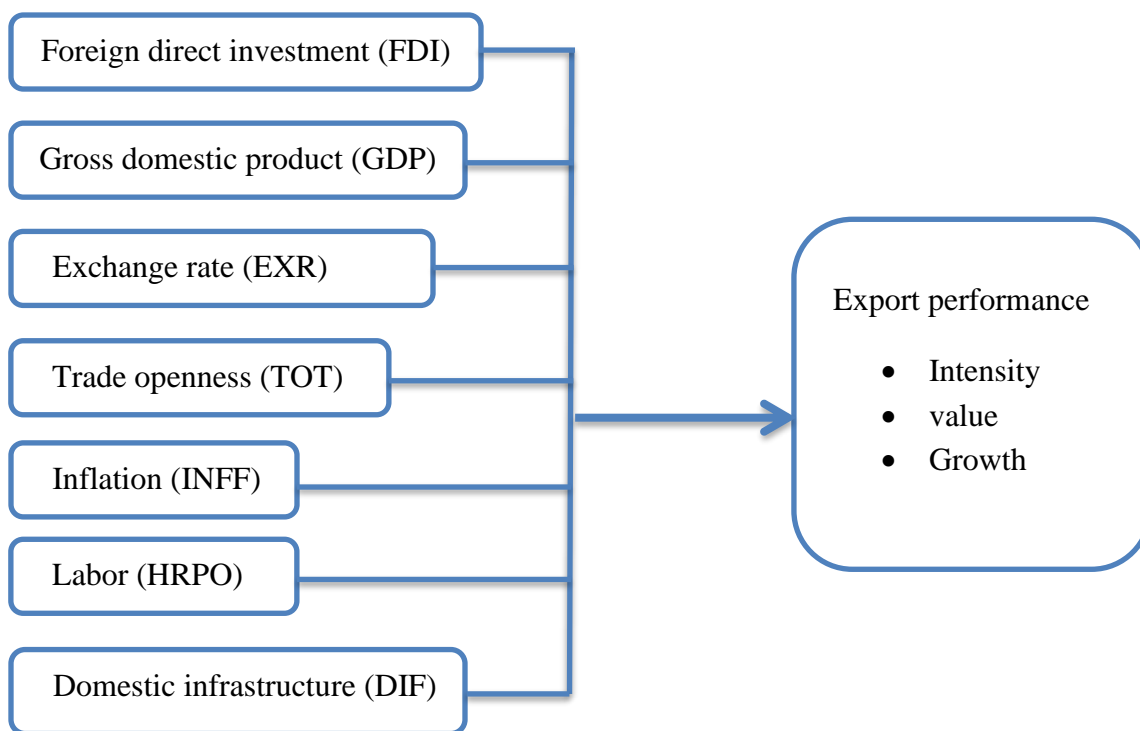
important in determining transport costs. To measure infrastructure, perhaps the most readily available data is from the World Development Indicators database and it is taken from the availability of transport services index which considers the existence and accessibility of road railway and air transport in the country.

**Hypothesis 7:** Domestic infrastructure has significant positive effect on textile and garment export performance in Ethiopia

## 2.7. Conceptual framework

The conceptual framework for the macroeconomic determinants of textile and garment industry in Ethiopia is depicted in the diagram below

**Figure 2.1: conceptual frameworks**



## **CHAPTER THREE**

### **3. RESEARCH METHODOLOGY**

#### **3.1. Introduction**

This chapter deals with the research design and the methodology that was used in gathering data for the study. It contains the research design, source and type of data, variable description and expected outcome, method of data analysis and presentation, model specification and Model Testing Procedure.

#### **3.2. Research design**

Since the major objective of the study focused to identify the macroeconomic determinant of textile export in Ethiopia, covering the period 1987 to 2019, a quantitative approach is used to achieve the objective. This is because, in a quantitative research approach it is possible to analyze the cause and effect of several explanatory variables and empirically test the research hypotheses and draw conclusions based on the research findings. Moreover, quantitative research approach involves collecting numerical data to explain a particular phenomenon under investigation (Muibi, 2013).

#### **3.3. Source and Type of Data**

The objective of the study is to analyze the effect of multiple independent variables on one dependent variable using data collected over a period of time. Therefore, time-series data were appropriate and used for the study. This helped the study to capture the trend of variables on country-specific situations. Since the research is quantitative in nature, secondary data were used. The major sources of these secondary data are annual reports of Ethiopian Revenue and Customs Authority (ERCA), National Bank of Ethiopia (NBE) and World Bank indicator database.

#### **3.4. Sample Size**

The study composed a sample of 32 years i.e., from 1987 to 2019 due to unavailability of data to consider beyond this on some of the variables incorporated in this study.

### **3.5. Data Collection Method**

According to Koul (2011) using appropriate data collection techniques help researchers to combine the strengths and amend some of the inadequacies of any source of data to minimize the risk of irrelevant conclusion. He further argued appropriate data collection techniques increase the credibility and value of the research findings. With this concept in mind, for this study, the necessary data were collected by reviewing different documents that are obtained from the above mentioned secondary sources on the dependent variable: textile export and independent variable: GDP, FDI, exchange rate, trade openness, inflation, labor-capital, and domestic infrastructure.

### **3.6. Model Specification**

A research model is developed after reviewing various researchers' model specifications on the determinant of textile and garment export performance (Epaphra, 2016; Adugna, 2018; Wang, 2013; Muluye, 2013). The study has employed ARDL model to analyze the problem. The research model uses textile and garment export as the dependent variable and foreign direct investment, GDP, exchange rate, trade openness, inflation, labor and domestic infrastructure as independent variables. The mathematical description of the model is as described below.

$$TEEXP = F\{FDI, GDP, EXR, TOT, INFF, HRPO, DIF\}$$

Where: - TEEXP: - Textile and garment export performance

FDI: - Foreign direct investment

GDP: - Gross domestic product

EXR: - Exchange rate

TOT: - Trade openness

INFF: - Inflation rate

HRPO: - Human resources per population or labor

DIF: - Domestic infrastructure

According to Gebeyehu (2010) converting variable into log-linear model enables the study to control the size of data and make results consistent and reliable estimates. In addition, log-linear model produces better results than the linear form of the model; i.e., logs are used in economics because the estimated coefficients in log regressions have a good interpretation. Accordingly, the study used the natural log (ln) for the variables. Therefore the econometric description of the variables is as stated below:

$$\text{LNTXEXP}_{t-1} = \beta_0 + \beta_1 \text{LNFDI}_{t-1} + \beta_2 \text{LNGDP}_{t-1} + \beta_3 \text{LNEXR}_{t-1} + \beta_4 \text{LNTOT}_{t-1} \\ + \beta_5 \text{LNINFF}_{t-1} + \beta_6 \text{LNHRPO}_{t-1} + \beta_7 \text{LNDIF}_{t-1} + \varepsilon$$

Where  $\varepsilon$  is the error term and  $\beta_0 - \beta_7$  are simply the marginal effects of the explanatory variable on the export performance, therefore, the signs of those coefficients really matters to identify the direction of their relationship with the dependent variable.

### 3.7. Variable Description and measurement

#### 3.7.1. Dependent Variable

- **Textile and garment export performance:** export performance is the relative success or failure of the efforts of a firm or nation to sell domestically-produced goods and services in other nations. Textile and garment export performance. Interest in export performance stems from two sources, Governments consider exports as engines of growth and are therefore concerned about the ways of improving their firms' performances in export markets (Zou et al., 1998). From the point of view of public policymakers, a better understanding of export performance is important, as exports allow for the accumulation of foreign exchange reserves, resulting in increased employment levels, improved productivity, and ultimately enhanced prosperity (Czinkota et al., 2005). In this study Textile and garment export performance is measured in terms of export intensity, export value, and export growth, which is described in chapter four in detail.

#### 3.7.2. Independent Variables

- **Foreign Direct Investment:** It is an investment made to acquire a lasting interest in or effective control over an enterprise operating outside of the economy of the investor. FDI net inflows are the value of inward direct investment made by non-resident investors in the reporting economy, including reinvested earnings and intra-company loans, net of repatriation of capital and repayment of loans. An increase in the inflow of funds can generate new jobs, bring in new technologies and, more generally, promote growth and

employment. The FDI inflow data for the research period is collected from the national bank of Ethiopia and the World Bank indicator database. A comparison is made to confirm the consistency of the data that is found from the two sources.

- **GDP:** is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period. As a broad measure of overall domestic production, it functions as a comprehensive scorecard of the country's economic health (Gupta, 2007). GDP can be calculated in three ways, using expenditures, production, or incomes. It can be adjusted for inflation and population to provide deeper insights. For the purpose of this study GDP in terms of production from the World Bank indicator database is used.
- **Exchange Rate:** It is the price for which the currency of a country can be exchanged for another country's currency. It is measured by the official birr to US dollar exchange rate available in the National Bank of Ethiopia. The exchange rate of an economy affects aggregate demand through its effect on export and import prices and policymakers may exploit this connection. As the exchange rate increases, total demand composition changes in terms of tradable and non-tradable goods. The reason is that with the increase in the exchange rate, the consumption of tradable goods becomes more expensive whether they are the substitute goods for import or exportable goods. Total demand will be transferred from the tradable goods to non-tradable ones and consequently, the earnings from trade are reduced. The real exchange rate data for Ethiopia couldn't be found therefore, the researcher used the nominal exchange rate data for Ethiopia found on the World Bank indicator database for the period.
- **Trade Openness:** It is the extent to which an economy is open to international trade. These could also be considered as an indicator of liberalization level of the economy. It calculated as the sum of imports and exports. In developing countries, the international trade sector is typically the most monetized sector of the economy and most of the international trade entrance and exit is taking place in specified locations. World Bank's indicator database is used to collect the data for Trade Openness for the research period.
- **Inflation:** It is a sustained rise in the general price level of goods and services in an economy. It is the proxy for the macroeconomic stability of a country. The most commonly used measure of inflation is the consumer price index; it reflects percentage

change through time in the cost of purchasing a constant basket of goods and services representing the average pattern of purchases made by a particular population group in a specified time period. An increase in the cost of living associated with the loss of purchasing power of money, which could ultimately reduce real value the economic growth (Workineh, 2016). For this study, the inflation rate for the period 1987 to 2019 is found from the World Bank's indicator database.

- **Labor:** is the amount of physical, mental, and social effort used to produce goods and services in an economy. It supplies the expertise, manpower, and service needed to turn raw materials into finished products and services. Labor is measured by the labor force or labor pool, which is the number of population from age 18 to 65 according to the World Bank labor force index. Therefore for the study labor is measured as the number of people age 18 to 65 as a percentage of the total population.

**Table 3-1: Measurement of variable, expected outcome, and Abbreviation**

Variable	Type	Measurement	Abbreviation	Expected Sign
Textile and garment export performance	Dependent	Natural Logarithm of Textile and garment export performance	TEEXP	
Foreign Direct Investment	Independent	Natural Logarithm of Foreign Direct Investment	FDI	+
gross domestic product	Independent	Natural Logarithm of gross domestic product	GDP	+
Exchange Rate	Independent	Natural Logarithm of Exchange Rate	EXR	+
Trade Openness	Independent	Natural Logarithm of Trade Openness	TOT	+
Inflation	Independent	Natural Logarithm of Inflation	INFF	-
Labor	Independent	Natural Logarithm of (18-65) age as a percentage of population	HRPO	+
domestic infrastructure	Independent	Natural Logarithm domestic infrastructure rate	DIF	+

**Source:** Constructed by the author

- **Domestic infrastructure:** Infrastructure is the term for the basic physical systems of a business or nation transportation, communication, sewage, water, and electric systems are all examples of infrastructure. These systems tend to be high-cost investments and are vital to a country's economic development and prosperity. To measure infrastructure the study used the World Development Indicators database and it is taken from the transport services index which considers the existence and accessibility of road railway and air transport in the country.

### **3.8. Method of Data Analysis and Presentation**

To analyze the data both descriptive statistics and inferential statistics or Econometrics application is performed using the Eviews9 software program. Descriptive statistics used to examine the characteristics of both dependent and independent variables using mean, minimum, maximum and standard deviation. On the other hand, inferential statistics used to see the relationship between the dependent variable and independent variables. Hence, inferential statistics such as multiple regressions, correlation coefficients, and other relevant time series tests are used to address the stated objectives.

