ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
DEPARTMENT OF MARKETING MANAGEMENT
POST GRADUATE PROGRAMME

DETERMINANTS OF EXPORT PERFORMANCE OF LEATHER AND LEATHER PRODUCTS SECTOR IN ETHIOPIA

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June, 2018
Addis Ababa

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Thesis submitted to Addis Ababa University, School of Commerce in partial fulfillment of the requirement of the degree of Masters of Arts in Marketing Management

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June, 2018
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DECLARATION

I hereby declare that this thesis is my original work and has not been submitted for examination before for the award of other degree or qualification in any other University and all sources of materials used fully acknowledged.

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ACKNOWLEDGMENTS

This research work would not be possible without the guidance, comments and supports from my advisor, internal examiner, friends, family and my employer Ministry of Trade.

I wish to register my appreciation to all those who assisted me in one way or another in accomplishing the task of producing this research paper. Foremost in lending their assistance was my advisor, Dr. Getie Andulaem. He involved in my research work starting from the selection of the topic and constructively criticized my earlier drafts, offered invaluable suggestions and guidance. I would like also to express my sincere thanks to my internal examiner Dr. Mesfin Workineh for his valuable comments.

Gratitude also goes to the Ministry of Trade, through Addis Ababa University, awarded me the scholarship that enabled the completion of this research paper, without their financial assistance this would not have been accomplished. I must also thank my colleagues Begidu H/Meskel and Mussie Mindaye for their contribution to my work.

Finally, I am greatly indebted to my family whose patience and tolerance were critical in completing this thesis. Their love, encouragement and support have given me the strength to successfully pursue my academic goal. At last, but most important over and above all, I thank God for giving me all the necessary strength to finish this battle.

Even though, the people mentioned above helped me in the preparation of this paper, they cannot be blamed for any mistakes or omissions: such are entirely my responsibility.

Lisanework Gorfu

ABSTRACT

Leather and leather products export plays an important role in Ethiopia's economy, influencing the level of economic growth, employment and balance of trade. Given the central role of leather and leather products exports in the economy, it was important to identify the factors affecting leather export. Thus, this paper identify the factors that affect Ethiopia's leather and leather products using gravity model for a sample of 43 trading partners, over a period of 2000-2016. In addition, the paper investigates whether there is unexploited trade potential between Ethiopia and its trading partners within this sector. The empirical results show that importer's GDP, FDI and Ethiopia's domestic infrastructure exert positive and significant impact on leather and leather products exports, while geographical distance had a negative and significant impact. On the other hand, results also point out that market access preference, bilateral real effective exchange rate and Ethiopia's GDP play insignificant role in enhancing exports performance. Furthermore, the analysis shows that export potential exists with 31 of sample countries while 12 destination markets overused. Finally, the paper ends with some policy recommendations aiming at to improve the performance of Ethiopian leather and leather products exports.

***Keywords**: Leather and leather products exports, export performance, exports potential, gravity model, panel data analysis, Ethiopia*

Acronyms

CSA	Central Statistical Agency
ELIA	Ethiopian Leather Industries Association
ERCA	Ethiopian Revenue and Customs Authority
FAO	Food and Agricultural Organization
FDRE	Federal Democratic Republic of Ethiopia
FEM	Fixed Effects Model
GDP	Gross Domestic Product
GLS	Generalized Least Square
GTP	Growth and Transformation Plan
IDS	Industry Development Strategy
ITC	International Trade Center
LIDI	Leather Industry Development Institute
MoFED	Ministry of Finance and Economic Development
MoI	Ministry of Industry
MoT	Ministry of Trade
NBE	National Bank of Ethiopia
OLS	Ordinary Least Squares
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
REM	Random Effects Model
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
WTO	World Trade Organization

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CHAPTER ONE

1 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

During the last five decades, international markets have undergone remarkable changes with broad implications. Global political, social and economic trends during this time have created major business opportunities and challenges for international marketers. A continuous worldwide trend towards economic liberalization and the rise of new economies are expanding such opportunities and challenges. Hence, international marketing is playing a crucial role in world economic activities and its importance is expected to grow further as markets become more globalised (Harcourt, 2007).

From various forms of entry strategies in international markets, exporting is the simplest mode. In the export entry mode the product is manufactured in a different country than were it is sold. There are two kinds of export; indirect export uses middle men who are located in the company's own country and who actually do the exporting and direct exporting which does not use home country middlemen, although it may use target country middlemen (Root, 1994).

Exports play an important role in any economy, influencing the level of economic growth, employment and the balance of payments. The increase in potential market size can lead to increasing returns, economies of scale, and increased capacity utilization. Exposure to world markets may also induce competitive pressures and may encourage innovation and facilitate technological advancement and knowledge spillovers into the domestic economy, leading to efficiency gains in production and management practices (Jordan and Eita, 2007).

Exports also generate the much needed foreign exchange, which can be used to import capital goods and intermediate inputs that are critical to the domestic production of a country. Thus, an expansion of exports will have positive spillover effects on the rest of the economy. These potential benefits of trade have encouraged nations to not only cement existing trading relations but also to look for new trading opportunities (Goldberg & Pavcnik, 2007).

In the case of Ethiopia, in order to realize these benefits the country adopted export oriented growth strategy in 1990s. Since then, Ethiopia has initiated several trade policy reforms aimed at promoting the export sector. Such reforms include the liberalization of foreign exchange rate regime, elimination of export taxes and abolition of taxes on import inputs meant for the export sector. Statutory bodies were also set up to facilitate, coordinate and promote the export sector and attract export-oriented investments (Gorfu, 2012).

Despite such measures Ethiopia's export still has been limited to few primary products, which are mainly agricultural commodities and looking at the last 17 years (2000-2016) data clearly showed the export structure of Ethiopia has been characterized by greater concentration on few traditional exports such as coffee, chat, oilseeds and pulses. According to the information from World Trade Organization (WTO, 2017), the share of Ethiopia's manufacturing export in the total export is only 13.3 percent (implying primary agricultural commodity to be 86.7 per cent) while that of China is 94 Percent in 2016.

In addition merchandize exports in Ethiopia are only about 9.4 per cent of GDP, compared to an average of around 30 percent of GDP in Sub-Saharan Africa. Export levels still fall short of what is registered by other African countries with much smaller populations (such as Kenya and Tanzania both export more than $5 billion per year in 2016 (ITC, 2017). Growth rates are also small if one makes a comparison with Asian countries over a quarter century of long time frame. For example, Ethiopia's total exports were higher than that of Vietnam in the 1980s but are now just a tiny fraction: $2.9 billion in Ethiopia versus $176.8 billion in Vietnam (WTO, 2017).

Similarly, the share of export in import financing (Export/Import ratio) has contracted from 38.6 percent in 1990 to 27 percent in 2000 and further it declined to 17.6 percent in 2016. With regard to share of world export, Ethiopia's share in total world exports is still very low, amounting to 0.02% in 2016 (WTO, 2017).

To address these issues, Ethiopia's national Industrial Development Strategy (IDS) and consecutive GTP I and II provides a guide for the development of the manufacturing industry. The principles of these plans are to build the largest possible extent on linkage between

manufacturing and agriculture, to focus on the development of the most labour intensive sectors to generate employment and to concentrate industrialization efforts on the selected number of sectors that have the largest potential for export growth.

The leather industry is one of the prioritized industries for the diversification of export and foreign exchange earnings (Ministry of Finance and Economic Development, 2010 and National Planning Commission 2016). According to statistical reports of ERCA, the leather sector accounted for 7.2 percent average exports during 2000-2016, its development and promotion may contribute towards achieving the objective of reducing poverty and unemployment by means of high levels of economic participation and income generation. Notwithstanding its dominant position in the industrial sector, the performance of leather sub-sector is not satisfactory given the huge livestock potential and the country's very high demand for foreign exchange earnings.

Such unsatisfactory performance, given the government's endeavor to increase the country's foreign exchange earnings by pursuing concrete policy measures and incentive schemes calls for identification of determinants of export performance in the sub sector . Thus identifying and examining the determinants that significantly affect Ethiopia's leather and leather products export performance helps us to know what explains variation in the sub sector export performance that should facilitate the design of policies to improve the performance.

In addition, having a sounder understanding of the nexus between exports and its determinants is utmost importance to a country's trade policy. Assessing export competitiveness for Ethiopia is critical in the sense that it helps to put measures that can be used to boost the country's economy as well as improving its deteriorating trade balance. This will guide policy formulation which is aimed at improving the competitiveness of domestic producers of Ethiopia's exports.

If exporting countries fail to understand the causes of their export performance, they may develop in the wrong direction by misunderstanding the complex global sourcing trends and determinants for export performance. This will lead them to lose of comparative advantages in the global export competition and experience reduced export performance. Therefore, it is

important to explore the emerging trends in the world market, regarding leather and leather products industries export performance of .that country.

In light of this, the study examined the roles of both external and internal factors affecting leather export performance, namely own GDP and GDP of partners, Foreign Direct Investment, bilateral real effective exchange rate, distance, domestic infrastructure, population and market preference in determining the performance of leather exports in Ethiopia.

1.2 BACKGROUND OF THE LEATHER AND LETHER PRODUCTS SECTOR

For centuries, Leather has been used as necessity for clothing & shelter by man but in recent few decades it has taken a place of status symbol. It has long outgrown in its practical purpose and today is regarded more as a luxury than a necessity, particularly in the wealthy society. A home with leather furniture, a car with leather seats, and a celebrity worn leather jacket indicate status & style. Considered a sub-
industry of the cattle & livestock trade, leather industry is perhaps one of the most versatile. Leather may be tanned and preserved using different methods, dyed a variety of colors, and used for anything from sporting goods to protective covers to fashion accessories.

The Leather Industry plays a significant role in the world economy and it stands as one of the most widely commercialized commodities in the world and the industry accounting for trade flows worth of US $ $233 billion in 2016 spread over 200 exporting countries (ITC, 2017). The ITC data revels that footwear has a share of 57.7 percent followed by leather products with 31.1 percent and raw and finished leather 11.2 percent in 2016. The major 25 importers have a share of 88.7 %, 85.6% and 80.9% for raw hides and skins and leather, leather products and footwear respectively.

Most of the leather producing countries is developing countries, yet China and Italy are the leading producers and exporting nations in the world with share of exports 23.3 and 13 percent respectively in raw and finished leather sub sector in 2016. The industry is buyer–driven, with producing countries manufacturing in line with specifications, guidelines and technical advice provided by the buyer countries.

The Ethiopian leather and leather products industry is relatively an older industry with more than 80 years of involvement in producing leather products. The history of the industry goes back to the establishment of Asco Tannery in 1928 and the subsequent establishment of Asco Shoe factory. The tanning industry in Ethiopia produces and exports all types of finished leather from hides, sheepskins and goatskins (LIDI, 2015).

The industry bases itself on the country's livestock resources. Ethiopia possesses one of the world's largest livestock populations. Ethiopia with 56.7 million cattle, 29.1 million sheep, and 29.3 million goats is eighth, twelfth and eighth place from the world respectively with the share of 2.75 percent from the world total (FAO, 2017). This enormous population of livestock provides ample opportunity for the development of the leather industry in the country.