To analyze the long-run and short-run relationships and dynamic interactions among the dependent and independent variables, the models estimated by using the Autoregressive Distributed Lag Model (ARDL) approach. ARDLs are standard least-squares regressions, which include lags of both the dependent and independent variables as repressors. This model is developed by Pesaran & Shin in 1997 and further extended by Pesaran et al, (2001). It is widely applicable to test the existence of the long-run relationship among the variables. This method of estimation is preferred because of the following four reasons. First, relatively it is appropriate for a small sample size. Second, it is superior to the traditional Johnson approach to co-integration as it enables to establish long-run relationships irrespective of whether the variables are integrated at order zero or one or mutually co-integrated. Third, it also facilitates to estimate easily both the long run and short run model. Lastly, unlike other methods of estimating co-integrating relationships, the ARDL representation does not require symmetry of lag lengths; each variable can have a different number of lag terms.

### **3.9. Model Testing Procedure**

In time series regression there are tests required to be conducted before and after the estimation of the model to ascertain the validity of the estimate. Accordingly, the following basic tests are performed for the model.

#### **3.9.1. Classical linear regression diagnostic testing**

Before going further into the time series econometric procedure, the first issue is the test of the assumption of the classical linear regression model (CLRM). Most prior academic literature, as mentioned in the literature review, examines factors affecting textile export performance using different time series data modeling techniques. The ordinary least squares (OLS) techniques in which differences between the observation and estimation are minimized in terms of the sum of squares is the most used. The characteristics of the model and proposed variables stated in this research are not violating the classical assumptions underlying the OLS model. These are checked by testing each assumption.

- **Multicollinearity test**

One of the important assumptions of the OLS estimator is that the explanatory variables that affect the dependent should not strongly correlate to each other. As noted by Verbeek (2004) if there is strong collinearity among the explanatory variables, it may lead to unreliable estimates with high standard errors and unexpected sign or magnitude. To avoid such a problem test for the existence of multicollinearity problem is conducted. According to Asteriou and Hall (2007) if the Correlation matrix among the independent variable is  $>0.9$  indicates the existence of strong multicollinearity.

- **Heteroskedasticity test**

One of the assumptions of the classical linear regression model (CLRM) is that the disturbance term is homoskedastic, the disturbance term has a constant variance. The violation of this assumption (the existence of heteroskedasticity) in the regression results leads to an increase in the variance of the coefficients of the independent variables and therefore, OLS estimators become inefficient. Moreover, it also affects hypothesis testing because neither the t-statistics nor the F-statistics are reliable due to the inflated variance of the coefficients (Asteriou and Hall

2007). Accordingly, the Breush Pagan LM test is used to detect the existence of Heteroskedasticity. The null hypothesis of this test describes the error is homoskedastic and the opposite is true for alternative hypotheses.

- **Model Misspecification Test**

To ascertain the correctness of the regression specified in estimating the model, it is important to conduct a test for misspecification. Hence, Ramsey regression specification error test (Ramsey RESET- test), is used to examine the null hypothesis describing that the regression model is correctly specified and an alternative hypothesis describing that the model is not correctly specified.

- **Test for serial correlation**

The problem of serial correlation exists when the assumption of the OLS estimator that, the error terms are not serially correlated is violated. In time-series data the error term is likely to be serially correlated with each other across time. The existence of autocorrelation or serial correlation leads to inefficiency of the OLS estimator; biased and inconsistent estimation of the variance of the regression;  $R^2$  will be overestimated and the t-statistics will be higher than the correct one (Asteriou and Hall, 2007). Therefore, Breush Godfery Lagrange Multiplier (LM) test is used to ensure that, the models are free from serial correlation problems. This test is examined against the null hypothesis that describes the non-existence of serial correlation, while the alternative hypothesis says that there is a serial correlation among the error terms.

- **Stationary Test**

Time series analysis is central to understand the empirical modeling of the dynamic responses of textile export to change its determinants. To rely on these models, stationarity of these time series data is required. The stationarity of time series implies that the mean, variance and covariance of the variable are constant. As noted by Asteriou and Hall (2007) regressing non-stationary of time series would result in forged regression. Hence, the Augmented Dicky Fuller (ADF) test is used to ascertain the stationarity of the variables. This test is conducted against the null hypothesis saying that the variables are non-stationary (the existence of a unit root problem) and the alternative hypothesis saying that the variables have stationarity series.

### **3.9.2. Co-integration Test**

Trended non-stationarity time series can potentially create a major problem in empirical econometrics due to false regression. Hence, testing whether there is the existence of a long-run relationship between the dependent and independent variables is important to avoid false regression (Asteriou & Hall, 2007). Accordingly, ARDL approach or Bound test to co-integration approach is used to ascertain the existence of a long-run relationship. The null and alternative hypothesis of this bound test is stated as follows:

Ho: there is no long-run relationship between the dependent and independent variables

H1: there is a long-run relationship between the dependent and independent variables

Then the bound test of F-statistics is compared with critical values and should not be beyond seven. Assuming, the bound test enables to establish the long-run relationship between TEEEXP and its determinants. Furthermore, the error correction model (ECM) is estimated for the model to estimate the short-run dynamic coefficient and feedback or adjustment speed that shows the time lag taken to correct the disequilibrium existed in the short run.

### **3.9.3. The Normality (Bera-Jaque) Test**

Another diagnostic test conducted in this study is the normality assumption (i.e. the normality distributed errors). Brooks (2019) stated that normality assumption is required in order to conduct a single or joint hypothesis test about the model parameters. One of the most commonly applied tests for normality is the Bera-Jaque (BJ) test. The BJ uses the property of normally distributed random variables that the entire distribution is characterized by the first two moments those are mean and variance. Having the superiority of BJ than other for normality test the researcher used it for the null hypothesis of normality distributed error assumption.

## Chapter four

### 4. Results and Discussion

#### 4.1. Introduction

This chapter is devoted to addressing the core objectives of the research, which constitutes Macroeconomic factors that determine the export performance of textile and garment industry in Ethiopia, using regression results. This chapter deals with the estimation and interpretation of the model for the determinant of textile export in the country for the period of 1987-2019. This includes descriptive statistics of variables, multicollinearity test, stationary test for stability of the data, co-integration of the data, and correlation results between explanatory variables. Besides diagnosis tests for the basic assumptions of the classical linear regression model (CLRM): i.e., auto-correlation test, heteroskedasticity test & normality test, regression analyses of the dependent and independent variables and discussion of results, as well as the result of long term and short term dynamics of the ARDL model, has been explained.

#### 4.2. Descriptive statistics

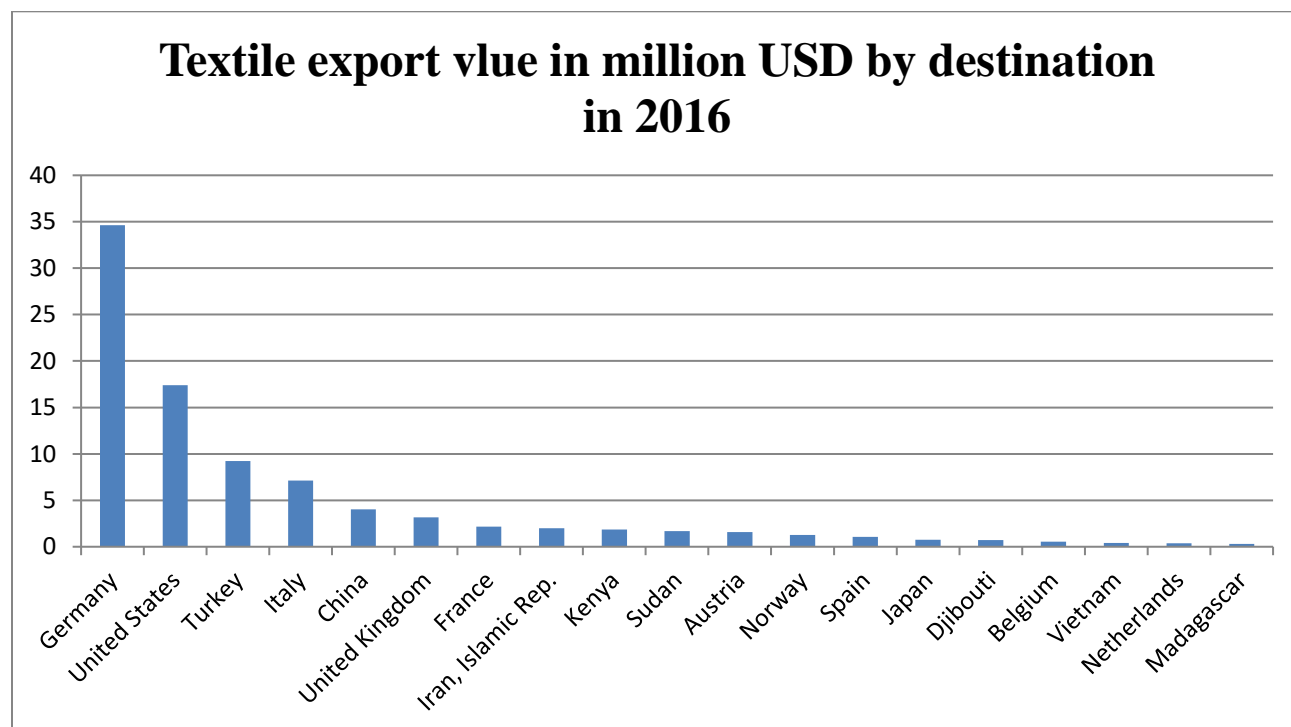
Descriptive analysis is the first step in this study. It helps to describe relevant aspects of the phenomena of textile and garment export and provide detailed information about each variable. Descriptive statistics show how dependent variable changes through time, major distention country for the export and export intensity of textile related to total export of the country. Moreover, the mean and standard deviation of the variables are included to present the minimum and maximum values of the variables, which help in getting a general picture of the textile export performance and its determining variables.

##### 4.2.1. Ethiopian Textile export and Country of destination

Garments produced in Ethiopia are primarily cotton and polyester-cotton mixed woven fabric-based garments and knitted products. Woven garments include shirts, casual jackets, pants, sports apparel, and home garments. Knitted garments include t-shirts, polo shirts, and underwear. Higher-end products such as suits and fashion garments are also produced. The main types of garments that enterprises in Ethiopia's textile and garment industry are providing for domestic market and export include men and women's underwear, products for home use (sleepwear; pillow covers; bed sheets), clothing (shirts; polo shirt; trousers; jackets; skirts; dresses;

nightwear), sportswear (baseball pants; sports jackets) and special products like military uniforms; work clothes and suits (EIC 2017). These products are being sold in different markets in the world. The main markets for Ethiopian textile and garment products are shown in the graph below.

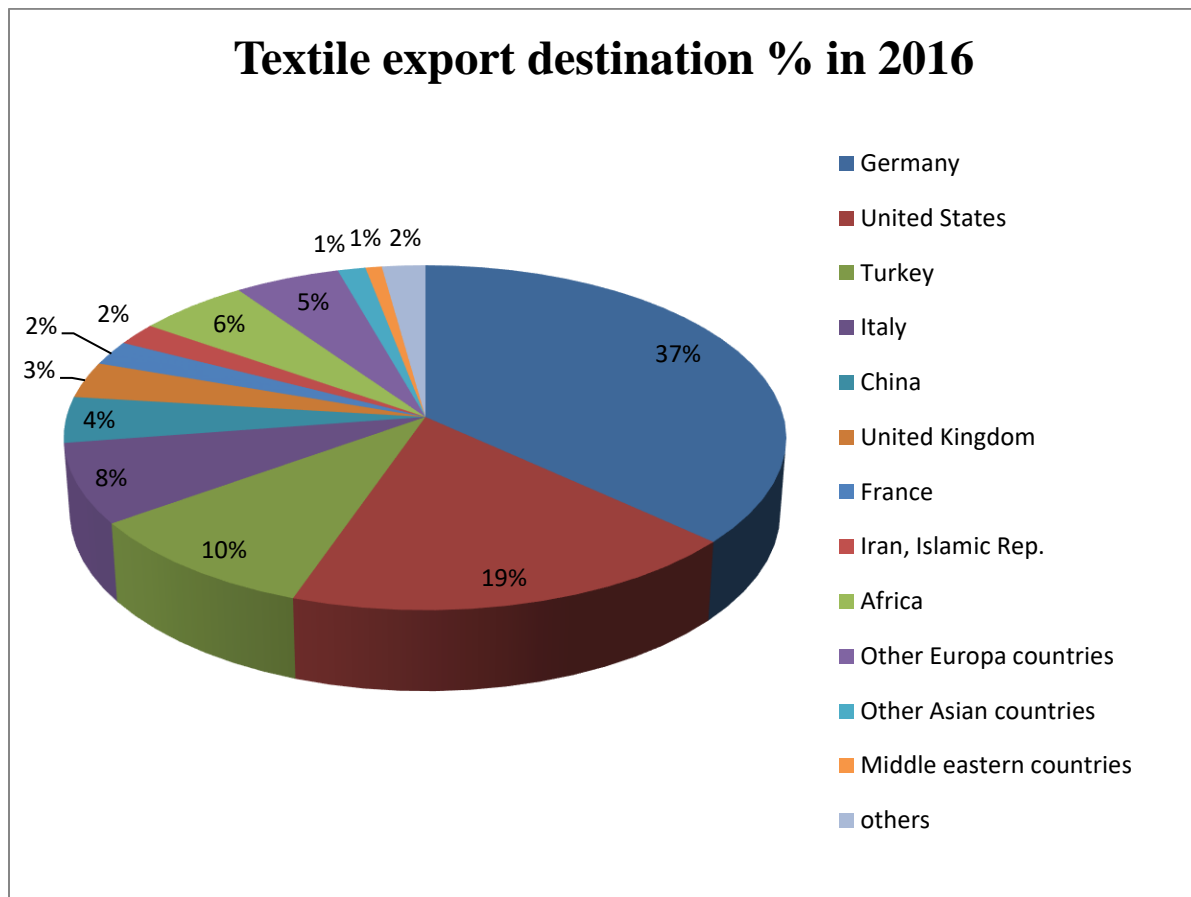
**Figure 4.1:** Textile export value in million USD by destination in 2016



*Source: tradingeconomics.com, national bank of Ethiopia*

The top five destinations for Ethiopian textile and garment products are Germany, the United States, turkey, Italy, and China, which account for 78 percent of textile and garment export. This shows us that the export destinations are very few in number and the market access to the products exported by the country needs to be diversified and increased as far as possible. This can be done by increasing the trade relation and negotiation strategy of the country bilaterally and multilaterally with external economies. The market share of the destination countries to the total textile and garment export is illustrated in the chart below.

**Figure 4.2: Textile export destination % in 2016**



*Source: tradingeconomics.com, national bank of Ethiopia*

#### **4.2.2. TEXTILE EXPORT PERFORMANCE**

In this section, the export performance of the textile and garment industry in Ethiopia, including export intensity, export value, and export growth are descriptively analyzed.

**Table 4.1:** Total export, Textile export value, Textile export intensity and Textile export growth for Ethiopia (1999-2019).

year	Total export	Textile export value	Textile export intensity (%)	Textile export growth (%)
1998	558072812.4	2597344		
1999	466141596	2470670	0.530025645	-4.877059026
2000	485165195.4	3402428	0.70129268	37.71276617
2001	510040146.9	4282296	0.83959979	25.8600035
2002	552519895.1	5722978	1.035795824	33.64274679
2003	494966182.5	9156732	1.849971235	59.99942687
2004	681631672.3	5722978	0.839599777	-37.49977612
2005	920106516.4	11072775	1.203423169	93.47925154
2006	1058374418	12360296	1.167856648	11.62780784
2007	1345457580	15248626	1.133341269	23.36780608
2008	1710411805	13797527	0.806678658	-9.516260678
2009	1693392923	22976901	1.356855854	66.52912511
2010	2476222375	54298111	2.192780081	136.3160767
2011	3024464839	84309069	2.787569818	55.27072203
2012	3243763284	96978513	2.989691433	15.02737979
2013	3024464839	91044188	3.010257776	-6.119216326
2014	3410074584	97953163	2.872463948	7.588595331
2015	2905873876	77827079	2.678267616	-20.54664023
2016	2819992324	89522450	3.174563605	15.02738012
2017	3024464839	102975329	3.40474545	15.02738028
2018	2905873876	123612114	4.253870583	20.04051378
2019	2905873876	102975329	3.543695748	-16.69479174
mean		48938550.1	2.017730791	24.82205895
SD		44170739.59	1.142288994	40.47356602
Max		123612114 (2018)	4.253870583 (2018)	136.3160767 (2010)
Min		2470670 (1988)	0.530025645 (1999)	-37.49977612 (2004)

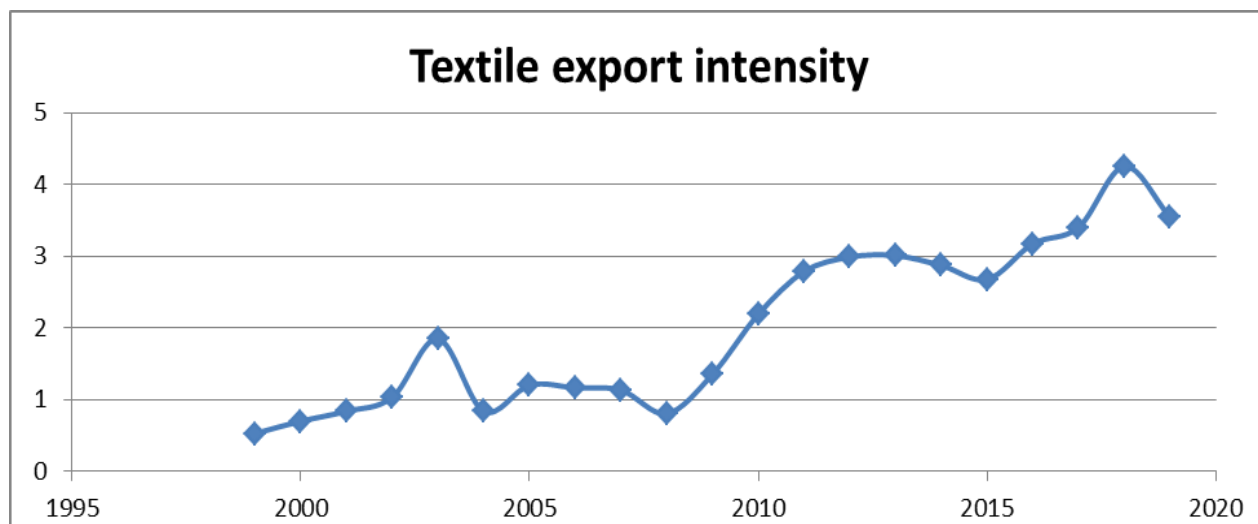
*Source: NBE, ERCA*

- **Textile Export intensity**

Export intensity, defined as the ratio of export sales to a country's total sales (Katsikeas et al 2000), shows the contributions of commodity exports to a country's total exports. For the textile industry Export intensity means textile exports as a share of total exports for the country. The following sections descriptively analyze the export intensity of the Ethiopian textile industry from 1999-2019. The results report means, standard deviations, maximum and minimum textile

export intensity values for the country during the period 1987-2019. The trend in textile export intensity for the period is also presented in figure 4.3.

**Figure 4.3:** Textile export intensity for Ethiopia (%), 1999-2019



As can be seen in *figure 4.1* and *table 4.1*, Ethiopian textile export intensity revealed an increasing trend from 1999 to 2019, but the share of textile export to the country's total export is very small which averages 2.02 percent. This indicates the textile industry exports contributed little to the total export of the country. Even though, the textile export contribution is with respect total exports are small it has a greater share as a manufacturing or industry product. This is because Ethiopia exports agricultural products like coffee oil seeds and other non-value added materials. Industrial and manufacturing products have a very small share of the total exports.

The maximum percentage of textile intensity is recorded in 2018 with a value of 4.25 percent, and a minimum percentage is recorded at the beginning of the research period 1999. This shows that the increase in the production of textile products throughout the period. In other words, though the share of the textile industry to the total exports is small but it is growing since 1999.

- **Textile Export values**

Export value, defined as the size of export earnings in dollar value for a country (Shoham,2006) is an indicator to directly measure a country's export performance. Another term that can be mentioned with export value is the export volume which refers to the quantity of exports in kilograms or tons. Therefore export value refers to how much money you got for this volume.

The following sections descriptively analyze the export values of Ethiopia from 1999 to 2019. *Table 4.1* reports the textile export value for the period 1999 to 2019, and means, standard deviations, minimum values as well as maximum values of textile export values of the country. The trend in textile export value is presented in *figure 4.4*. The maximum export volume is recorded in 2018 and the minimum value is in 1999, considering the recent eight years 2015 has a smaller value compared to the other years.

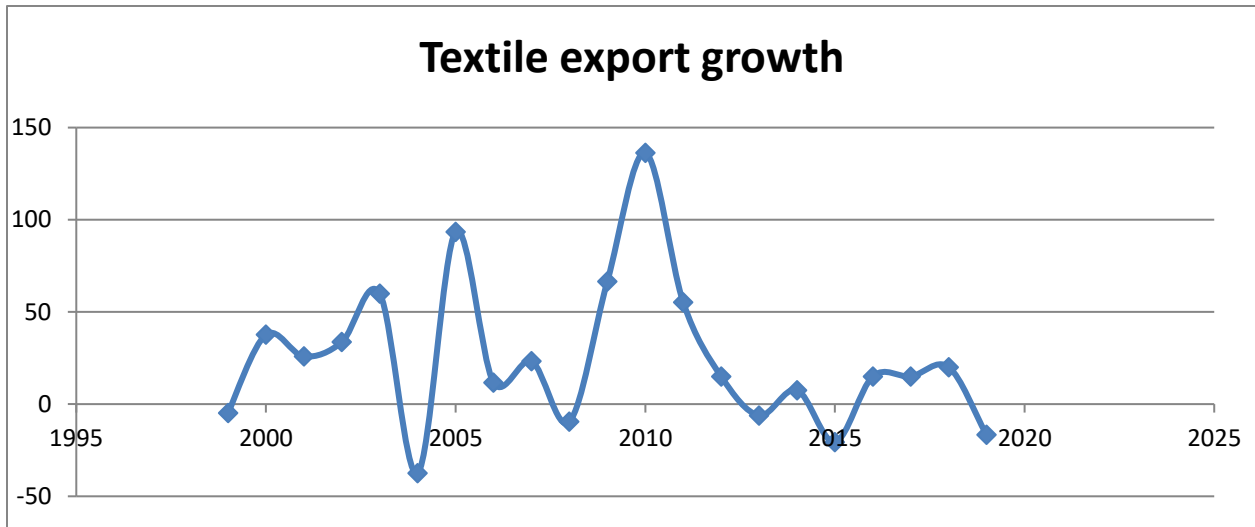
**Figure 4.4:** Textile export value for Ethiopia, 1999-2019



- **Textile export growth**

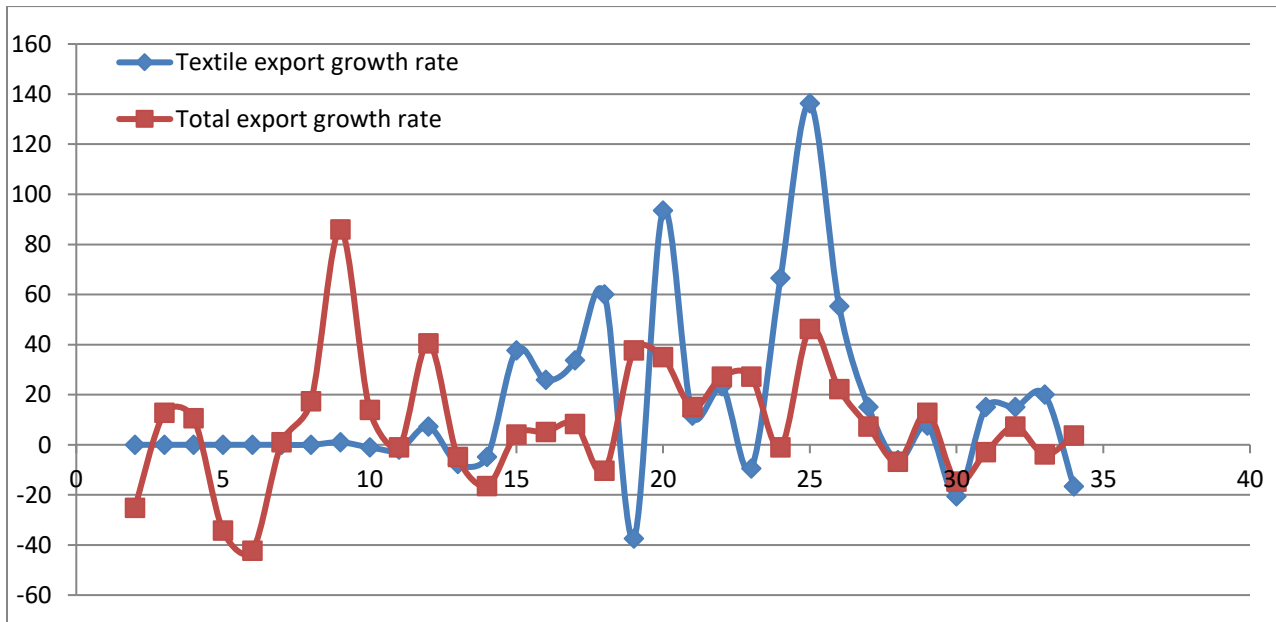
Export growth, defined as the increase of exports over a certain time period (Aaby and Slater 1989) reflects the changing rate and developing trends of export values. Means and standard deviation of export growth rates of Ethiopia for the research period are reported in table 4.1. Besides, the maximum and minimum export growth rates for a country during the period are also reported. The average (mean) growth rate for the country during the period is 24.8 %, which means the textile export is growing positively with an average value of 24.8 % over the period. The standard deviation of the export growth rate from 1999 to 2019 is 40.4 percent. The maximum textile export growth rate is recorded in 2010 and the minimum is in 2004. The trends in the textile export growth rate is presented in *figure 4.5*, which show a very fluctuating graph without a positive or negative trend.