The sector comprises activities at various levels of value addition. Though there were only few tanneries a decade ago, in the industry there are 29 tanneries 21 medium- and large-scale footwear manufacturers and 19 leather products firms. In addition, about 400 small and micro enterprises and a huge number of small workshops are operating in the leather and leather goods sector in the country. According to LIDI the sector created 22,673 employments and around 6 percent of share from manufacturing GDP (LIDI, 2015).

The leather and leather products sector is the fifth largest export sector of Ethiopia which is considered as highest priority sector of the government for its increasing value addition. Finished leather represents the largest share of Ethiopia's output and export and it accounted for around 60 per cent of total leather-related exports in 2016. The value of exports of crust leather fell from more than $90 Million in 2011 to nil in 2016 after the introduction of a 150% tax on export of semi-finished crust leather in December 2011. In parallel, finished leather exports rose from $25.3 Million to $67.6 Million during the same period, the main destinations being China, Hong Kong, Italy, Thailand India and United Kingdom which constitute 88.8% share (ERCA, 2000-2016).

While Europe had been the main destination until 2011, the United States, China, neighboring Kenya and Canada came to be the main importers of Ethiopian footwear in 2016, according to data from ERCA.

During the last two years of the second Growth and Transformation Plan (GTP II), the low performance of leather and leather products export compared to the plan continued. In 2015/16 the plan was 206.6 million dollar while the actual export was 115.3 million. In 2016/17 the plan was 272.7 million USD with the performance of 114 million USD. In the remaining three years an ambitious plan of reaching 368.1 million USD, 505.0 million USD and 706.5 million USD envisaged in 2017/18, 2018/19 and 2019/20 respectively (Ministry of Trade, 2017).

Despite some limited encouraging results, the leather and leather products industry faces enormous challenges that require grand strategic initiative to address the constraints. The problem of the leather and leather products sector among others includes shortage and low quality of raw materials, high cost and inefficient logistics, transportation and custom services, lack of information, power and water utilities, marketing orientation, lack of skilled human resource (both technical and managerial), low level of technology use and financial constraints which limits the competiveness of the sector (LIDI, 2015).

1.3 STATEMENT OF THE PROBLEM

Leather and leather products sector in Ethiopia is one of the promising sectors to reverse the low performance of export. On the other hand, in spite of the fact that the
Ethiopian leather industry involved more than 80 years in the production of leather and leather products, the industry lacks competitiveness both in the domestic and international markets.

In addition, although the industry has a comparative advantage of producing leather and leather products at relatively lower cost and one of the priority sectors selected by the government for export growth with ambitious targets and promises; as indicated above, the export performance has been consistently below government targets. At the same time, the industry has witnessed erratic export growth over the years. The causes for the underperformance of this sector needs to be looked at more closely.

Moreover, most of the previous studies about determinants of export performance deal with at the firm level for example Berhanu (2005) and Bigsten and Gebreyesus (2009). The ones which were quantitative principally address the export sector as a whole and did not deal with specific sectors ignoring the fact that disaggregating the sector would have different response in export performance and investigate factors internal to the firms for instance, Sisay (2010), Yishak(2009) and Lemlem (2009) . This study, therefore, aims to assess the main determinants of the performance export of leather and leather products sector in Ethiopia at sector level and essentially on external environments.

1.4 BASIC RESEARCH QUESTIONS

From the problem statement the following main and sub research questions come out.

1.4.1 Main research question

What are the determinants of the leather and leather products sector export performance in Ethiopia?

1.4.2 Sub research question

1. What is the relationship between the identified variables and leather and leather products export performance?
2. What can be seen from the export performance of leather and leather products export performance by different measurements?
3. Which destination markets have unrealized potential for Ethiopia's leather and leather products export?

1.5 OBJECTIVES OF THE STUDY

1.5.1 General Objective of the study

The general objective of the study is to investigate the determinants of export performance for the leather and leather products industry in Ethiopia.

1.5.2 Specific objectives of the study

The study problem statement presented above led to the following specific objectives. These objectives are to:

1. Examine the relationship between the factors and leather and leather products export performance;
2. Asses the performance of leather and leather products exports using different measurement;
3. Identify destination markets with unrealized potential for Ethiopia's leather and leather products export.

1.6 SIGNIFICANCE OF THE STUDY

As a consequence of the growing importance of exporting activity, export marketing has become a priority for business community, academics, practitioners and government policy makers. It is expected the study will contribute to their knowledge in the following ways.

The business community, specifically who are engaged in the leather and leather products export or a plan to participate in the sector will be benefited from the results of the present study to make more rational decisions. Identifying the key determinants affecting the performance of leather and leather products export is also very essential to policy makers to support the sector to increase their competitiveness through various means. Thus, the findings from this study will help the country to enhance its competitive power in international trade by understanding the latest determinants for export performance.

The finding of this study could also be an input to support institutions to take the necessary measures to assist the sector to improve the performance of the country's leather and leather products export. The study is also 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 and a basis for further sectoral studies.

1.7 SCOPE / DELIMITATION OF THE STUDY

The study aims to shed light on the quantitative relationships between the leather and leather products export performance of 43 major export market and the independent variable that influences it for a period of recent seventeen years data (2000-2016) in order to provide the most relevant and updated results. Seven independent variables were taken into consideration, i.e. Ethiopia and partners GDP, Foreign Direct Investment, Bilateral Real Exchange rate, Distance, Domestic Infrastructure, Population and Market preference and export of leather and leather products performance as dependent variable.

The study do not covered all possible determinants and there are many other factors such as institutional quality, non tariff barriers etc. These factors might have an impact on Ethiopia's leather and leather exports. However, this study not covered all factors and under this research, impacts of those factors were assumed to be minor or insignificant. Actually, this is an inevitable issue for all researches. In addition, the paper does not deal with the export performance of leather and leather products at firm level.

1.8 DEFINITION OF TERMS

This section defines the key terms relevant to this study as follows;

- Export: - The term export is to ship the goods and services out of the port of a country. The seller of such goods and services is referred to as an exporter who is based in the country of export whereas the overseas based buyer is referred to as an importer. In International Trade, exports refer to selling goods and services produced in home country to other markets. Any good or commodity, transported from one country to another country in a legitimate fashion, typically for use in trade (Edwards and Alves, 2006).

- Exchange Rate:- exchange rate is the price of one currency in terms of another currency (Kaplinsky and Morris, 2008).

- GDP: - is the market value of the goods and services produced by a country. It represents the total dollar value of all goods and services produced over a specific time period. GDP

includes all private and public consumption, government outlays, investments, private inventories, paid-in construction costs and the foreign balance of trade (exports are added, imports are subtracted). GDP is the market value of all final goods and services produced within a country in a given period of time (Walter, 2007).

- Foreign Direct Investment (FDI):- FDI is a direct investment relationship exists between a resident enterprise in one economy and an enterprise that is resident in an economy other than that of the direct investor, when the direct investor has control (over 50% of the voting power) or influence (from 10% to 50%) over the direct investment enterprise. Furthermore, foreign direct investments refer to financial transactions between parties in a direct investment relationship (OECD, 2009).

- Export performance:- Export performance refers to the composite outcome of a firm or a country's international sales which includes export intensity, the ratio of export sales to a country's total sales; export sales, the size of export earnings in dollar value for a country; and export growth, increase of exports over a certain time period (Katsikeas et al., 2000).

- The leather sector covers the products listed in Chapters 41, 42 and 64 of the Harmonized Customs Classification System of the World Customs Organization. The products falls under this category at four-digit level attached as Appendix 1.

1.9 ORGANIZATION OF THE PAPER

This thesis is organized into five chapters. Chapter one provides a brief review of research background, discusses the background of the leather industry , statement of research problem, research questions, objectives of the study, definition of terms, significance of the study and delimitation/scope. In chapter two, review of literature is presented. In this part, theoretical findings from previous research regarding the issue of export performance, the gravity model and the empirical review deals with the results of the model on the determinants of leather and leather products export performance discussed. Testable hypotheses are also formulated based on the theoretical framework.

Chapter three reports the research paradigm, research approach, research design, research strategy, sample design, sources of data, data collection method, data analysis method, specification of the model, specification of the model, validity and research ethics. In chapter four of the study, empirical estimation and interpretation of the result as well as descriptive analysis of the study is presented. Chapter five summarizes, concludes with the thesis findings and recommendations are forwarded. It also addresses suggestions for future research.

CHAPTER TWO

2 REVIEW OF RELATED LITRATURE

2.1 INTRODUCTION

This chapter provides theoretical and empirical literature review that is relevant for this study. It therefore starts with a theoretical literature review followed by empirical one basically deals with export performance and the gravity model both theoretically and empirically.

2.2 THEORETICAL REVIEW

2.2.1 Export performance

Export performance has been extensively studied in export marketing. However, appropriate 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).

As Katsikeas *etal.* (2000, p. 493) state, "export performance is one of the most widely researched but least understood and most contentious areas of international marketing". This fact is due to the rising tendency towards economic globalization, the increasing liberalization of the markets, the economic and monetary unions, and because a great number of countries rely on their export performance to achieve economic growth (Cavusgil and Zou, 1994).

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 (Cavusgil and Zou, 1994; Katsikeas *et al.*, 2000; Shoham, 1998; Sousa, 2004).

The existing lack of consensus results in the absence of a reference framework and in fragmented findings. This reality is prompted by reasons like the lack of homogeneity of research designs, as well as terminologies, the fact that the majority of the studies represent

individual endeavors instead of coordinated efforts, and each study has its own frame of reference (Katsikeas *etal.*, 2000).

Another element that contributes to this controversy is the fact that the dimensions of export performance have different degrees of importance for both the country and investors, also employees and customers (Sousa, 2004), and the objectives of the management, i.e., whether it is short- or long-term oriented (Walker and Ruekert, 1987).

Aaby & Slater (1989) described export performance as the relative success of a country/firm to sell domestically produced goods in other countries. It is also regarded as an indicator of a nation's competitiveness in global markets. In a broader sense, the export performance notion also includes the combination of various factors such as, access to international markets, increasing the market share and the price competitiveness, diversifying the export goods and becoming a brand.

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 vis-à-vis international markets and other factors affecting import condition of foreign countries. Internal factors refer 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 factor related to costs. Besides resource endowment, economic policy and the institutional environment also affect the supply capacity of the country.

Diamantopoulos and Kakkos (2007) states that export performance is the reflex of the results of export behavior when exposed to different firm-specific and environment-specific circumstances. Cavusgil and Zou (1994, p.3) define export performance "as a strategic response by management to the interplay of internal and external forces". Furthermore, these authors establish it as the extent to which a firm's objectives, both economic and strategic, with respect to exporting a product into a foreign market, are achieved through planning and execution of marketing strategy.

In the reviews of export performance made by Katsikeas *et al.* (2000) and Sousa (2004), the authors divide export performance measures into economic, non-economic, and generic ones, in order to operationalize the concept. Katsikeas *et al.* (2000) defend that, regarding economic measures, they can be divided in sales-related, profit-related and market share-related (Sousa, 2004). Market related non economic measures are export country/market number, rate of new market entry compared to competitors, export market penetration, new market (s) exports, contribution of exporting to market development and markets in which exporting was ceased.