**Figure 4.5:** Textile export growth rate for Ethiopia, 1999-2019



The textile export growth rate and the total export growth rate for Ethiopia are plotted in Figure 4.6 for comparison.

**Figure 4.6:** Textile export growth rate and total export growth rate for Ethiopia, 1999-2019



### 4.2.3. Descriptive statistics of variables

In this section the descriptive statistics summary of the dependent variable: Foreign Direct Investment (FDI), Gross Domestic Product (GDP), working force in the population (HRPO) (Labor), Exchange Rate (EXR), Trade openness (TOT), Inflation (INFF), and domestic infrastructure (DIF) are presented in the table 4.2 It includes the mean, standard deviations maximum and minimum of each variable.

**Table 4.2:** Descriptive Statistics of Variables

	<b>Dependent Variables</b>	<b>OB</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Std. Dev.</b>
01	<b>LN TXEXP</b>	32	16.26937	18.54000	14.72000	1.529497
	<b>Independent Variables</b>		<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Std. Dev.</b>
01	<b>LN FDI</b>	32	18.37276	22.11384	12.04355	3.22749
02	<b>LN GDP</b>	32	23.62692	25.23186	22.65883	0.87328
03	<b>LN HRPO</b>	32	17.43432	17.92401	16.93446	0.30223
04	<b>LN EXR</b>	32	2.15503	3.31160	0.72754	0.76546
05	<b>LN INFF</b>	32	2.01943	3.79226	-0.41179	0.98193
06	<b>LN TOT</b>	32	2.47755	4.17000	0.48000	1.16449
07	<b>LN DIF</b>	32	4.15625	4.31000	3.99000	0.08954

*Source: E-views 9 Output - Descriptive Statistic (composed by the author)*

The table above shows descriptive statistics for all variables of dependent and independent. Accordingly, finding from the descriptive statistics revealed that dependent variable textile and garment export performance has a positive mean value of 16.26927, i.e. Birr 48.938 million and a standard deviation of 1.5295. Similarly, the above table 4.1 also shows the mean value of independent variables: foreign direct investment, GDP, labor, exchange rate, inflation rate, trade openness, and domestic infrastructure. The former three variables have maintained a mean value of 18.3727, 23.6269 and 17.4343 respectively, exchange rate has a mean value of 2.155, inflation rate, trade openness and domestic infrastructure had a mean value of 2.0194, 2.4775 and 4.1562 respectively.

As we can see the minimum and maximum value of textile and garment export performance in the above table 4.1, textile and garment export performance over this period is positive. Over this

sample period, the minimum and maximum textile and garment export performances are collected in the years 1983 and 2018 were 14.72 and 18.54 i.e. amounting 2.47 and 123.62 million respectively.

### **4.3. Classical linear regression diagnostic testing**

Before going further into time series econometric procedure, the first issue is the test of the assumption of the classical linear regression model (CLRM). Most prior academic literature, as mentioned in the literature review, examines factors affecting textile export performance using different time series data modeling techniques. The ordinary least squares (OLS) techniques in which differences between the observation and estimation are minimized in terms of the sum of squares. The characteristics of the model and proposed variables stated in this research are not violating the classical assumptions underlying the OLS model. These are checked by testing each assumption. To depend on the validity of the ARDL model estimate of the long-run and short-run models, it is paramount to conduct the post estimation test. Accordingly, multicollinearity, model misspecification test and model stability test is conducted to ensure that the important assumption of the ARDL estimates is not violated. The result of these tests is demonstrated as follows:

#### **4.3.1. Multicollinearity Test**

As it is explained in chapter three the existence of strong multicollinearity problem is detected using a correlation matrix among the independent variables included in the model. Asteriou and Hall (2007), states if the correlation coefficient among the explanatory variable approaches to one, it indicates the existence of strong multicollinearity in the model. Similarly, Hair et al., (2006) argued that the correlation coefficient below 0.9 may not cause serious multicollinearity problem. Moreover, the sign strong multicollinearity existed if the coefficient of determination,  $R^2$  is high while most individual coefficient of the independent variables is insignificant.

The study dropped a variable having a high correlation value from the model because (Hair et al., 2006) suggested that serious multicollinearity should be corrected when the correlation coefficient is 0.90 or higher. In addition Brooks, (2008) suggested a solution for multicollinearity is dropping the variables that are highly correlated. Accordingly, this study dropped GDP from the model because it has a Correlation of 0.938 with FDI. Finally, after GDP is dropped the multicollinearity problems were solved and the result is presented as below.

**Table 4.3:** Correlation Matrix for Variables

	LNTXEXP	LNFDI	LNHRPO	LNEXRE	LNINFF	LNTOTS	LNTRSP
LNTXEXP	1.000000						
LNFDI	0.723696	1.000000					
LNHRPO	0.840999	0.86670	1.000000				
LNEXRE	0.865943	0.74443	0.865020	1.000000			
LNINFF	0.343899	0.05525	0.211284	0.088223	1.000000		
LNTOTS	0.730134	0.86008	0.875206	0.868675	0.20717	1.000000	
LNDIF	0.322562	0.25362	0.124371	0.047311	0.42544	0.081285	1.000000

*Source: E-view 9 correlation test result*

Generally, as we can see from table 4.3 above, since the highest correlation coefficient in this study is 0.87, between trade openness and labor, i.e. it is less than 0.90. This indicates that there is no evidence of serious multicollinearity in the study.

#### 4.3.2. Model Misspecification Test

To ascertain the correct specification of the regression model, the Ramsey RESET test is conducted and the result is depicted in table 4.4. Since the P-value, the Likelihood ratio and F version of this test is greater than 0.05 the null hypothesis saying that the model is correctly specified cannot be rejected.

**Table 4.4:** Ramsey RESET Test result

Ramsey RESET Test

	Value	df	Probability
t-statistic	1.866264	9	0.00104
F-statistic	3.482943	(1, 9)	0.00104

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.113494	1	0.013494
Restricted SSR	0.140615	10	0.005077
Unrestricted SSR	0.127120	9	0.003874

*Source: E-view 9 Ramsey RESET Test result*

### **4.3.3. Model Stability Test**

The stability test of the model is conducted by using CUSUM of recursive residuals. The CUSUM plot did not cross the upper and lower bound of straight-line critical value given at a 5% level of significance implying that the model is stable, the stability test result can be found in appendix II. Therefore, the test indicates stability in the equation during the sample period.

## **4.4. Econometrics Analysis**

### **4.4.1. Stationary Test of the Variables**

Time series analysis is central to the understanding and empirical modelling of the dynamic response of textile export to change their determinants. The non-random behaviours of time series would undermine the usefulness of standard econometric methods, as regression of such data will result in spurious regression. Hence, such a problem test for stationary of data has paramount importance.

Accordingly, the augmented ducky fuller (ADF) test is used to ascertain the stationarity of the time-series data. The time series variables are in the natural logarithm (ln) form: LNTXEXP, LNFDI, LNEXR, LNTOT, LNINFF, LNHRPO, and LNDIF. The ADF unit root test is examined against the null hypothesis which says the time series have a unit root problem (non-stationary) and alternative hypothesis; there is no unit root problem.

The ADF test calculated without trend for LNTXEXP is greater than the critical value given at 5% level of significance. It indicates that there is weak stationarity of the variable at level. But, the ADF test calculated with trend for LNTXEXP is less than the critical value given at 5% level of significance and hence the variable has unit-root problem at the level. However, as it is shown in appendix I at first difference, ADF statistics calculated with and without trend is above the critical value even at 1%, implying that, LNTXEXP is integrated at order one I(1). On the other hand, the explanatory variables, LNFDI, LNEXR, LNTOT, LNINFF, LNHRPO and LNDIF have a unit root problem at level, meaning that they are not integrated at order zero [I(0)]. Nevertheless, at first difference, ADF statistics with and without trend was higher than that of critical value given at 1% and 5%. Therefore, these variables are integrated at order one I(1).

**Table 4.5:** Summary of ADF test

Variables	Augmented Dickey-Fuller Stationary Test Result summary			
	ADF Statistic	ADF Critical Value at (5% )	p-value	Order of integration
LNTXEXP	4.919810	2.963972	0.0004*	I(1)
LNFDI	5.385922	2.963972	0.0001*	I(1)
LNEXR	3.470732	2.621007	0.0161**	I(1)
LNTOT	5.298836	3.670170	0.0002*	I(1)
LNINFF	11.99794	2.963972	0.0000*	I(1)
LNHRPO	0.712291	2.621007	0.0431**	I(1)
LNDIF	4.673975	2.971853	0.0009*	I(1)

Note: \* and \*\* denotes the significance at 1% and 5% respectively

Source: E-view 9 Stability test result

#### 4.4.2. ARDL Bound Test to Co-integration

Once the stationarity of the variables is assured, the next step of ARDL bound test is conducted to determine the existence of the long-run relationship between LNEXP and its determinants included in the model. This test for the long-run relationship is done using the ARDL Bound test F-statistic and optimal lag was selected by the Akaike Information Criterion (AIC) method. The bound test is evaluated against the null hypothesis saying there is no long-run relationship between dependent and independent variables and the opposite is true for the alternative hypothesis.

Pesaran et al. (2001), have provided two sets of critical values for the co-integration test. The lower critical bound assumes that all the variables are I(0), meaning that there is no co-integration among the variables, while the upper bound assumes that all the variables are I(1). If the computed F-statistic is greater than the upper critical bound, then the null hypothesis will be rejected suggesting that there exists a co-integrating relationship among the variables. If the F-statistic falls below the lower critical bounds value, it implies that there is no co-integration relationship. However, when the F-statistic lies within the lower and upper bounds, then the

inference is inconclusive and knowledge of the order of the integration of the underlying variables is required before conclusive inferences can be made

**Table 4.6:** ARDL Bounds Test result

ARDL Bounds Test		
Sample: 3 32		
Included observations: 32		
Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	k
F-statistic	41.65647	7
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.03	3.13
5%	2.32	3.5
2.5%	2.6	3.84
1%	2.96	4.26

*Source: E-view 9 ARDL Bounds Test result*

According to the above table, the bound test of F-statistics is 13.64 and it is higher than the upper bound critical value 4.26 given at 1%. This implies the null hypothesis is rejected and thereby there exists a strong long-run relationship between LNTXEXP and its determinant included in the model was confirmed.

#### 4.4.3. Optimal Lag Selection

The model was estimated by ARDL and the optimal lag was selected by the Akaike Information Criterion (AIC) method. In this study automatic selection (using the Akaike Information Criterion) was used with a maximum of 4 lags of both the dependent variable and the independent variables. The procedure has selected an ARDL (2, 1, 2, 2, 2, 2, 2) model (2) lag of the dependent variable (LNTXEXP), 2 for LNFDI, 1 for LNEXR, 2 for LNTOT, 2 for LN INFF, 2 for LNHRPO and 2 for LNDIF. The optimal lag selection graph is included in appendix II for reference.

#### 4.5. Interpretation of the Long-run Coefficients

The long-run coefficient of the variables, estimated using the ARDL model is stated in the following table 4.7 shows that the long term effect of foreign direct investment, exchange rate, trade openness, inflation, labor and domestic infrastructure on textile and garment export performance. The optimum lag of the model is selected based on the Akaike Information Criterion (AIC) method.