When assessing export performance one can use the internal vs. external variables/factors dichotomy (Katsikeas *et al.*, 2000 and Sousa *et al.*, 2008), whose interrelationships influence the performance of exports. Since the area of interest of this study is the external one, the external variables concern the environmental aspect, i.e., the ones that cannot be controlled and that shape the macro-environment in international markets.

All things considered, it can be assumed that export performance is a distinctive concept for each conceptualization; operationalization and measures definition are tailored-made to the reality in study. According to reviews on the topic of export performance, the authors consider performance as a complex, multidimensional phenomenon, which comprises three main dimensions: effectiveness, efficiency, and adaptiveness (Katsikeas *et al.*, 2000; Oliveira *et al*., 2012; and Walker and Ruekert, 1987).

Diamantopoulos and Kakkos (2007) argue that export sales is related to effectiveness, profits are akin to efficiency, and new products are linked to adaptiveness. Oliveira *et al.* (2012) emphasize the importance of the effectiveness of the implementation of export marketing strategy to the success of the performance of the venture of the exporting firm. To sum up, a considerable number of authors apply at least one of these dimensions; effectiveness, efficiency and adaptiveness even if implicitly, in order to assess the export performance.

2.2.2 Gravity model

One of the most successful and popular empirical trade device used for more than four decades is the gravity trade model. Applied to a wide range of variety of goods and factors moving over regional and national borders under different circumstances, it has been used to study a whole range of spatial interactions. In particular, the model has been applied to study the determinants of bilateral trade flows and to assess the impact of various forms of regional economic integration, such as the creation free trade area and customs union (Ghosh and Yamarik, 2004) .

The gravity model first proposed by Tinbergen in1962 to explain the pattern of trade by one country is considered to be similar to the Newton's gravitational law. According to the basic model, the size of the economy of exporting and importing country is the attractive factor in determining a country's trade pattern whereas the geographical distance between a country pair is the unattractive factor. It utilizes the gravitational force concept as a comparison to explain the volume of trade, capital flows, and migration among different countries of the world and the basic tenet of the model is derived from the gravity theory in physics (UNCTAD, 2004).

After the initiative works by Tinbergen the gravity models have been widely used in empirical studies of international trade. Nevertheless, the model have been subjected to criticism for their lack of clear theoretical foundation. In other words, they have been considered as simple perception derived from the physical forces of attraction and repulsion. As a result, gradual improvements have been made overtime to fill the theoretical gap and thus to improve the explanatory power of the model (Alemayehu and Atnafu, 2008).

The first important consideration in the improvement of the gravity model is the addition of relevant variables which may explain trade across countries or regions. Explanatory variables like population size, GDP per capita and real exchange rate have been used to the gravity models by different researchers at different time (Elliott and Ikemoto, 2004). In addition, some dummy variables have been incorporated to capture geographical, cultural, institutional and related factors that may influence bilateral trade flows (Aitken, 1973).

Other potentially relevant factors which may impede trade are import duties, border controls, quantity restrictions, language, and in the contemporary world, non-tariff barriers (NTBs) such as Sanitary and Phytosanitary Standards (SPS) are also common trade hindrances. Overall, in many empirical applications, gravity models have proved to have significant explanatory power, leading Deardorff (1998) to refer to these models as the fact of life.

Helpman (1987) also extended the use of gravity equation based on monopolistic competition model. However, the product differentiation among the producing firms is assumed instead of product differentiation by country of origin. Monopolistic competition was intended to explain the argument that different countries specialize in production of differentiated products because of the economies of scale at the firm level.

In a nutshell, although a number of trade models have contributed to the empirical the success of the gravity equation, two of them are worth mentioning. First, the importance of the H-O theory lies in explaining bilateral trade flows among countries with large factor proportion differences and high shares of inter-industry trade (so-called North-South trade). Second, the differentiated product model would be responsible for explaining bilateral trade flows among countries with high shares of intra-industry trade in increasing returns with monopolistic competition (Sohn, 2001).

The final consideration relates to the ways of analyzing trade flows using the gravity model. The major drawbacks of earlier studies emanate from the nature of the data used and model restrictions. That is, much of the studies have been undertaken based on cross-section of country data in one time period, or upon single time series data in a country-by-country approach. However, in order to account for heterogeneity across countries in trade flows, recently gravity models have been modified to a panel data setting, in which case several time series of cross-section data sets would be considered (Harris and Matyas, 1998).

However, the intuitive gravity model is not free of difficulties once more advanced concepts from the trade literature are introduced. As one example, consider the impact on trade between countries i and j of a change in trade costs between countries i and k. An example of such a change might be that countries i and k enter into a preferential trade agreement that

lowers tariffs on their respective goods. Basic economic theory suggests that such a move may well impact the trade of country j, even though it is not party to the agreement. The well-known concepts of trade creation and trade diversion are examples of such effects. However, the intuitive gravity model does not account for this issue at all. Reducing trade costs on one bilateral route therefore does not affect trade on other routes in the basic model, which is at odds with standard economic theory (Shepherd, 2012).

Due to some of the stated and other limitations of the basic gravity model two approaches developed. These are an outward multilateral resistance captures the fact that exports from country i to country j depend on trade costs across all possible export markets and inward multilateral resistance captures the dependence of imports into country i from country j on trade costs across all possible suppliers (Anderson and Van Win coop, 2004) .

Gravity model has been used in several studies covering all areas of trade. It is of particular interest to policy researchers because it makes it possible to estimate the trade impacts of various trade-related policies, from traditional tariffs to new behind-the-border measures. With data increasingly available globally, the gravity model has come to be the starting point for a wide variety of research questions with a policy component (Shepherd, 2012).

Shepherd further indicated that the Gravity model provides a convenient testing mechanism which assesses the trade impacts of different policies. Gravity models now routinely include variables far beyond those such as tariffs, which are imposed at the border, to cover behind-the-border barriers as well. Regulatory policies, as well as deep political and institutional characteristics of countries, have been shown to influence trade as modeled in the gravity framework.

On the other hand, one of the oldest and most prominent uses of the gravity equation has been to estimate the impacts of economic integration agreements (EIAs) – notably, free trade agreements (FTAs), customs unions, and other forms of preferential trade agreements (PTAs) on trade.

It is regularly used to estimate the impact of trade agreements, exchange rate volatility, currency unions, the ‘border effect’, common or related language usage and even the impact

of religion and war. The Gravity equation has also been used extensively for understanding the determinants of observed bilateral foreign direct investment and migration flows, although to an extent less than for trade flows. The recent gravity model estimations mostly use panel data rather than cross section data (Salvatici, 2013).

The popularity of the model rests on the fact that international trade flows are a key element in all manner of economic relationships, so there is a demand for knowing what normal trade flows should be, the data necessary to estimate it are now easily accessible to all researchers and a number of high profile papers have established the gravity model and establish a set of standard practices that are used to address the ad hoc empirical choices that face any empirical researcher (Baldwin and Taglioni, 2006).

Trade flow modeling has been extensively researched throughout the past three to four decades using two methods, simulation models and econometrics. The main underlying difference between both the models is simulation models aim at studying and analyzing the trade flow and its impact, whereas econometric models attempt to make future predictions based on past trade flow patterns. Econometric approaches for modeling trade flows have focused on the gravity model specification because of the robust performance of the model and the limited need for parameter assumptions. Consequently, numerous studies on gravity models and their application in trade flows have emerged during the last decade and for the same reasons of robustness and simplicity, this paper utilizes the gravity model of trade.

2.3 EMPIRICAL REVIEW

The gravity model has been extensively used in analyzing the pattern and the determinants of trade flows of countries particularly in Europe, Latin America, and Asia. For example, Gani (2008) applied the gravity model to examine the factors influencing trade between Fiji and its Asian partners, using a panel data for the period 1985 to 2002. The results suggested that Fiji's exports are significantly influenced by Fiji's infrastructure, the distance to export markets, and the real exchange rate. On the other hand, Fiji's and its partners' GDPs were found to be statistically insignificant. Further, the study fails to account for the possible influence of regional trade agreement on Fiji's bilateral trade flows.

In a similar study, Roy and Rayhan (2011) analyzed the determinants of trade flows in Bangladesh through gravity model panel data approach. This study covered a total of countries including Bangladesh and other 13 countries that have bilateral trade agreement with Bangladesh, namely South Asian Association for Regional Co-operation (SAARC). The data collected for the study spanned from the period of 1991 to 2007. Results of the study showed that Bangladesh's trade flows were significantly determined by the size of Bangladesh's economy and that of its partners, openness of the partner's economy and exchange rate. In addition, the cross-sectional results showed that membership of SAARC and borders were significant determinants of Bangladesh's trade flows.

In Korea, Sohn (2005) used the gravity model to explore the determinants of Korea's bilateral trade flows and to extract implications for Korea's trade policy. In this paper, new explanatory variables, such as the Trade Conformity Index (TCI) and Asia-Pacific Economic Cooperation (APEC) membership, were also included in order to examine the peculiarity of Korea's trade patterns and to estimate the influence of a regional economic bloc on Korean bilateral trade flows. The study was based on a 1995 cross-country data on bilateral flows between Korea and its major 30 trading partners, their GDPs, their per capita GDPs, and distance between them. Results showed that the coefficient of Korea's trade structure variable (TCI) was significantly positive suggesting that inter-industry trade, as explained by the Heckscher-Ohlin model, is prevalent in Korea's international trade. APEC variable showed a significant positive effect on Korea's trade volume.

Rahman (2009) applied generalized gravity models to explore Australia's global trade potential with its 57 trading partners for the period of 1972-2006. In this study, the standard gravity model was 'augmented' by including GDP per capita of Australia and its partners, the per capita GDP differential between Australia and its partners, openness of its partners and dummies for common language and RTA membership. By employing panel data estimation techniques to estimate the specified model, the estimated coefficients were then used to predict Australia's trade potential. The results revealed that Australia's bilateral trade is affected positively by income, openness of trading partners, common language and free trade

agreement, and negatively by the per capita income differential and distance between Australia and trading partners.

Some empirical studies have also been carried out to analyze the determinants of bilateral trade flows of African countries and the performance of regional trade blocks in Africa, using the gravity model framework. In investigating the determinants of Namibian exports, Eita (2008) employed an extended version of the gravity model, using a panel data covering 39 countries for the period 1998-2006. In this study, Eita modeled Namibia exports as a function of its GDP and per capita GDP and those of its major importers, distance between them and exchange rate.

Dummy variables were also incorporated in the Namibia's export model to capture the effects of sharing a common border with Namibia, and belonging to the Southern African Development Community (SADC) and European Union (EU). The results showed that an increase in Namibian GDP and importer's GDP caused an increase in Namibian exports. Membership of SADC, EU and sharing a border with Namibia were also found to positively and significantly promote Namibia's exports. On the other hand, importer's GDP per capita and distance were found to have a negative impact on Namibia's exports. Real exchange rate and Namibia's GDP per capita did not have any significant impact on exports.

A similar study was conducted in Ethiopia by Yishak (2009). The model was estimated by applying the Generalized Two Stages Least Squares technique on a panel data covering 30 Ethiopia's trading partners spanning for the period 1995–2007. The results suggest that supply side conditions are a major factor for Ethiopia's export performance. Good institutional quality and internal transport infrastructure appear to be major determinants, where as the real exchange rate and FDI have no statistically significant effect on Ethiopia's export performance. Furthermore, the growth of domestic national income affects Ethiopian exports positively. With respect to foreign market access conditions, the results indicated that distance and import barriers imposed by Ethiopia's trading partners do play an important role in determining the volume of Ethiopian exports.

Overall the literature shows that exports/trade of various countries are determined by various factors in the economy. From the literature review, different researchers have used different variables to analyze the determinants of exports/trade in various countries. The literature show that very little has been done to analyze the determinants of leather and leather products exports particularly for Ethiopia.

2.4 EXPLANATION OF VARIABLES AND FORMULATION OF HYPOTHESIS

2.4.1 Gross Domestic Product (GDP) and Export Performance

The size of the exporting and importing countries which is represented by GDP or population of the countries is 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 in exporting country and can be interpreted as a proxy for the range of product varieties available, which increases the availability of exports.

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.

The standard gravity model predicts that economic size has a positive impact on trade (Evenett and Keller, 1998). The GDP of an importing country controls the demand side conditions. Higher income of importing countries boosts the affordability of their economies for imports.

Hypothesis 1: Gross Domestic Product has significant effect on leather and leather products export performance of Ethiopia

2.4.2 Foreign Direct Investment and Export Performance

Following the liberalization processes that began in 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.

There is a widely shared view that FDI promotes exports of host countries by enhancing domestic capital for exports, helping 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).

Hypothesis 2: Foreign Direct Investment has significant effect on the leather and leather products export performance of Ethiopia

2.4.3 Bilateral Real Exchange Rate and Export performance

It is believed that the devaluation of the currency exchange rates is one of the key factors that should be responsible for the growth of exports values (Athukorala & Suphachalasai, 2004). Edwards and Alves (2006) found that domestic exporters are price-takers in the international market and the export prices would rise with the depreciation of the exchange rates.

A possible explanation for the positive relationship between exchange rates depreciation and export performance is exchange rates depreciation raise the profitability of export supply (Edwards and Alves, 2006). Since labor-intensive industry, appear to be particularly sensitive to the exchange rates changes, producers in developing countries experience lost profits and even a breakdown, due to a rising exchange rates in global trade (Kaplinsky Morris, 2008).

However, contrary opinions indicate the increase of exchange rates shrinks income and then income's effect will lead exporters to export even more to avoid the utility depression effect of a large reduction in their export earnings (Kasman & Kasman, 2005). Furthermore, for researchers who agree there exists effects of exchange rates on the goods exports performance, they still do not believe it is the critical factor, since the influences of labor costs and numbers of employees are more significant (Gerard, Byron, & Yochanan, 2006).

However, most of the study incline that exchange rate has a positive influence to export performance. This leads to the formulation of the following hypothesis.

Hypothesis 3: Real exchange rate has significant effect on leather and leather products export performance of Ethiopia

2.4.4 Distance and export performance

Bilateral distance between two countries is generally associated with transportation costs i.e. more distance suggests greater transit costs. Obstfeld and Rogoff (2001), among many others, maintain that distance represents transport or freight costs. However, as noted by many authors, the costs of distance may extend well beyond freight charges, to include cultural dissimilarity and other difficult to measure barriers (Hummels, 1999).

The rationale for including distance as a proxy for trade costs in gravity type estimations is straightforward. It appears that distance impedes trade to a surprising extent. One of the most popular and robust finding in international trade is that distance has negative impact on trade. It is clearly less expensive to ship from Ethiopia to Kenya than from Ethiopia to South Africa because each kilometer travelled requires greater fuel, manning and capital expenses.

Thus, as distance between trading partners increases, export flows are expected to decline. In this case, theory predicts a negative relationship between export trade and distance.

Hypothesis 4: Distance has significant effect on leather and leather products export performance of Ethiopia

2.4.5 Domestic infrastructure and export performance

One of the major factors affecting export supply capacity is the domestic transport infrastructure development is 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 (e.g., Liamao and Venables 2001; Vijil and Wagner 2012). Weak infrastructure is a major impediment to trade, competitiveness and sustainable development in most African countries, particularly land locked and small Iceland countries Francois and Manchin (2013).

Improvements in infrastructure can lead to improvements in export performance. Limao and venables (2001) show that infrastructure is quantitatively important in determining transport cost. To measure infrastructure, perhaps the most readily available data is from the World Development Indicators database and it is taken from the percentage of paved roads out of total roads in Ethiopia.

Hypothesis 5: Domestic infrastructure has significant effect on leather and leather products export performance of Ethiopia

2.4.6 Population and export performance

Population is used as a measure of country size, and larger countries, as measured by population, are assumed to have more diversified production. A negative correlation will be expected between population and export trade in such a scenario.

However, Bergstrand (1985) pointed out that there is an inconsistency in this argument, as larger populations allows 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 hypotheses that population size and population density are positively related to the performance of manufactured exports in developing countries, Thomas (2004). This indicate the increment in number of population results an increasing the active labor, then this leads to the manufacturing industries get labour in the cheaper price

Hypothesis 6: Population has significant effect on leather and leather products export performance of Ethiopia

2.4.7 Market preference and export performance

Tariff could be said to represent the most direct evidence on trade costs. In the simplest terms, a tariff is a tax that adds the cost of imported goods and is one of several trade policies that a country can enact. Successive rounds of multilateral trade negotiations have helped to achieve

a reduction in import duties and also create a condition for preferential market access (Anderson and Wincoop, 2003).

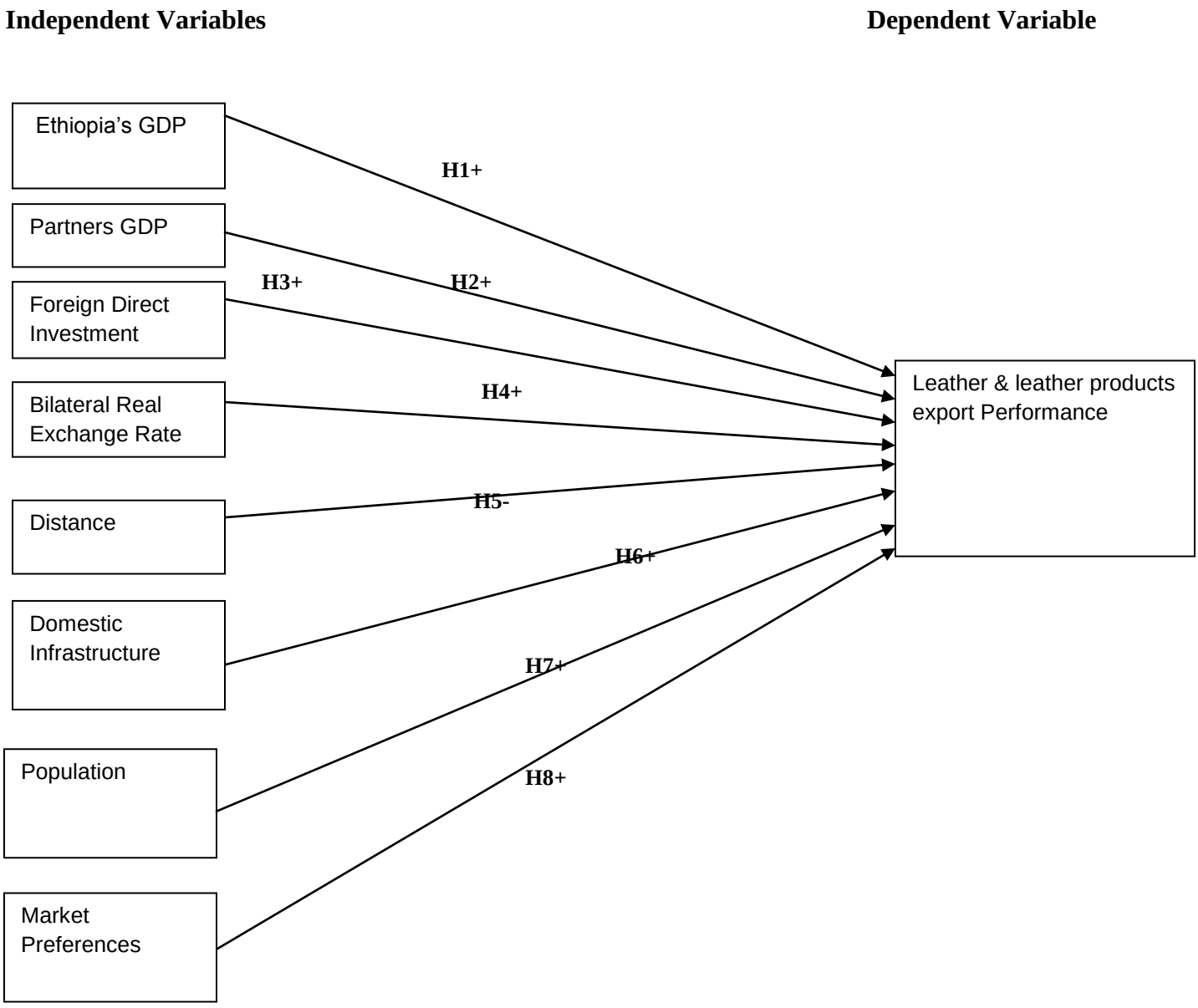
Preferential tariff system provides for a formal system of exemption from the more general rules of the World Trade Organization (WTO). Many developed and developing countries grant General System of Preference (GSP) for the least developing countries. The improved access to international markets can contribute to the expansion of the external sector at all stages of its structural UNCTAD (2004). This study used Market Preferences as dummy variables**.**

Hypothesis 7: Market preference has significant effect on leather and leather products export performance of Ethiopia

Regarding the dependent variable the literature review found out many researchers used different types of measurements and apply at least one of dimensions from effectiveness, efficiency and adaptiveness even if implicitly, in order to assess the export performance. As explained earlier Diamantopoulos and Kakkos (2007) argue that export sales is related to effectiveness, profits are akin to efficiency, and new products are linked to adaptiveness. This thesis follows the same method in measuring the performance of leather and leather products.

2.5 CONCEPTUAL FRAMEWORK

The independent variables and their relationship with the leather and leather products export performance is depicted in the diagram below.



Source: Adapted from Tesfom and Lutz (2006)

CHAPTER THREE

3. RESEARCH DESIGN AND METHODLOGY

3.1 INTRODUCTION

The previous chapter have provided that the context for review of literature. This chapter moves on to explain how research is designed and provides discussion of the methodology adopted to achieve the desired outcomes and is organized as follows. It describes the research paradigm, approach, research design, strategy, sampling design, data sources, methods of data collection, data collection instrument, data analysis methods adopted, test of validity and reliability and research ethics used in the whole process of the study. It is intended to give a clear direction to the researcher and readers on how the study done.

3.2 RESEARCH PARADIGM

One of the key factors in the design of the research methodology for this study was the determination of which paradigm(s) to use in addressing the research problem.
There are five competing paradigms in informing and guiding inquiry: positivism, post-positivism, critical theory, constructivism, participatory and mixed methods.

The quantitative research methods are associated with the positivism tradition. Based on these grounds, this study adopted positivist approach to investigate the determinants of export performance in the context of leather and leather products sector in Ethiopia.