**Table 4.7:** ARDL estimate of long-run Model for the determinant of textile and garment export

$$\text{Cointeq} = \text{LNTXEXP} (0.4190*\text{LNFDI} - 1.0993*\text{LNEXR} + 1.7673*\text{LNTOT} - 0.3303*\text{LNINFF} + 8.3654*\text{LNHRPO} + 1.5308*\text{LNDIF} - 82.1472)$$

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNFDI	0.419038	0.055657	7.549200	0.0001
LNEXR	-1.099307	0.394047	-2.789789	0.0239
LNTOT	1.767378	0.368898	4.790962	0.0014
LNINFF	-0.330303	0.038620	-8.552612	0.0000
LNHRPO	8.365482	3.643895	2.295752	0.0017
LNDIF	1.530891	0.446574	3.428083	0.0090
C	-82.14722	16.23593	-5.059595	0.0010
R-square	0.999402	Adjusted R-squared	0.997832	
F-statistic	636.6335	Prob(F-statistic)	0.0000	

*Source: E-view 9 long run result*

In the above table 4.7, the long-run equilibrium equation, foreign direct investment, trade openness, labor, and domestic infrastructure have a significant and positive effect on textile and garment export performance. Whereas as exchange rate and inflation have a significant but negative effect on textile and garment export performance in the long run. The hypotheses tested are presented below:

In this study, the decision rule to reject the null hypothesis and accept the alternative one is based on the T-statistic value. When the T-statistic value is equal or less than two, reject the null hypothesis and accept the alternative. If T-statistic is more than two, we accept the null hypothesis and reject the alternative hypothesis.

- **Foreign direct investment**

Hypothesis testing the relationship between foreign direct investment and textile and garment export performance:

**H<sub>0</sub>:** Foreign Direct Investment has a significant positive impact on textile and garment export performance.

**H<sub>1</sub>:** foreign direct investment has no significant positive impact on textile and garment export performance.

Do not reject H<sub>0</sub> hypothesis since regression result shows that foreign direct investment has a significant long-run effect on textile and garment export performance, because the t-static value is greater than two, i.e. 7.5290, and the beta value, coefficient of this variable is 0.419038 as it is shown in table 4.7. It indicates that foreign direct investment has a significant positive long-run causal relationship with textile and garment export performance. Meaning a one value increase of foreign direct investment will increase textile and garment export approximately by 0.419 value. Because, foreign direct investment provides essential capital to spark the creation of productive enterprises, facilitate faster economic growth; produce externalities in form of larger employment, technology transfers, skills to local industry, boosted productivity or filled ‘idea gaps’ between rich and poor countries. This indicates that Foreign Direct Investment has a contribution to the improvement of textile and garment export performance. This coincides with the findings of (Mold and Prizzon, 2011; Worku, 2007 and Shan, 1998) which have found a positive association between FDI and textile and garment export performance.

- **Exchange rate**

Hypothesis testing between exchange rate and textile and garment export performance are presented below:

**H<sub>0</sub>:** Exchange rate has a significant positive effect on textile and garment export performance.

**H1:** Exchange rate has no significant positive effect on textile and garment export performance.

Reject the  $H_0$  hypothesis of the study since the regression result shows that exchange rate has a significant negative effect on textile and garment export performance in the long run. As shown on table 4.7 the Absolut value of the t-statistics is greater than two i.e. 2.7897. Exchange rate has a significant effect on textile and garment export performance but the impact is not positive as expected. The beta coefficient of this variable is -1.099307. This means a one value increase in Exchange rate (Devaluation of currency) will result in a 1.0993 reduction of textile and garment export performance. In other words; a 1 percent increase in Exchange rate can cause a 1.0993 present decrease in textile and garment export performance.

Currency depreciation (increase in exchange rate) increases the profitability of the tradable sector, and leads to an expansion of the share of tradable goods in domestic value added goods (Rodrik, 2009). But according to (Eichengreen 2008; Haddad and Pancaro 2010 and Eichengreen and Gupta 2013) exchange rate depreciation can be deployed as a policy instrument to spur export and economic growth only in the short term, because a country cannot maintain a depreciated real exchange rate indefinitely. In the same vein, Eichengreen and Gupta (2014) argue that potential costs such as tensions with other countries, accumulation of foreign-exchange reserves on which capital losses occur may come in the form of inflation.

The result of this study is in line with the findings of (Rodrik 2008; Eichengreen and Gupta, 2014; Mohamad et al., 2009; Edwards and Alves, 2006 and Kaplinsky and Morris, 2008). But the result of the study is not consistent with (Umaru and Musa 2013; Balogun, 2007 and (Zhang and Hathcote, 2008) who found a positive association between exchange rate and export performance.

- **Trade openness**

Hypothesis testing between trade openness and textile and garment export performance are presented below:

$H_0$ : trade openness has a significant positive effect on textile and garment export performance.

$H_1$ : trade openness has no significant positive effect on textile and garment export performance.

Do not reject  $H_0$  hypothesis since the regression result shows that trade openness has a significant positive effect on textile and garment export performance; because the t-statics value

of this variable is 4.790962 which is more than two as shown in the above table 4.7 long term equation results. It indicates trade openness affects the textile and garment export performance in the long run significantly. The beta coefficient of this variable is 1.767378 which indicates there is a positive long-run causal relationship between trade openness and textile and garment export performance.

The study revealed that a 1 percent increase in trade openness would result in an increase of 1.767 percent in textile and garment export performance. This is because trade liberalization means the elimination of quantitative restrictions and the rationalization of the tariff and reducing bureaucracy which, in turn, increases trade balance for developing countries. The result of this study is in line with the findings of (Kongmanila and Takahashi, 2009 and Utkulu et al., 2004) who found a positive relationship between trade openness and export performance.

- **Inflation rate**

Hypothesis testing, between inflation rate and textile and garment export performance, is presented below:

**H0:** Inflation rate has a significant negative effect on textile and garment export performance.

**H1:** Inflation rate has no significant negative effect on textile and garment export performance.

Do not reject the Ho hypothesis since the regression result shows that inflation has a significant effect on textile and garment export performance in the long run because the absolute value of the t-statics shown in the long-run equation model is greater than two i.e. 8.5526. The beta coefficient of this variable is -0.3303 which indicates inflation has a negative causal relationship with textile and garment export performance. Because High inflation results in economic instability as it erodes the purchasing power of households. High inflation tended to be associated with low exports because it makes domestic goods more expensive to foreigners. This study has a similar result with (Dexter, 2005 and, Abeynanda, 2017).

- **Labor**

Hypothesis testing between Labor and textile and garment export performance are presented below:

H0: Labor has a significant positive effect on textile and garment export performance.

H1: Labor has no significant positive effect on textile and garment export performance.

Do not reject the  $H_0$  hypothesis since the regression result shows that Labor has a significant positive effect on textile and garment export performance; because the t-statics value of this variable is 2.2957 which is more than two as shown in the above table 4.7 long term equation model. It indicates labor affects the textile and garment export performance in the long run significantly. The beta coefficient of this variable is 8.3655 which indicate there is a positive long-run causal relationship between trade openness and textile and garment export performance. This means a one percent increase in labor-capital can cause an 8.3655 percent increase in textile and garment export performance. This result is consistent with the findings of (Thomas, 2004; (Bergstrand, 1985 and Aggarwal, 2004).

- **Domestic infrastructure**

Hypothesis testing between Domestic infrastructure and textile and garment export performance is presented below:

$H_0$ : Domestic infrastructure has a significant positive effect on textile and garment export performance.

$H_1$ : Domestic infrastructure has no significant positive effect on textile and garment export performance.

Do not reject the  $H_0$  hypothesis since the regression result shows that Domestic infrastructure has a significant positive effect on textile and garment export performance; because the t-statics value of this variable is 3.428 which is more than two as shown in the above table 4.7 long term equation model. It indicates Domestic infrastructure affects the textile and garment export performance in the long run significantly. The beta coefficient of this variable is 1.530891, which means a percentage increase in Domestic infrastructure value would result in a 1.530891 percent increase in textile and garment export performance. The result of this study is similar with (Vijil and Wagne, 2012 and Limao & Venables, 2001).

#### **4.6. Interpretation of the short-run Coefficients**

Once the existence of a long-run relationship has been checked and the appropriate parameters are determined, the next step is estimating the coefficients of the short term dynamics. To capture the short-run dynamics of the model, the error correction mechanism was applied. The coefficient of the error correction term indicates how quickly variables converge to equilibrium.

The ARDL estimates short-run dynamic coefficient also indicates that the independent variables have also a significant impact on the textile and garment export in the country. The short-run dynamic coefficients of the independent variables are depicted in the following table 4.8 The “D” in each variable indicates the difference operator or change in the variable.

**Table 4.8:** Short-Run Coefficients dependent variable D (LNTXEXP)

Dynamic regressors (2 lags, automatic): D(LNFDI(-1)) D(LNGDP(-1))  
D(LNEXR(-1)) D(LNTOT(-1)) D(LNINFF(-1)) D(LNHRPO(-1))  
D(LNDIF(-1))

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
D(LNFDI(-2))	0.425189	0.086615	4.908974	0.0044
D(LNEXR(-2))	1.883169	0.506054	3.721284	0.0137
D(LNTOT(-2))	1.355701	0.386214	3.510232	0.0171
D(LNINFF(-2))	-0.156950	0.100193	-1.566472	0.1780
D(LNHRPO(-1))	31.69672	40.37193	0.785118	0.4679
D(LNDIF(-1))	1.695510	0.671132	2.526345	0.0428
C	0.267761	0.486825	0.550014	0.0060
R-squared	0.867049	Mean dependent var		0.125357
Adjusted R-squared	0.822064	S.D. dependent var		0.279768
F-statistic	0.036054			

*Source: E-view 9 short-run result*

The short term correlation has important implications in linking the short-run periods to the long-run period. It represents a deviation from the long-run equilibrium which is corrected gradually through a series of short-run partial adjustments. The sign and magnitude of the coefficient of the error correction term indicate the direction and speed of adjustment of the dependent variable towards its long-run steady-state path.

Foreign direct investment, trade openness and domestic infrastructure have a significant and positive effect on textile and garment export performance, which is similar to the long-run regression estimation result. The three variables have a beta coefficient of 0.425189, 1.355701 and 1.69551 respectively

Unlike the long-run regression result, in the short-run model, exchange rate has a positive and significant effect on textile and garment export performance at 5 percent significant levels, because the p-value of this variable is 0.0137 and t-statistics 4.90897 which is greater than two. The beta coefficient is 1.8832. It shows that exchange rate has a significant positive causal relationship with textile and garment export performance in the short run. Meaning a unit percentage increase in exchange rate leads textile and garment export performance to increase by 1.8832 percent.

The short-run also model revealed that inflation rate and labor to have a statistically insignificant effect on textile and garment export performance in the short run on a significant level of 5%. But they both maintain a negative and a positive sign respectively in the short run.

The F-statistics value of the study is 0.036; it indicates statistically significant at 5% of significance level which implies that all explanatory variables jointly explain the dependent variable the textile and garment export performance. The model is also well-fitted model, the explanatory power of the model as measured by  $R^2$  is 0.867049, which implies that 86.7 % of the variation in textile and garment export is explained by independent variables.

#### **4.7. Post estimation diagnosis tests**

In this section of study, diagnostic test on the model has conducted to check the average value of the error is zero, whether the residual is normally distributed or not, the variance of the error is constant, the covariance between the error term over the time is zero and the variables stated in this study were not violating the classical linear regression assumption. As per Brooks, (2008) the first assumption required that the average value of the errors is zero ( $E(u_t) = 0$ ). In fact, if a constant term is included in the regression equation, this assumption will never be violated (Brooks, 2008). Since there is no intercept parameter without constant term, the first assumption will never go against. This means there is no potentially severe bias in the slope coefficient estimates in the regression model. However, the rest assumptions of CLRM were properly tested and presented as follows:

##### **4.7.1. Test for Heteroscedasticity**

The second assumption of CLRM states that the variance of the errors is constant,  $\sigma^2$  this is known as the assumption of homoskedasticity (Brooks, 2008). If the errors do not have constant

variance, they are said to be Heteroskedasticity. In other words, if the residuals of the regression have systematically changing variability over the sample, that is a sign of Heteroskedasticity (Brooks, 2008). The violation of this assumption results in the OLS estimator inefficient. Hence, to detect the problem of heteroscedasticity, the Brush-pagan LM test is used to examine the null hypothesis saying that the error term is homoskedastic and the opposite is true for alternative hypotheses.