3.3 RESEARCH APPROACH

The study followed explanatory research approach. It intends to see the causal relationship between Ethiopia's and partner countries GDP, Foreign Direct Investment, Bilateral real exchange rate, distance to markets, domestic infrastructure, population and market access preference with export performance of leather and leather products sector of Ethiopia.

3.4 RESEARCH DESIGN

The study used quantitative research design. This design has found to be suitable for this exercise as it was less costly in-terms of time and fund during data collection. The study will employ secondary data collected from various sources mainly from Ministry of Trade, Ethiopian revenue and Customs Authority, National Bank of Ethiopia, Leather Industry Development Institute (LIDI), Ethiopian Leather Institute Association (ELIA) and Central Statistical Agency (CSA). International sources including World Trade Organization, World Bank, International Trade center etc is used. In addition, reports, different articles, journals, master thesis, PhD dissertation, have been used to enrich the information.

3.5 RESEARCH STRATEGY

A research strategy followed was primarily read and took note many related research works to conduct a literature review to investigate the gaps and to understand the factors that may contribute in improving export performance. Informally discuss with experts in the area. Once the currently available literature reviewed then hypothesis formulated followed by selection of appropriate model for the study.

Through the information collected from secondary sources a gravity equation explaining bilateral exports within the sample is estimated. In addition, actual bilateral exports are simulated to asses bilateral export potential. Descriptive analysis is also made in order to realize the leather and leather products export performance in terms growth, intensity, product and market variables. Recommendations made based on the result provided to policy makers, exporters and other concerned stakeholders on the understanding of the determinants through it on how to improve the performance.

3.6 SAMPLING DESIGN

3.6 .1 Target Population

Target population refers to all the members who meet the particular criterion specified for a research investigation. In this study case, the criteria for target population is the countries who

are importing leather and leather products from Ethiopia at least once in 2000-2016 period. In this study case country who imported leather and leather products from Ethiopia were 121.

3.6.2 Sampling Frame

The sampling frame for the study is all countries and territories in the world who are participated in the import of leather and leather products.

3.6.3 Sample size

The sample was comprised of leather and leather products destination market in the in the period from 2000 to 2016 which are listed as an importer at least in half of the period. There were 121 leather and leather products importer countries from Ethiopia on this list. However, as 78 of these countries had imported less than half of the study period, they were eliminated from the sample.

As a result, the sample size of the study is Ethiopia's 43 major trading partners of leather and leather products importers. These countries chosen based on the importance of trading partnership with Ethiopia which have more than 95 percent of market share in the last 17 years and the availability of other required data . The selected countries are attached as appendix I.

3.6.4 Sampling technique

The sampling technique is judgment sampling which involves the choice of subjects who are most advantageously placed or in the best position to provide the information required.

3.7 SOURCES OF DATA

Secondary data were collected from the government of Ethiopia as well as the inter-national institution databases are used in this paper. The data on leather exports is obtained from Ethiopian Revenue and Customs Authority. Total population collected and bilateral real exchange rate calculated from World Bank database of World Development Indicators (WDI). The variable distance data between Ethiopia and respective importing countries was

extracted from http://www. timeandate.com website and is computed as distance in kilometers between capital cities. Ethiopian domestic infrastructure is collected from World Bank which is measured by taking percentage of paved roads out of the total road.

Data on Gross Domestic product as proxy to income and population as proxy for market size collected from different reputable international organization from IMF World Bank. The information about the different GSP programs obtained from: the website of the UNCTAD, WTO and Ministry of Trade files.

3.8 DATA COLLECTION METHODS

The study uses secondary sources and methods of collection include visiting the respective institutions physically, by sending an e-mail request to get a data and accessing the online data on the website.

3.9 DATA ANALYSIS METHODS

The purpose of the research is to develop and estimate some equations for explaining the determinants of export performance in the leather industry. Regression model is appropriate choice. In addition, regression analysis is based on the broader methodological viewpoint of the research, namely, the predictive ability criterion, and can provide future managerial and theoretical implications.

The analytical tools used to address the research questions in this study was multiple regression. The statistical procedure models the relationship between a given dependent variable(Y) i.e. leather and leather products export performance and a set of independent variables XI, X2, X3 X4 ... X8) indicted above.

Panel data used to analyze the determinants of export performance for the leather industry by considering major export partners. The STATA VESRION 14 software utilized in the data analysis. To answer the four research questions indicated above a regression analysis conducted to describe the determinants of export performance on leather and leather products.

Hence, multiple regressions analysis done to examine the simultaneous effects of several independent variables on a dependent variable. The relationship was expressed in a mathematical equation, which gives the basis of estimating the value of dependent variables based on the value of independent variables.

In addition, descriptive analysis is made on export performance, including export intensity, export values and export growth, export market share, export market share growth, market diversification and product diversification of leather and leather products using tables, graphs and charts.

3.10 SPECIFICATION OF THE MODEL

Major factors affecting Ethiopia's leather export performance could be distinguished between supply capacity (internal) and market access conditions (external). Given the above stated variables identified based on a reviewed literatures and existing theories in international trade, an augmented Gravity model of Ethiopia's leather export to major destinations specified in the following way;

LEAEXPij= f (MAij, SCij)..... (1)

Where, LEAEXPij is Ethiopia's (i) Leather and leather products export to its major destination (j), MA is market access conditions and SC is export supply capacity.

On the other hand, the function for foreign market access conditions can be written in the following way;

MAij include GDPj, WDISTij MAPREFj.

On the other hand, SCij includes, GDPi, FDIi, BRERij, DOTRINFi.

Therefore, an augmented Gravity model of Ethiopia's leather and leather products export to major destinations for this study in its logarithmic form is given by:-

$$LnLEAEXPij=\alpha+\beta1lnGDPi+\beta2lnGDPj+\beta3lnFDIi+\beta4lnBRERijt+\beta5lnWDISTijt+ B6lnDOTRINFi+ \beta7POPj +\beta8MAPRFij +eijt \quad (2)$$

Where;

LEAEXPij is Ethiopia's Leather and leather products export in US$ million at time t

GDPi is Ethiopia's Gross domestic Product in US$ million at time t

GDPj is partner country's Gross domestic Product in US$ million at time t;

WDISTij) indicate is Weighted Distance between Ethiopia and partner country at time t;

FDIi is foreign direct investment inflow in US$ million at time t;

BRERij indicate Bilateral real exchange rate between Birr and partner country's currency at time t;

DOTRINFi indicate Ethiopia's domestic transport infrastructure captured by the percentage of paved roads out of the total roads at time t;

POPj indicates Population of partner country;

MAPREFj indicates market preference provided by partner country ;

eijt represents error term

3.11 VALIDITY

The study employed different tests after estimating and selecting the model that best fits the data, the estimation procedures and diagnostics so as to get robust results. Thus, the study undertook the following tests and in order to deal with the bias.

i. Normality Tests

One of the assumptions in panel regression analysis is whether variables in the model are obtained from normally distributed population or not. If the disturbances are normal allows exact inference about the estimate and standard error of estimated coefficients. The study employed the relevant normality tests.

ii. Test for Multicollinearity

Multicollinearity referees to the situation where two or more of the predictors in a regression model are highly correlated. It implies that one can be linearly predicted from the others with a substantial degree of accuracy. In presence of multicollinearity, the coefficient estimates of the multiple regressions may change erratically in response to small changes in the model or the data. It also limits the research conclusions to be drawn (Wooldridge, 2013). If there is multicollinearity in the model, the estimated coefficients possess large standard errors (in relation to the coefficient themselves), which means the coefficients cannot be estimated with great precision or accuracy (Gujarati, 2009). To alleviate this problem one or more of the correlated variables must be dropped from the model. Therefore, the study checked for the presence of Multicollinearity in the model.

iii. Heteroskedasticity test

The test for heteroskedasticity investigates whether the variance of the error in the model are constant or not. In a presence of heteroskedasticity, the estimators are no longer of minimum variance or efficient. As a result, the tests based under the standard assumptions may not be reliable, resulting in erroneous conclusions regarding the statistical significance of the estimated regression coefficients.

Assuming homoskedastic disturbances when heteroskedasticity is present will still result in consistent estimates of the regression coefficients, but these estimates will not be efficient. The loss of efficiency leads to biased standard error and hence the inferences from this estimate become invalid (Baltagi, 2005). Under this test the null hypothesis is the error term is homoskedastic while the alternative is heteroskedasticity of the error term.

iv. Test for Autocorrelation

Autocorrelation normally occur while employing in long panel data. This problem occurs when two or more consecutive error terms are correlates. If there is autocorrelation problem in model, the estimator no longer efficient. In consequence, the tests may not be valid. When the covariance between two or more consecutive error terms is correlated the error term is subject

to autocorrelation. If there is autocorrelation in the data the estimates become inefficient and standard errors are estimated in the wrong way. Thus, the study conducted this test.

v. Panel Unit Root Test

In regression analysis involving time series nature, a critical assumption is that the time series under consideration is stationary. Broadly speaking, a time series is stationary if its mean and variance are constant over time and the value of covariance between two time periods depends only on the distance or gap between the two periods and not the actual time at which the covariance is computed (Guajarati, 2009).If two or more non-stationary time series, regression analysis involving such time series may lead to the phenomenon of fake or nonsense regression.

Testing for unit roots in panel data models is necessary to apply appropriate estimation technique accordingly. There are a variety of different tests with panel data methods are available. Among others, Levin-Lin-Chu and Hadri LM test unit-root test the commonly test method in most papers.

Lin and Chu (LLC) suggested a test for unit root for panel data model with fixed effects, individual deterministic trends and heterogeneous serially correlated errors. It also suggests a more powerful panel unit root test than performing individual unit root tests for each cross section and the test requires strongly balanced data. The null hypothesis is that each individual time series contains a unit root against the alternative that each time series is stationary (Baltagi, 2005).

3.12 RESEARCH ETHICS

It is known that research need certain level of ethical consideration. One of the most important should be absolutely no distortion in reporting the data collected during the study. It is also crucial to acknowledge all the sources used in the study.

CHAPTER FOUR

4. RESULTS AND DISCUSSION

In this chapter, reports of the results of hypothesis testing presented. The chapter further examines the impact of determinants of leather and leather products export performance of Ethiopia. But, first descriptive analyses on characteristics of trading partners and export performance, including, export values and export growth, export market share, export market share growth, market diversification, product diversification and export intensity of leather and leather products were presented.

4.1 Descriptive analysis characteristics of trading partners and export performance

Table 1: Characteristics of the trading partners

Variable	Mean	Standard deviation	Minimum	Maximum
Leather and leather products export ('000' USD)	2,062	5,830	0.0010	45,119
Distance (km)	5,582	3,075	559	13,461
GDP of trading partners (Billion USD)	1,150	2,477	0.6	18,624
Population of partners (Millions)	102	259	0.717	1,379
Foreign Direct Investment (Million USD)	70	141	0	555

Source: Own computation from the data set

For the entire study period, Ethiopia's mean population was 83.7 million people as compared to about 102 million people (mean) from her trading partners . However, of all the trading

partners, China registered the largest populations estimated at 1,379 million people. Djibouti was also noted to having had the smallest population of about 0.7 million people as compared to 1.4 billion people, the largest population from China. The results from table 1 also show that the mean distance of all trading partners was about 5,582 kilometers away from Addis Ababa. Djibouti is the closest trading partner at 559 kilo meters away from Addis Ababa while USA is the most distant trading centre at approximately 13,461 kilo meters away from Addis Ababa.

The table further shows that over the years, China had the greatest export market for Ethiopia worth more than 45 million US Dollars while Swaziland registered the lowest export destination on average worth about 27 thousand US Dollars only. Regarding GDP of partners Djibouti had the least GDP of about 0.6 billion USD while USA had the largest GDP of over 18 trillion.

On the other hand, there are a variety of measurement to see the export performance of leather and leather products. The simple performance measurements are the value of exports and its growth, a simple count of how many products at the Harmonized System (HS) and leather products Ethiopia exported in a given year and the number of destination markets leather and leather products exporters export to.

Export value is the size of export earnings in dollar value for a country which is an indicator to directly measure a country's export performance. The export of leather and leather products 47.7 million U.S.D. in 2000 and reached a maximum of 131.9 million U.S.D. in 2013. The recent data of 2016 showed that the amount of money fetched from the sector was 111.2 million U.S.D. The foreign exchange earnings from the sector was only 63.5 million U.S.D. more after fifteen years. When we see the different categories of the sector the value of footwear increased substantially from a mere 95 thousand USD in 2000 to 36.8 million USD in 2016.

The table below shows the total export, leather and leather products and its main categories export performance for the year 2000-2016.

Table 2:- Leather and leather products exports in value

Year	Total export in USD	Growth in %	Leather and leather products in USD	Growth in %	Share of different categories of leather sector in %		
					Raw and finished leather	Leather articles	Footwear
2000	482,208,308.02	-	47,652,259.65	-	99.8	0	0.2
2001	453,629,175.77	-5.9	77,772,681.13	63.2	99.8	0	0.2
2002	473,855,023.22	4.5	64,411,924.10	-17.2	99.9	0	0.1
2003	581,545,810.57	22.7	57,684,043.71	-10.4	98.3	0	1.7
2004	615,752,578.36	5.9	68,667,465.12	19.0	99.2	0.1	0.7
2005	896,631,487.67	45.6	71,956,095.22	4.8	98.7	0.1	1.3
2006	999,387,458.24	11.5	83,964,370.64	16.7	96.4	0	3.5
2007	1,183,268,582.46	18.4	100,493,469.33	19.7	91.7	0.2	8.1
2008	1,542,860,713.62	30.4	101,593,430.69	1.1	90.4	0.1	9.5
2009	1,493,635,742.93	-3.2	48,751,035.85	-52.0	85.8	1.0	13.2
2010	2,147,314,404.94	43.8	73,154,831.72	50.0	88.6	0.8	10.6
2011	2,542,304,496.32	18.4	130,296,041.83	78.1	93.0	0.5	6.5
2012	2,741,297,675.80	7.8	101,421,705.74	-22.2	83.3	2.8	13.9
2013	2,591,041,908.59	-5.5	131,893,086.53	30.0	76.6	2.4	21.0
2014	2,977,916,071.87	14.9	125,480,422.74	-4.9	71.4	3.9	24.7
2015	2,697,079,937.16	-9.4	126,616,305.52	0.9	69.0	4.6	26.4
2016	2,615,930,716.16	-3.0	111,192,963.00	-12.2	60.2	6.7	33.1
Average	**1,590,332,947.00**	**12.3**	**89,588,360.70**	**10.3**	**88.4**	**1.3**	**10.3**

Source: - Own computation from ERCA data (2000-2016)

It also possible to see the performance of leather and leather products export through export growth. Export growth is the increase of exports over a certain time period that reflects the changing rate and developing trends of export values. From the above table it can be seen that the growth of the sector over the beginning and the last year was 133.3 percent while the total export grew almost four times at 442.5 percent on the same period. In terms of average growth the leather and leather products sector export grew at 10.3 percent compared to 12.3 percent growth of the total export this shows that the growth of leather and leather products at less percent.

The following table shows export growth rates of 5 African developing countries compared to Ethiopia and the world total growth of the industry from 2001 to 2016. Means of export growth rates for the countries and the world are calculated.

Table 3:- Export growth of selected African countries and the World

Year	World	Ethiopia	Egypt	Kenya	Morocco	South Africa	Tunisia	Mean	SD
2001	-	-	-	-	-	-	-	-	-
2002	1.2	-17.2	6.5	-51.4	5.7	-3.6	1.6	-8.2	20.7
2003	10.5	-10.4	2.4	186.2	15.7	1.3	17.0	31.8	68.7
2004	11.4	19.0	2.1	22.9	4.6	10.5	3.0	10.5	8.0
2005	8.1	4.8	3.5	13.0	10.5	-2.7	5.7	6.1	5.1
2006	10.1	16.7	2.7	14.6	8.9	3.0	3.7	8.5	5.7
2007	12.4	19.7	29.9	36.3	17.9	16.1	24.2	22.4	8.4
2008	7.7	1.1	102.8	0.2	7.7	-13.7	7.5	16.2	38.9
2009	-14.6	-52.0	73.1	-30.3	-3.1	-23.2	-17.7	-9.7	39.5
2010	22.3	50.1	36.4	47.1	2.1	137.0	12.3	43.9	44.7
2011	18.9	78.1	9.2	29.8	-13.5	25.9	7.4	22.3	28.5
2012	2.9	-22.2	26.5	14.8	-15.8	-3.2	-11.9	-1.3	17.4
2013	9.5	30.0	43.4	4.3	8.5	30.9	-4.4	17.5	17.3
2014	6.4	-4.9	12.6	-11.7	4.1	-4.8	1.1	0.4	8.2
2015	-6.4	0.9	-20.3	-3.6	-15.6	-18.1	-17.0	-11.4	8.3
2016	-1.7	-12.2	-24.9	-20.4	1.8	-5.5	1.2	-8.8	10.6
Mean	6.6	6.8	20.4	16.8	2.6	10.0	2.2		
SD	9.4	31.2	33.6	53.5	10.5	38.2	11.6		
MAX	22.3	78.1	102.8	186.2	17.9	137	24.2		
MIN	-14.6	-52	-24.9	-51.4	-15.8	-23.2	-17.7		

Source:-Own computation from ITC trade map (2017)

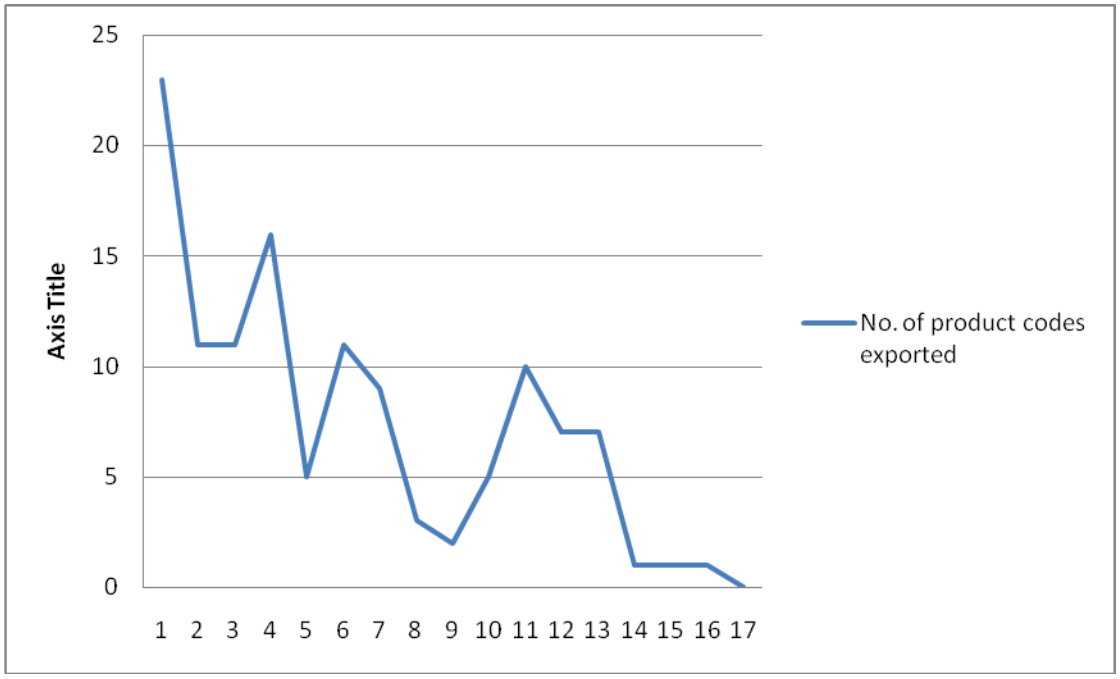
Among the 6 countries which competitively exported leather and leather products, all countries and the world total had positive mean leather and leather products export growth rates during the period 2001-2016. The growth rates for the world were positive and larger than the growth rates means of Tunisia and Morocco during the research period. Although Egypt had a negative export growth rates for seven years in the study period, the mean growth rate was larger than growth rates means of Ethiopia. Ethiopia had registered negative leather and leather products export growth rates for six years and the mean growth rate was closer to the world. These result indicated the African countries maintained growth trends in the industry exports registered a positive mean growth rates during the period 2001-2016.

The mean of all countries leather and leather products export growth rates were positive for most of the years, which revealed a growth trend in leather and leather products exports from 2001 to 2016 in general. The export growth rate was negative for all countries in 2009 except Egypt. Therefore, the economic crises affect all countries, however the effect was very severe for Ethiopia with -52.0 % negative growth rate in 2009.

Regarding the number of export products, over the last 17 years (2000 – 2016), Ethiopian exporters participated as a whole in 123 HS 6 level products out of 132 products codes registered in the world imports and on average only 46 products annually exported from Ethiopia out of the total number of products mentioned above.

Figure 1 below shows that there is significant leather and leather product deaths over the study period and the range of products exported were largely unstable. The product deaths can be seen by calculating the frequency of each product line stayed in the export basket. 23 (18.7 percent) leather and leather products codes were exported only for one year and out of the export basket and other 22 (17.9 percent) products maintained for two to three years. On the contrary no product exported in all years and only 1 product codes were exported fourteen to sixteen years.