**Table 4.9:** Heteroscedasticity Test results

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.962969	Prob. F(12,18)	0.0950
Obs*R-squared	17.57222	Prob. Chi-Square(12)	0.1293
Scaled explained SS	4.834362	Prob. Chi-Square(12)	0.9633

*Source: E-view 9 Heteroscedasticity Test results*

The decision rule states that, if the p-value of the test is lower than any of the chosen significance levels, i.e., 1%, 5% and 10% it indicates possible problem of heteroskedasticity; whereas if the p-value of the test is greater than any of the chosen significance levels, i.e., 1%, 5%, and 10% indicate no possible problem of heteroskedasticity. Hence, to detect the problem of Heteroscedasticity, the Brush-pagan LM test is used to examine the null hypothesis saying that the error is homoskedastic and the opposite is true for alternative hypotheses. The LM version of this test is found to be F-statistic and Obs\*R-squared exceeds the 5% critical value as indicated in the table; as a result, the null hypothesis cannot be rejected.

#### **4.7.2. Serial Correlation Test**

One of the assumptions of the classical linear regression model is that the error is assumed uncorrelated across the time. In violation of this assumption, the OLS estimators are inefficient, so no longer BLUE. Hence, to assertion, the BLUE estimate of the OLS, the Breusch-Godfrey Serial Correlation LM Test is conducted against the  $H_0$  saying that there is no serial correlation problem and  $H_1$  implying that the existence of the serial correlation problem. Accordingly, the P-

values of F-statistic and Obs\*R-squared exceeds 5% critical value as indicated in table 4.10 meaning that the  $H_0$  cannot be rejected and therefore there is no serial correlation problem in the ARDL estimates.

**Table 4.10:** Serial Correlation Test results

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.246956	Prob. F(2,6)	0.7887
Obs*R-squared	2.281732	Prob. Chi-Square(2)	0.3195

*Source: E-view 9 correlation test result*

#### 4.7.3. Normality Test: Jarque-Bera (JB)

Another third important diagnostic test conducted in this paper is the normality assumption (i.e. normally distributed errors). Brooks (2008) Stated that the normality assumption “(ut~ N (0,σ<sup>2</sup>))” is required in order to conduct single or joint hypothesis tests about the model parameters. One of the most commonly applied tests for normality is the Bera-Jarque (BJ) test. BJ uses the property of a normally distributed random variable that the entire distribution is characterized by the first two moments the mean and the variance (Brooks, 2008). The normality tests are shown in the figure below.

If the residuals are normally distributed the histogram should be bell-shaped and the Jarque Bera statistic would not be significant. This means that, the p-value given at the side of the normality test screen should be bigger than 0.05 not to reject the null hypothesis of normality at the 5% significance Jarque–Bera Statistical Test Results level (Brooks, 2008). As we can see from the appendix II the residuals are normally distributed since the p-value for the BJ test is 0.908618. Therefore we can reject the alternative hypothesis and conclude that the data comes from a normal distribution.

## CHAPTER FIVE

### 5. CONCLUSIONS AND RECOMMENDATIONS

#### 5.1. Introduction

In this chapter conclusions made based on the empirical findings of the study are properly discussed. Besides, recommendation which the study believes to be implemented by different organs is given based on conclusions made by the study. Future research suggestions are also discussed.

#### 5.2. Conclusions

This study examined factors affecting textile and garment export performance in Ethiopia using time series data for the period between 1987 and 2019. Specifically, the study analyzed the influence of macroeconomic factors such as foreign direct investment, gross domestic product, exchange rate, trade openness, inflation rate, labor, and domestic infrastructure. The main proposition of the study was that macroeconomic factors significantly influence textile and garment export performance.

Export intensity, export value, and export growth were used to measure textile and garment export performance in Ethiopia. First, the Export intensity analysis shows the contribution of textile and garment export is very little to total exports in Ethiopia, but the trend of textile and garment export intensity through the research period shows an increasing trend this means the textile and garment manufacturing in the country is growing which makes the sector an important sector in the country's economy. Secondly, Ethiopia had increased trends in textile and garment exports in recent years; this finding verifies Ethiopia's textile and garment export values were significantly higher in the last 10 years of the research period. Thirdly the textile and garment export growth rates have a very fluctuating trend, which shows the growth of the sector is inconsistent and unreliable.

ARDL model was applied for estimating the parameters and testing the hypotheses proposed in this study, using the eviews9 software and employed Vector Error Correction approaches to analyze the variables both in the short run and long run.

The study has made a diagnostic test on the assumptions of the classical linear regression model and found that there was no problem of multi co-linearity, heteroskedasticity, model misspecification autocorrelation, and normality. However, the study was initially faced a multicollinearity problem. After while the study dropped GDP from the independent variables because it had a strong correlation with another dependent variable as recommended by (Hair et al., 2006) and the problem is resolved. The study used the augmented dickey fuller test to the unit root. The test approved the existence of unit root in level and all the variables are stationary in first difference. This indicates the existence of a long-run relationship among the variables. The ARDL bound test to cointegration proposes the existence of a cointegration relationship between dependent and independent variables.

In the long-run foreign direct investment has a positive and significant effect on textile and garment export performance in Ethiopia. The positive relationship is because FDI promotes exports of host countries by enhancing domestic capital for exports, helping the transfer of technology and new products for exports, facilitating access to new and large foreign markets and providing training for the local workforce and upgrading technical and management skills. Similarly, trade openness has a positive and significant effect on textile and garment export performance in the long run. Elimination of quantitative restrictions and the rationalization of the tariff and reducing bureaucracy increases trade balance for developing countries. Besides as it is stated by (Taneja, 2012 and Kongmanilaa & Takahashi, 2009) the more open economy is to the external world the higher will be its foreign exchange earnings from export.

Exchange rate has a negative and significant impact on textile and garment export performance in the long run. Employing Exchange rate depreciation as a policy can Cause tensions with other countries, accumulation of foreign-exchange leading to inflation the increase in trade balance deficit. Thus hinder economic growth in the long run. Moreover, in the long run an increase in exchange rate raises the cost of imported goods which discourages firms to cut costs to be competitive in the global market thus force the productivity to reduce in the long run.

Inflation rate has a significant and negative impact on textile and garment export performance in the long run. High inflation results in economic instability as it erodes the purchasing power of households which, in turn, reduces the export performance of textile and garment industry.

Labor and domestic infrastructure have a positive and significant effect on textile and garment export performance, in the long run, the existence of labor force and infrastructure in the country can create an attractive environment for investors. As the garment industry is labor-intensive, local and international companies can exploit this advantage, and create jobs. Similarly better infrastructure reduces trade-related transaction costs; this can make the firms to be cost competitive in the global market

In the short run foreign direct investment, trade openness and domestic infrastructure have a significant and positive effect on textile and garment export performance, which is similar to their long run result. Exchange rate has positives and significant effect on textile and garment export performance in the short run, which is different from the long run estimation. This is because exchange rate depreciation lowers the price of domestically produced goods, leading to an increase in exports volume and export returns. This makes the exports of the domestic economy more competitive and profitable. Another reason is the high variation between the real and nominal exchange rate value in Ethiopia, the real exchange rate (exchange rate set by the market) is much greater than the nominal exchange rate (exchange rate set by the government). Therefore, an increase in the nominal exchange rate increases textile and garment export value in the short run but the long run effect is the opposite. Furthermore, Inflation rate and labor have a statistically insignificant effect on textile and garment export performance in the short run.

### **5.3. Recommendations**

Textile and garment as a product have an ever-expanding scope in developing economies as clothing is a prime need of the human. The textile industry is one of the sectors that have received a lot of attention from the government and the objective is to become sourcing destinations of the world. To achieve this objective and exploit the opportunities from the sector, the study draws the following recommendations based on the findings of the study and the conclusions discussed above.

- The study revealed that the average Textile and garment export performance of Ethiopia is lower as compared to the total export and other sub-Saharan African countries. Therefore, to make textile and garment export more competitive the government should formulating good trade policies, and create a good business environment for attracting

more foreign direct investment, and promote local entrepreneurs by providing different incentives. Reduce bureaucracy and corruption

- Foreign direct investment inflow has been found to have a positive impact on textile and garment export performance. Therefore, Ethiopia should attract more foreign direct investment. Ethiopia has adopted an active, state-driven industrial policy aimed at incentivizing exports, attracting lead firms and foreign direct investment (FDI), supporting local firms and creating local linkages to promote priority sectors such as textiles and garment. This is a very encouraging step but besides maintaining peace and harmony, improve infrastructure, political stability and controlling macroeconomic stability should be considered.
- Trade openness and labor have a significant and positive impact on the textile and garment export performance, labor even has the highest beta coefficient compared to other dependent variables. Put effort into specialization and division of the countries labor force can bring a great enhancement on textile and garment export performance. Similarly developing an attractive environment for international trade can bring more investors to the sector.
- Political and economic stability is very important to attract local and international investors, an increase in exchange rate and inflation rate above the breakeven point hinders the economy growth, therefore, the government should properly manage exchange rate and inflation rate under acceptable moderate level using both monetary and fiscal policies.
- Improvement in infrastructure contributes to a reduction of the cost of doing business and this, in turn, strengthens the price competitiveness country's exports in the international market. Thus infrastructure should be given considerable attention from policymaker to improve the exporting capacity of the economy.

#### **5.4. Limitations and Future Studies**

The study has several limitations. First, the present study was conducted using secondary data collected from government organizations and World Bank indicator databases. A particular concern was the accuracy of data sets since the data collection process cannot be fully controlled by the researcher; therefore the outcomes from this study were influenced by the precision of secondary data sets currently available. Second, some data sets were missing for certain

measurements in specific years so the researcher used a moving average value for the missing data in some particular years.

The findings from this study serve as a platform for future research regarding the determinants of textile and garment export performance in Ethiopia. First, this study only statistically examined the impact of foreign direct investment, exchange rate, trade openness, inflation, labor and domestic infrastructure on textile and garment export performance. Future research can test the impact of other determinants on textile and garment export performance. Second, this study used secondary data sets to explore the determinants of textile and garment export performance. Future research can collect primary data from the perspective of suppliers or buyers to analyze the determinants of textile and garment export performance subjectively. Finally, future research is encouraged to investigate effective strategies to improve textile and apparel export performance, based on the understanding of determinants of export performance.

## Bibliography

- Aaby, N.E., & Slater, S.F. (1989). Management influences on export performance: a review of the empirical literature 1978-88. *International Marketing Review*, 6(4), 7-23.
- Abeynanda, H. K. (2017, January). A study of factors affecting the exports of the garment industry in sri lanka. In *2017 6th National Conference on Technology and Management (NCTM)* (pp. 69-74). IEEE.
- Adugna, W. (2018). *Factors Affecting The Export Performance Of Textile And Garment Industry; In Ethiopia* (Doctoral dissertation, Addis Ababa University).
- Adugna, W. (2018). *Factors Affecting The Export Performance Of Textile And Garment Industry; In Ethiopia* (Doctoral dissertation, Addis Ababa University).
- Ahdi, N.A., Aye, G.C., Balcilar, M., & Gupta, R. (2013). Causality between exports and economic growth in South Africa: evidence from linear and nonlinear tests, University of Pretoria, Department of Economics, Working Papers, No. 201339
- Aggarwal, A. (2004). *Export processing zones in India: Analysis of the export performance* (No. 148). Working paper.
- Appleyard, D. R., Field Jr, A. J., Cobb, S. L., & Lima, A. F. (2010). *Economia Internacional-6*. AMGH Editora.
- Asteriou, D., & Hall, G. S. (2007). *Applied Econometrics: a Modern Approach* Palgrave Macmillan. *New York*.
- Athukorala, P. (2009). The Rise of China and East Asian Export Performance: Is the Crowding-Out Fear Warranted? *The World Economy*, 32(2), 234-266. doi: 10.1111/j.1467-9701.2008.01151.x
- Babatunde, M. A. (2009). Can trade liberalization stimulate export performance in Sub-Saharan Africa. *Journal of International and Global Economic Studies*, 2(1), 68-92.
- Balogun, E.D. (2007). Effects of exchange rate policy on bilateral exports trade of WAMZ countries, MPRA Working Paper, No. 6234
- Bergstrand, J. H. (1985). The gravity equation in international trade: some microeconomic foundations and empirical evidence. *The review of economics and statistics*, 474-481.
- Brautigam, D., Weis, T., & Xiaoyang, T. (2015). Ethiopia's Industrial Policy: The Case of the Leather Sector. *Manuscript*.
- Bräutigam, D., & Tang, X. (2014). "Going global in groups": Structural transformation and China's special economic zones overseas. *World Development*, 63, 78-91.