Figure 1:- Number of products exported (2000-2016)

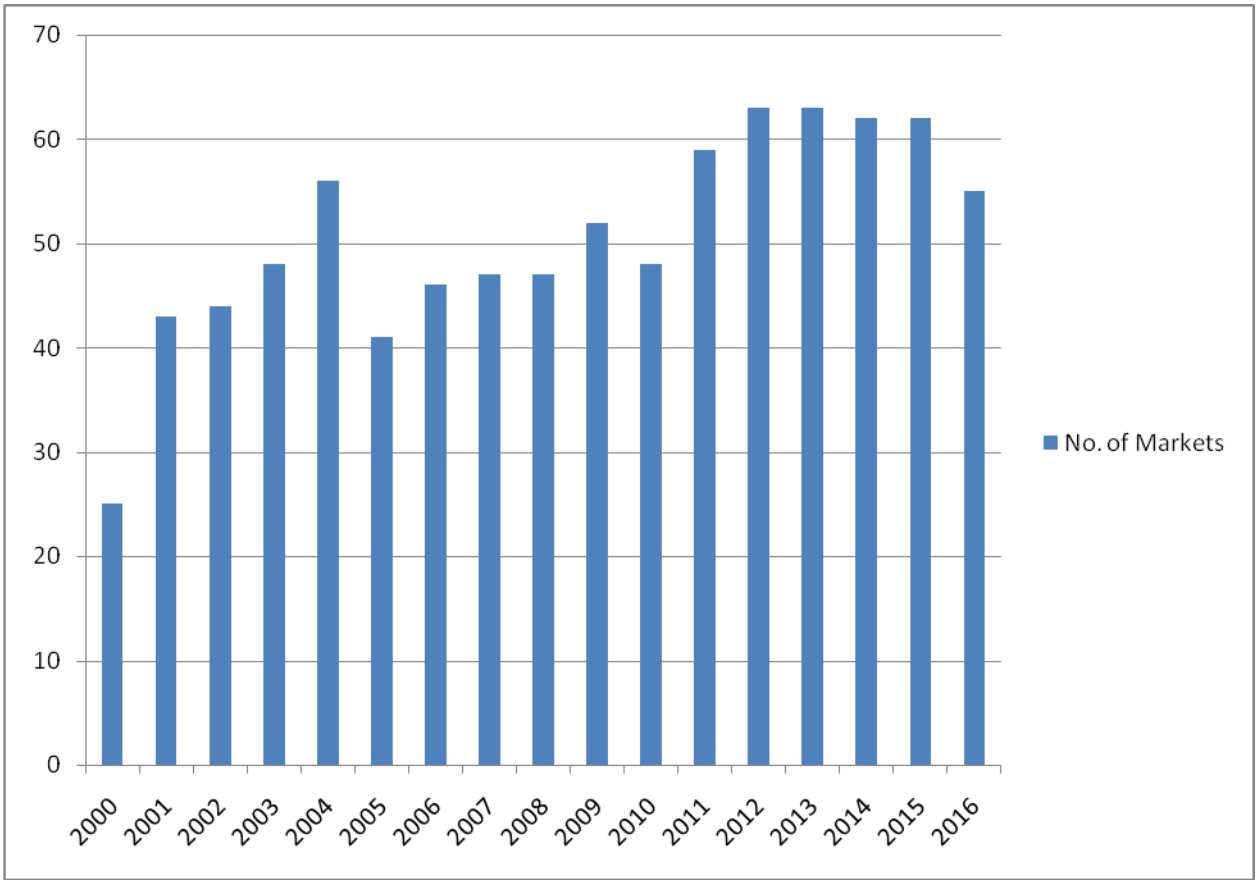


Source:- Own computation based on ERCA data (2000-2016)

On the number of markets, leather and leather products export to 121 markets in total and on average to 51 destination markets out of more than 200 potential markets. Trends in the number of destination markets have also been unstable over the period under investigation. The number of destination markets showed an increase in the beginning until 2004 and started to decline and goes up again.

Figure 2 under shows that leather and leather products accessed a minimum of 25 markets and maximum 63 markets per year in the last 17 years with average growth rate 3 markets per year. Similar to products, market deaths occurred and leather and leather products enter into 33 market destinations only once in the study period. In addition 13 and 8 market destinations entered only twice and three times respectively.

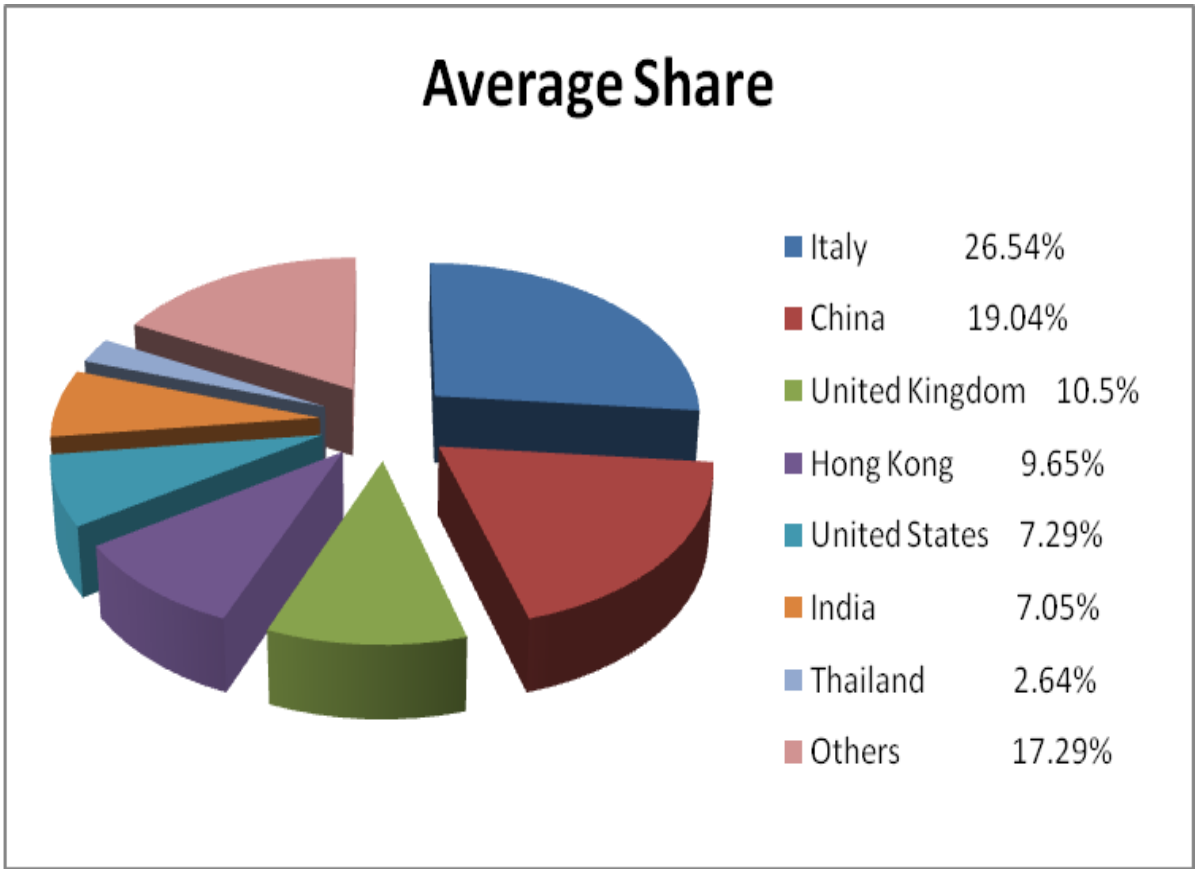
Figure 2:- Number of markets exported (2000-2016)



Source:- Own computation based on ERCA data (2000-20016)

Looking into the number market destinations, it seems that leather and leather products enter into 22 percent of destination markets in the world. However, the last 17 years data on the average rate of market share revealed that destination market was concentrated on limited countries i.e seven countries covered 82.71 percent of the market and the remaining part distributed to 114 countries. The following figure shows the scenario.

Figure 3:- Average share of destination markets (2000-2016)



Source:- Own computation based on ERCA data (2000-2016)

Another export performance measurement is export intensity. This is calculated based on the ratio of leather export sales to a country's total export sales which shows the contributions of commodity exports to a country's total exports. The following sections analyzed the export intensity of leather and leather products from 2001 to 2016 based on ITC data. The results report means and standard deviations of export intensity for 6 competing African countries and Ethiopia. In addition, the maximum and minimum export intensity values for the countries during the same period are also reported.

Table 4 presents the trends in leather and leather products export intensity for 6 developing countries competitor with Ethiopia. Among the countries which export leather and leather products, the export intensities for Ethiopia was higher than the means of the other countries during the period 2001-2016. The leather and leather products exports for Ethiopia occupied

near to nineteen percent to seven percent of its total exports, which indicated the export of the leather industry is a pillar industry in Ethiopia although the intensity declined over time. In addition, its leather and leather product export intensities were much higher than other African countries, which indicated the roles of the industry exports played in the other countries were not as important as those in Ethiopia.

Among the countries with leather and leather products export intensities lower than the means, South Africa and Egypt had quite small intensities (less than 1% for most of the years), which showed leather and leather products exports contributed little to South Africa and Egypt total exports.

The annual mean of the 6 countries' leather and leather exports intensity values revealed a decreasing trend from 2001 to 2016 with decreasing standard deviation values until 2013. This indicated the leather and leather products exports have become less important to total exports during the period for the countries. Similar results could be found from the minimum and maximum leather and leather products export intensity for each country.

However, although all the countries presented decreasing trend in the industry exports intensity, the decreasing slopes for their exports intensity were obviously different from each other. Ethiopia had quite sharp decreasing slopes during the period, while other countries have quite flat decreasing slopes.

Table 4:- Export intensity of selected African countries (2001-2016)

Year	Ethiopia	Egypt	Morocco	South Africa	Tunisia	Kenya	Mean	SD
2001	18.6	0.64	3.3	0.8	6.2	2.6	5.4	6.8
2002	15.0	0.61	3.1	0.9	6.0	1.1	4.5	5.6
2003	9.0	0.47	3.2	0.7	6.0	1.7	3.5	3.4
2004	10.4	0.38	3.0	0.6	5.2	2.0	3.6	3.8
2005	7.3	0.29	2.9	0.5	5.0	1.8	3.0	2.7
2006	7.8	0.23	2.9	0.4	4.7	2.0	3.0	2.9
2007	8.0	0.25	2.9	0.4	4.5	2.3	3.1	2.9
2008	6.3	0.32	2.2	0.3	3.8	1.9	2.5	2.3
2009	3.1	0.59	3.1	0.3	4.2	1.5	2.1	1.6
2010	3.3	0.74	2.5	0.5	4.1	1.9	2.2	1.4

2011	5.0	0.56	2.4	0.5	4.1	2.2	2.5	1.8
2012	3.7	0.44	2.0	0.5	3.8	2.3	2.1	1.5
2013	5.1	0.65	2.1	0.7	3.6	2.7	2.5	1.7
2014	4.2	0.79	2.0	0.7	3.7	2.2	2.3	1.4
2015	4.7	0.76	1.9	0.7	3.6	2.3	2.3	1.6
2016	4.3	0.56	1.8	0.7	3.8	2.0	2.2	1.6
Mean	7.2	0.52	2.6	0.6	4.5	2.0		
SD	4.3	0.18	0.5	0.2	0.9	0.4		
MAX	18.6	0.79	3.3	0.9	6.2	2.7		
MIN	3.1	0.23	1.8	0.3	3.6	1.1		

Source:-Own computation from ITC trade map (2017)

4.2 Panel data regression Diagnostic Test

Before analyzing the determinant of leather export sector in Ethiopia, it is necessary to test panel regression assumptions testing due to the fact that violation of these assumptions may lead to inaccurate results.

4.2.1 Normality tests

There are several methods available for assessing whether data are normally distributed or not .i.e. graphical and statistical. However, in this thesis a test for normality of the residual was performed with the aid graphical methods. As shown in Annex 1, the result tests indicated the residual is close to normally distribution.