- Brooks, C. (2019). *Introductory econometrics for finance*. Cambridge university press.
- Brooks, C. (2008). In C. Brooks, *Introductory econometrics for finance*.
- Cadogan, J. W., Diamantopoulos, A., & Siguaw, J. A. (2009). Export market-oriented activities: Their antecedents and performance consequences. *Journal of international Business studies*, 33(3), 615-626.
- Carneiro, J., Rocha, A. D., & Silva, J. F. D. (2011). Determinants of export performance: a study of large Brazilian manufacturing firms. *BAR-Brazilian Administration Review*, 8(2), 107-132.
- Cavusgil, S. T., & Zou, S. (1994). Marketing strategy-performance relationship: an investigation of the empirical link in export market ventures. *Journal of marketing*, 58(1), 1-21.
- Chan, E. M., Au, K. F., & Sarkar, M. K. (2008). Antecedents to India's textile exports: 1985? 2005. *International Journal of Indian Culture and Business Management*, 1(3), 265-276.
- Chaudhary, A. (2011). Changing structure of Indian textile industry after MFA (Multi Fiber Agreement) phase out: A global perspective. *Far East Journal of Psychology and Business*, 2(2), 1-23.
- Czinkota, M. R., Knight, G., Liesch, P. W., & Steen, J. (2010). Terrorism and international business: A research agenda. *Journal of International Business Studies*, 41(5), 826-843..
- Degef, B. (2018). *The influence of macro environmental factors on export performance: The case of garment sector in Addis Ababa* (Doctoral dissertation, Addis Ababa University).
- Derese, D. (2019). *Determinants Of Export Performance:(The Case Of Selected Textile And Garment Firms In Ethiopian)* (Doctoral dissertation, Addis Ababa University).
- Dexter, A. S., Levi, M. D., & Nault, B. R. (2005). International trade and the connection between excess demand and inflation. *Review of International Economics*, 13(4), 699-708.
- Dicken, P. (1998). *Global Shift: Transforming the World Economy (3rd ed.)*. New York, NY: Guilford Press.
- Easterly, W. (2005). Inequality does cause underdevelopment.
- Edwards, L., & Alves, P. (2006). South Africa's export performance: Determinants of export supply. *South African Journal of Economics*, 74(3), 473-500.
- Eichengreen, B. (2007). The real exchange rate and economic growth. *Social and Economic Studies*, 7-20.

- Eichengreen, B., & Gupta, P. (2014). *Tapering talk: The impact of expectations of reduced Federal Reserve security purchases on emerging markets*. The World Bank.
- Ekanayake, N. (2016). Determinants of External Demand for Textiles and Garments of Sri Lanka. *Staff Studies*, 43(1-2).
- Elbadawi and Helleiner. (2004). African development in the context of new world trade and financial regimes: the role of the WTO and relationship to the world bank and IMF in....
- Epaphra, M. (2016). Determinants of export performance in Tanzania. *Journal of Economics Library*, 3(3), 470-487.
- Esther de Haan & Martje Theuws. (2015). *QUICK SCAN OF THE LINKAGES BETWEEN THE ETHIOPIAN GARMENT INDUSTRY AND THE DUTCH MARKET*.
- Eusebio, R., Andreu, J. L., & Belbeze, M. P. L. (2007). Internal key factors in export performance. *Journal of Fashion Marketing and Management*, 11(1), 9.
- Farole, T., & Akinci, G. (2011). *Special economic zones: progress, emerging challenges, and future directions*. The World Bank.
- Fikreselassie, A. (2018). *Firm-Level Determinants of Export Performance of Ethiopian Textile and Garment factories (A survey on Selected Textile and garment factories)* (Doctoral dissertation, AAU).
- Fraçoise, J. and M. Manchin ( 2013) ,, Institutions, infrastructure and trade“ World Development 46: 165-175.
- Fugazza, M. (2004). Export performance and its determinants: supply and demand constraints. Available at SSRN 1281486.
- Fujii. (2017). Fujii, E (2017), *What Does Trade Openness Measure?*, CESifo Working Paper Series 6656, CESifo Group Munich. .
- Ganne, B., & Lecler, Y. (2009). From industrial districts to poles of competitiveness. *Asian Industrial Clusters, Global Competitiveness and New Policy Initiatives*, 3-24.
- Gereffi & Memedovic. (2003). *The global apparel value chain: What prospects for upgrading by developing countries?* Retrieved from: <http://www.unido.org/doc/12218>.
- Gereffi, G. (1994). The organization of buyer-driven global commodity chains: how US retailers shape global production networks. In G. Gereffi & M. Korzeniewicz (Eds.), *Commodity chains and global capitalism* (pp.95-122). Westport, CT: Greenwood Press.
- Gereffi, G., & Frederick, S. (2010). *The global apparel value chain, trade and the crisis: challenges and opportunities for developing countries*. The World Bank.

- Gizaw, Y. (2018). Analyzing the influence of marketing mix strategies on export performance in the garment industry of Ethiopia: The case of garment exporters in Addis Ababa (Doctoral dissertation, Addis Ababa University).
- Gupta, A. S. (2007). *Determinants of tax revenue efforts in developing countries* (No. 7-184). International Monetary Fund.
- Haddad, M., & Pancaro, C. (2010). Can real exchange rate undervaluation boost exports and growth in developing countries? Yes, but not for long.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (Vol. 6).
- Helpman, E. (1999). The Structure of Foreign Trade, *Journal of Economic Perspectives* Vol 13(2): 121-144.
- Hill, C. W., & Jones, G. R. (2011). *Essentials of strategic management*. Nelson Education.
- Isam, S. and S.T.S. Shazali (2011), *Determinants of manufacturing productivity: Pilot study on labor-intensive industries*, *Int. J. production. Performance, management.*, 60:567-582.
- Jin, B. (2004). Apparel industry in East Asian newly industrialized countries. *Journal of Fashion Marketing and Management: An International Journal*.
- Lau, C.K., To, K.M., Zhang, Z., & Chen, J. (2009). Determinants of competitiveness: Observations in China's textile and apparel industries. *China and World Economy*, 17(2), 45-64.
- Kalaitzi, A. (2013). Exports and economic growth in the United Arab Emirates. In *Submitted to: RIBM Doctoral Symposium. Manchester Metropolitan University Business School*.
- Kang, J. H., & Jin, B. (2007). Determinants of born global firm growth in the apparel industry: A Korean case. *Journal of the Textile Institute*, 98(2), 137-146. doi:10.1533/joti.2005.0283
- Kaplinsky, R., & Morris, M. (2008). Do the Asian drivers undermine export-oriented industrialization in SSA?. *World Development*, 36(2), 254-273.
- Kassa, B. (2012). *Determinants of export performance in Ethiopia: a VAR model analysis* (Doctoral dissertation, Jimma University).
- Katsikeas, C. S., Leonidou, L. C., & Morgan, N. A. (2000). Firm-level export performance assessment: review, evaluation, and development. *Journal of the Academy of Marketing Science*, 28(4), 493-511.
- Khurana, K. (2018). An overview of textile and apparel business advances in Ethiopia. *Research Journal of Textile and Apparel*.

- Kilduff, P., & Chi, T. (2007). *Analysis of comparative advantage in the textile complex: a study of East European and former Soviet Union nations. Journal of Fashion Marketing and Management, 11(1), 82-105.*
- Kogurt, B. (1985). *Designing global strategies: comparative and competitive value-added chains. Sloan Management Review, 26(4), 15-28.*
- Kongmanila, X., & Takahashi, Y. (2009). Innovation, export performance and profitability of Lao garment exporters. *International Journal of Economics and Management, 3(2), 225-236.*
- Koul, R. B., Fisher, D. L., & Shaw, T. (2011). An application of the TROFLEI in secondary-school science classes in New Zealand. *Research in Science & Technological Education, 29(2), 147-167.*
- Limao, N., & Venables, A. J. (2001). Infrastructure, geographical disadvantage, transport costs, and trade. *The World Bank Economic Review, 15(3), 451-479.*
- Majeed, M. T., Ahmad, E., & Khawaja, M. I. (2006). Determinants of exports in developing countries [with comments]. *The Pakistan Development Review, 1265-1276.*
- Masood, R. (2014). *Performance Analysis of Selected Textile Companies in Bangladesh* (Doctoral dissertation, East West University).
- Mesfin, Y. (2010). *Economic Impact and Determinants of Export: The Case of Ethiopian Textile and Apparel Industry* (Doctoral dissertation, Addis Ababa University).
- Mohamad, S., Nair, M., & Jusoff, K. (2009). Exchange rates and export competitiveness in selected ASEAN economies. *International Business Research, 2(2), 156-166.*
- Mold, A., & Prizzon, A. (2011). Two steps forward, one step back: LDCs and the challenges of South-South trade in times of 'Shifting Wealth. *Trade Negotiations Insights, 10(8).*
- Monczka & Trent. (1991). *Monczka, R.M., & Trent, R.J. (1991). Global sourcing: A development approach. International Journal of Purchasing and Materials Management, 11(2), 2-8. .*
- Muhabaw, N. (2013). *What Determines the Export Performance of Ethiopia: A Time Series Analysis* (Doctoral dissertation, Addis Ababa University).
- Muibi, S. O., & Sinbo, O. O. (2013). Macroeconomic determinants of tax revenue in Nigeria (1970-2011). *World Applied Sciences Journal, 28(1), 27-35.*
- Muluye, E. (2018). *Determinants Of Export Performance Of The Textile And Garment Companies In Ethiopia* (Doctoral dissertation, Addis Ababa University).

- Ozawa, T. (2010). *A newer type of foreign investment in third world resource development*. *Rivista Internazionale di Scienze Economiche e Commerciali*, 29 (December), pp. 1, 133-1, 151.
- Pattichis, C. (2012). Exchange rate effects on trade in services. *Journal of Economic Studies*.
- Pesaran, M. H., & Shin, Y. (1997). Autoregressive Distributed Modeling Approach to Cointegration Analysis.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of applied econometrics*, 16(3), 289-326.
- Rodrik, D. (2009). The real exchange rate and economic growth, in *Brookings Papers on Economic Activity*, Fall 2008, D.W. Elmendorf, N.G. Mankiw, & L.H. Summers (Ed), 365-412. Washington, DC: Brookings Institution.
- Rohne, E. (2013). Chinese-initiated Special Economic Zones in Africa: a case study of Ethiopia's Eastern Industrial Zone.
- Santos-Paulino, A. U. (2002). Trade liberalisation and export performance in selected developing countries. *Journal of Development Studies*, 39(1), 140-164.
- Schultz, M. (2003). "Bringing the corporation into corporate branding", *European Journal of Marketing*, Vol. 37 No. 7/8, pp. 1041-1064.
- Sefrioui, F. (1999). Industrial zones experience in Morocco. *Journal of economic cooperation among Islamic countries*, 20(1), 23-70.
- Shan, J., & Tian, G. G. (1998). Causality between exports and economic growth: the empirical evidence from Shanghai. *Australian Economic Papers*, 37(2), 195-202.
- Sharma, M., & Dhiman, R. (2016). Determinants affecting Indian textile exports: A review. *Biz Bytes J Manag Technol*, 6, 193-199.
- Shoham, A., Brencic, M. M., Virant, V., & Ruvio, A. (2006). International standardization of channel management and its behavioral and performance outcomes. *Journal of international Marketing*, 16(2), 120-151.
- Siddiqi et al. (2012). *Siddiqi, W., Ahmad, N., Khan, A. A., and Yousef, K. (2012). Determinants of Export Demand of Textiles and Clothing Sector of Pakistan: An Empirical Analysis, World Applied Sciences Journal 16(8):1171-1175.*
- Sousa, C. M., Martínez-López, F. J., & Coelho, F. (2008). The determinants of export performance: A review of the research in the literature between 1998 and 2005. *International Journal of Management Reviews*, 10(4), 343-374.

- Schultz, T. P. (2002). Wage gains associated with height as a form of health human capital. *American Economic Review*, 92(2), 349-353.
- Staritz, C., Plank, L., & Morris, M. (2016). Global Value Chains, Industrial Policy, and Sustainable Development—Ethiopia’s Apparel Export Sector. *International Centre for Trade and Development*.
- Sturgeon, T. J., & Memedović, O. (2011). *Mapping global value chains: Intermediate goods trade and structural change in the world economy*. United Nations Industrial Development Organization. Taneja, 2012, Kongmanilaa & Takahashi, 2009. (n.d.).
- Subramanian, M. A., Ostry, M. J. D., & Johnson, S. (2007). *The Prospects for Sustained Growth in Africa: Benchmarking the Constraints* (No. 7-52). International Monetary Fund.
- Taneja, R. (2012). Indian textile exports: Past and present. *International Journal in Multidisciplinary and Academic Research*, 2(2), 1-19.
- Terzea, E. R. (2016). The concept of international trade and main classic theories. *SEA—Practical Application of Science*, 4(11), 243-246.
- Tewodros, D. (2016). *An assesment of factors affecting the performance of garment exporting industries in Ethiopia: the case of Addis Ababa* (Doctoral dissertation, Addis Ababa University).
- Thomas, S. (2004). Reconfiguring the public sphere: Implications for analyses of educational policy. *British Journal of Educational Studies*, 52(3), 228-248..
- Thorvaldur (1998) Thorvaldur Gylfason Exports, Inflation, and Growth World Development, volume 27, p. 1031 – 1057 Posted: 1999-06.
- TIDI, (2012). Five years (2010-2015) Textile and Apparel Industry Development Plan. Addis Ababa, 2-4.
- Tigist, A. (2018). *The determinants of export performance in Ethiopia: a panel data analysis* (Doctoral dissertation, Addis Ababa University).
- Tong, X. F., Tong, D. Y. K., & Loy, L. C. (2011). Factors influencing entrepreneurial intention among university students. *International journal of social sciences and humanity studies*, 3(1), 487-496.
- Umaru, A., Sa'idu, B. M., & Musa, S. (2013). An empirical analysis of exchange rate volatility on export trade in a developing economy. *Journal of emerging trends in economics and management sciences*, 4(1), 42-53.

- UNCTAD. (2004). *Export performance and its determinants: Supply and Demand constraints. New York and Geneva: UN Publication.*
- UNCTAD, T. (2008). Development Report 2008. *New York and Geneva*, 31-40.
- UNCTAD, U. (2015). World investment report 2015: Reforming international investment governance. *United Nations Publications Customer Service*, 253.
- Utkulu, U., & Seymen, D. (2004, September). Revealed Comparative Advantage and Competitiveness: Evidence for Turkey vis-à-vis the EU/15. In *European trade study group 6th annual conference, ETSG* (pp. 1-26).
- Van der Pols, D. (2015). Business Opportunity Report Ethiopia: Textile and Apparel Industry. *Netherlands Embassy in Addis Ababa, CBI and Nash International BV. Addis Ababa: Ethiopia.*
- Verbeek, M. (2008). *A guide to modern econometrics*. John Wiley & Sons.
- Vijil, M. and L. Wagner (2012) „ Does aid for trade enhance export performance? Investigating the infrastructure channel “ *World Economy* 35(7): 838-868.
- Wall Street Journal. (2015). ‘Search for Ever Cheaper Garment Factories Leads to Africa’, July 12, 2015. <<http://www.wsj.com/articles/search-for-ever-cheaper-garment-factories-leads-to-africa-1436347982>.
- Wang, X. (2013). The determinants of textile and apparel export performance in Asian countries.
- Workneh, S. A., & Yamaura, H. (2016). Multi-position ergonomic computer workstation design to increase comfort of computer work. *International Journal of Industrial Ergonomics*, 53, 1-9.
- Worku, I. (2007). *Determinants of Primary Commodity Export in Sub-Saharan Africa (A Panel Study)* (Doctoral dissertation, Addis Ababa University).
- Gebeyehu, W. (2010). Causal links among saving, investment and growth and determinants of saving in Sub-Saharan Africa: Evidence from Ethiopia. *Ethiopian Journal of Economics*, 19(2), 1-34.
- World Bank. (2013). *World Bank*,.
- Yi Lu & Zhou. (2013). *Yi Lu, Q.L., & Zhou, Y. (2013). Do exports respond to exchange rate changes? inference from China’s exchange rate reform. University of International Business and Economics, Beijing, China and National University of Singapore, Singapore.*
- Yimam, A. (2018). *Factors Influencing Export Performance of Textile Industry in Ethiopia* (Doctoral dissertation, Addis Ababa University).

- Yoganandan.G and Jaganathan A.T(2013), “Factors Affecting The Export Performance of Textile Industry in Developing Countries – A Review of Literature”, *International Journal of Commerce, Business and Management*, Vol 2, No 4, pp 173-176.
- Yost, M., & Shields, L. (2017). Ethiopia’s emerging apparel industry: options for better business and women’s empowerment in a frontier market. BSR: Paris.
- Zakaria, M. (2014). Effects of trade liberalization on exports, imports and trade balance in Pakistan: A time series analysis. *Prague Economic Papers*, 23(1), 121-139.
- Zeng, D. Z. (2015). Why Are More Countries Embracing Industrial Zones?. *blog*, *The Trade Post, World Bank*. May, 5.
- Zhang, Q., & Hathcote, J. M. (2008). Factors influencing apparel imports from China. *Clothing and Textiles Research Journal*, 26(1), 23-40.
- Zhang, K. H. (2005, June). How does FDI affect a host country’s export performance? The case of China. In *International conference of WTO, China and the Asian Economies* (pp. 25-26).
- Zou, S., Taylor, C. R., & Osland, G. E. (1998). The EXPERF scale: a cross-national generalized export performance measure. *Journal of international Marketing*, 6(3), 37-58.

# Appendix

## Appendix I: Unit root Test Result

### 1. Textile and garment export performance

Null Hypothesis: D(LNTXEXP) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

---

---

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.919810	0.0004
Test critical values:		
1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

---

---

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

### 2. Foreign direct investment

Null Hypothesis: D(LNFDI) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

---

---

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.385922	0.0001
Test critical values:		
1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

---

---

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

### 3. Gross domestic product

Null Hypothesis: D(LNGDP) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.968888	0.0495
Test critical values:		
1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

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

### 4. Exchange rate

Null Hypothesis: D(LNEXR) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.470732	0.0161
Test critical values:		
1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

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

### 5. Trade openness

Null Hypothesis: D(LNTOT) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.298836	0.0002
Test critical values:		
1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

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

## 6. Inflation

Null Hypothesis: D(LNINFF) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-11.99794	0.0000
Test critical values: 1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

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

## 7. Labor

Null Hypothesis: D(LNHRPO) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.712291	0.0431
Test critical values: 1% level	-3.670170	
5% level	-2.963972	
10% level	-2.621007	

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

## 8. Domestic infrastructure

Null Hypothesis: D(LNDIF) has a unit root

Exogenous: Constant

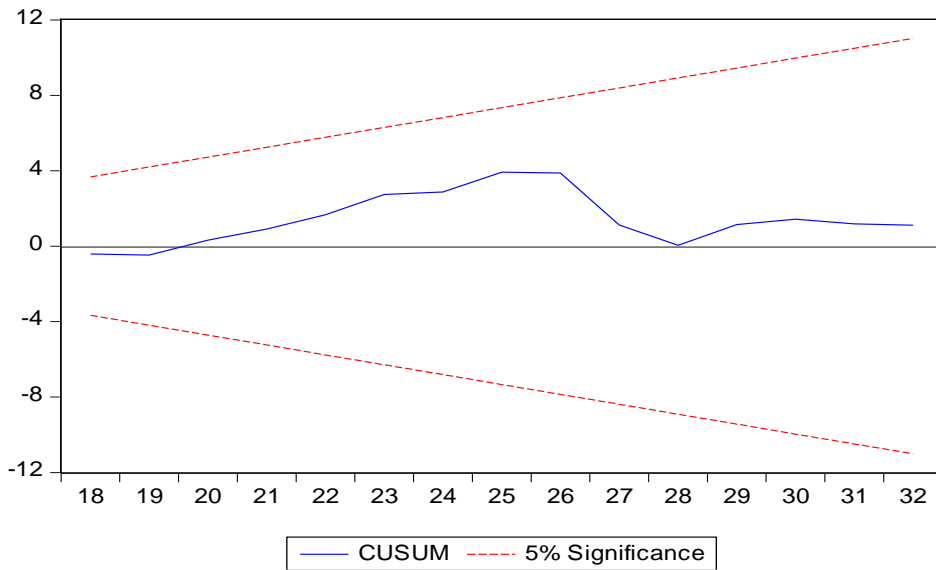
Lag Length: 2 (Automatic - based on SIC, maxlag=7)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.673975	0.0009
Test critical values: 1% level	-3.689194	
5% level	-2.971853	
10% level	-2.625121	

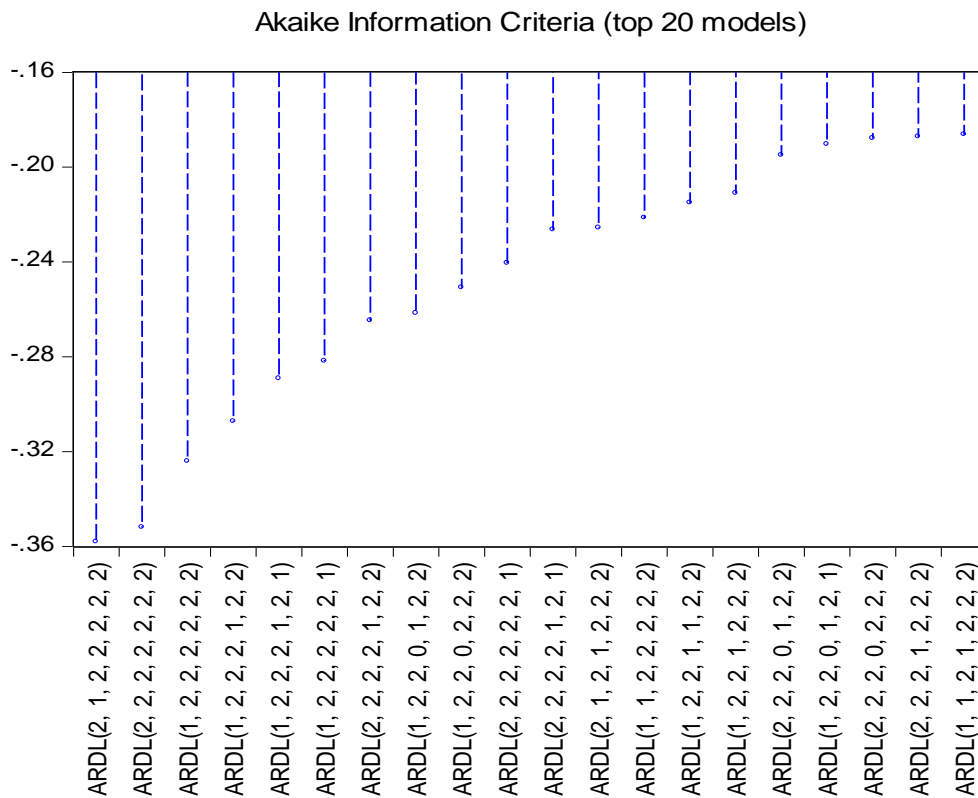
\*MacKinnon (1996) one-sided p-values.

## Appendix II: Diagnostic Test Result

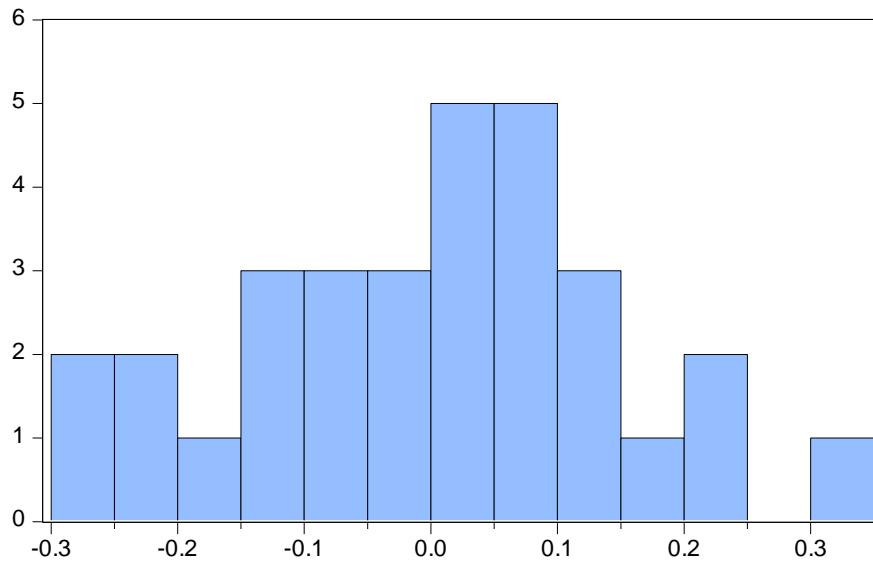
- **Model Stability Test result**



- **Akaike information criterion top 20 models**



- **Normality; Jarque-Bera Test results**



Series: Residuals	
Sample 2 32	
Observations 31	
Mean	2.98e-14
Median	0.008245
Maximum	0.321451
Minimum	-0.270435
Std. Dev.	0.144232
Skewness	-0.056925
Kurtosis	2.632003
Jarque-Bera	0.191662
Probability	0.908618