4.2.2 Multicollinearity test

As indicated in Annex 2, the variance inflation factor (VIF) shows a mean VIF of less than 2.01 for the whole variables. The larger the value of VIF, the more troublesome or collinear the variables and as a rule of thumb a VIF greater than 10 is unacceptable (Guajarati, 2009).The multicollinearity problem was found first and adjusted by dropping the one variable i.e. the population of Ethiopia. The test was run again and there was no Multicollinearity problem in this study.

4.2.3 Heteroskedasticity Test

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity was used for testing whether the error variances are constant or not. As shown in Annex 3, its null hypothesis (error variance are homoskedastic) was rejected because statistically significant (Prob> chi2 = 0.00) at 5% level of significance. The result shows that the error variances are heteroskedasticity (not constant). As a result the estimator was measured using cluster robust standard error for avoiding the hetroskedastic problem (Shepherd, 2012).

4.2.4 Serial correlation/Autocorrelation

Wooldridge test for autocorrelation test was used test for residual serial correlation up to some specified lag order. As shown in Annex 4, its null hypothesis (No first-order no autocorrelation) was rejected because statistically significant (Prob> chi2 = 0.00) at 5% level of significance. To deal with problem, the autocorrelation effect of error variance was handled by using cluster robust standard error in order to get unbiased estimators (Shepherd, 2012).

4.2.5 Panel unit root test

Levin-Lin-Chu and Hadri LM test unit-root test used in this paper to test unit root. The null hypothesis of the test is the presences of unit root (Non-Stationary) and the alternative is no unit root (Stationary). If the p-value is less than 0.05 then we reject the null hypothesis, which are no unit root problems in model. As indicated in Annex 5, the result confirmed that the data is stationary.

4.3. Choosing between Estimation methods

In view of the nature of dataset employed in this study, it is imperative to select an appropriate estimation method which accounts for the heterogeneity in the gravity models resulting from the presence of individual and time effects in the panel data.

Three main models can be used to estimate in panel data: pooled model (OLS), random effects model (REM) and fixed effects model (FEM). In order to decide to choose which model, the properties of the data as well as base on the results of tests need to be considered. Those methods were frequently used to estimate gravity model of international trade.

Each entity (i.e. countries in this case) has its individual characteristic which can affect its explanatory variables, called the individual effects. If individual effects do not exist, the pooled model will be the best choice. However, if they exist and must be reflected in the model, the FEM and REM will be more preferred.

According to Gujarati (2009), FEM will be selected if there is a correlation between individual effects and explanatory variables. Meanwhile, the regression model will be able to control over and separate the impact of individual effects from explanatory variables so that we can estimate the net effects of explanatory variables on dependent variable. But if individual effects of the entities are random and not correlated with explanatory variables, REM will be more effective. REM considers the residual of each entity (which is not correlated with explanatory variables) as a new explanatory variable. Moreover, REM can estimate the time invariant factors such as Distance and Market preference.

The main problem of FEM is that the variables which do not change over time cannot be estimated directly in this model (the results of Haussmann test attached as Annex 7). However, to solve this problem, the choice of many studies is used REM. In addition, there is a method to estimate these time invariant variables in FEM, as the method which Cheng and Wall (2005) used in their study, running another regression with the dependent variable as individual effects and the independent variables as invariant variables. However, this method can affect the accuracy of the regression as well as the Haussmann test for FEM and REM.

On the other hand, according Anukoonwattaka & Beverelli (2013), one of the main disadvantages of using fixed effect estimator is that it cannot estimate coefficient of time invariant variables. According to their explanation in fixed effect estimator it is not possible estimate time invariant variables such as distance, common border, common language etc. that do not vary over time.

Similarly Torres (2007) stated that, one important side effect of the features of fixed-effects estimator is that it cannot be used to investigate time-invariant independent variables. Because of this if there is acceptable reason that the differences across entities have some influence on the dependent variable it is possible and also advisable to use random effects.

Thus given the above stated limitation of a fixed effect estimators inability to directly estimate time invariant variables, this study found that a random effect estimator is an appropriate method than fixed effect estimator given the nature variables included in the model.

Accordingly, a Breusch and Pagan test was carried out in order to ensure that random effect is appropriate estimator than Pooled OLS estimator in this study. As shown in Annex 6.1-6.4, the test result confirmed that a random effect is an appropriate estimator than OLS method for a gravity model in this study.

4.4 Interpretation of Random effect Model

This section discusses the estimation results. Table 5 portrays regression results using STATA 14 of Random Effect regression Model. In the table below important information such as the values of coefficients for the explanatory variables, standard errors for each coefficient, R**2,** P values for each coefficient, number of observations, regression method and other important information are shown.

Table 5: Random effect GLS regression

log_ LEAEXPij	**Coef.**	**Robust Std. Err.**	**z**	**P>z**	**[Conf. Interval]**	
log_BRERij	-0.10	0.16	-0.63	0.53	-0.41	0.21
log_WDISTij	-1.42	0.72	-1.96**	0.05	-2.83	0.00
log_DOTINFRi	2.27	1.18	1.92**	0.06	-0.05	4.59
log_POPj	0.28	0.34	0.80	0.42	-0.40	0.95
log_GDPi	-0.07	0.34	-0.22	0.83	-0.74	0.59
log_GDPj	1.33	0.40	3.36*	0.00	0.55	2.11
log_FDIi	0.80	0.44	1.81**	0.07	-0.07	1.67
MAPREFi	0.46	0.82	0.56	0.58	-1.15	2.06
_cons	-28.37	11.91	-2.38	0.02	-51.72	-5.01
N	730		Wald Chi2(8)	47.90		
R-Sq			prob>chi2	0.00		

Note: - * and ** indicate statistical significance at 1%, and 10% error level respectively.

Source: Own estimation

According to the results, the leather and leather products exports elasticities of the conventional gravity variables, foreign incomes (GDPj) and geographical distance (WDISTij) have their theoretically stipulated signs and were statistically significant at 1% and 10% error level respectively.

That is, Ethiopia's leather and leather products exports are positively and significantly determined by GDP (i.e. incomes) of its partners, and both diminish significantly with the geographical distance between Ethiopia and its trading partners. Besides, inflows of Foreign Direct Investment (FDI) and Ethiopia's domestic transport infrastructure (DOTRINRAi) found to exert positive effects on Ethiopia's leather and leather products exports; with being statistically significant at 10% error levels.

Meanwhile, bilateral real exchange rate between birr and partner's currency (BREERij) found negative but Ethiopia's market accesses preference with trading partners (MAPREFi) and population of partner countries (POPj) found to have positive and insignificant impacts on leather and leather products exports. Similarly the GDP of Ethiopia had insignificant effect for the performance of leather and leather products.

The coefficient on partners GDP has a positive value with a very high statistical significance. The coefficient shows that holding other variables constant, a unit increase in partner countries GDP will result in 1.3 unit increase in Ethiopia's leather and leather products exports.

On Distance, a unit increase in distance between any two economic centers was found to lead to a 1.42 decrease in leather and leather products export .The negative relationship between trade and distance may be attributed to the trade barriers, which arise as the trading partners become more dispersed thus limiting trade. Such barriers to trade include high transport costs and Ethiopia being a landlocked country. For Ethiopia's case, this can be attributed to a pertinent issue. Ethiopia is a landlocked country only limited to Djibouti port to a large extent through which she can reach the rest of the world. Although there are other ports through which trade could be conducted, Ethiopia has over the years relied on trading through Djibouti.

Regarding Foreign direct investment, by increasing capital stock and enhancing the transfer of technology, new processes, managerial skills and know-how in the domestic market, FDI is expected to result in a more efficient utilization of domestic resources, and higher absorption unemployed resources. These will, in turn, lead to increased productivity, especially of the country's comparative advantage exports products. On the same manner increasing inflow of foreign capitals to Ethiopia over the years, according to this result, does appear to have significant impact on Ethiopia's leather and leather products export. The result was that a unit increase in FDI changes the sector export by 0.8 units.

The coefficient of domestic transport infrastructure showed that a unit increase in the area bring a 2.28 unit increase in leather and leather products export keeping all other things constant. This outcome points to the positive impact of good trade-related infrastructural development. This is due to the fact that, presence of quality and adequate trade-related infrastructure reduces not only the transport costs of cross-border movement of tradable goods, but also the enhances the timelines of delivery. This consequently makes exported goods cheap and competitive in the global market.

However, as stated above the estimation result indicates that bilateral real effective exchange rate between Ethiopia and partner country's currency, Ethiopia's market access preference with partner country's country, Ethiopia's GDP and the size of partners population found to be statistically insignificant.

In general, as can be understood from the result, from factors included under market access conditions (external factor) only partner country's gross product (GDPj) found to be significant in affecting Ethiopia's leather and leather products export. However, factors included under supply side conditions (internal factors), Ethiopia's the inflow of foreign direct investment to Ethiopia, a weighted distance between Ethiopia and partner country and Ethiopia domestic transport infrastructure variables that are found to be significant in affecting Ethiopia's leather export. This might indicate that, the performance of Ethiopia's leather and leather products export is affected mainly by internal factors.

4.5 Estimating Ethiopia's leather Export Potential

Calculating trade potential is a line of research that has been used intensively with the gravity model. Different studies use different methods (i.e. the ratio of predicted trade (P)to the actual trade (A) of trade (P/A),absolute difference between the potential and actual level of trade (P-A)and Speed of convergence)to compute trade potentials predicted by gravity model to assess the future trade direction. The study used the ratio of predicted trade to the actual trade (P/A) approach to see whether bilateral trade between two countries have overused or under used. If the value of P/A exceeds unity, this implies that Ethiopia has potential to expand trade with the respective country.

The study has estimated the total trade potentials with 43 partner countries for the period 2000 to 2016.The estimated result revels that,72% of unexplored markets and only 28% overused. This implies that still there are majority of countries market is unexploited. Ethiopia possesses sufficient (on average) potential market to expand its trade with Australia ,Portugal, Greece, Saudi Arabia ,Vietnam, Malaysia ,United Arab Emirates, Singapore, Uganda, Sweden, Kenya, Belgium, Switzerland, Yemen, Israel, Turkey, Sudan, Slovakia, Pakistan, Philippines, South Korea, Czech Republic, Canada, South Africa, Sirilanka, United States, Finland, Netherlands, France, Germany and Japan. In contrast, Ethiopia Actual trade has exceeded the predicted level for 12 countries(P/A<1), i.e. Spain, Hungary, China, India, United Kingdom, Swaziland, Indonesia, Italy, Djibouti, Thailand, Romania and Hong Kong. These countries market has been already exploited.

Table 6: Ethiopia Leather and leather products Export Potential

2000-2016		2000-2016		2000-2016	
Countries	**Potential**	**Countries**	**Potential**	**Countries**	**Potential**
Australia	2.51	Turkey	1.59	Japan	1.02
Portugal	2.36	Sudan	1.58	Spain	0.99
Greece	2.23	Slovakia	1.53	Hungary	0.91
Saudi Arabia	2.19	Pakistan	1.51	China	0.91
Vietnam	2.11	Philippines	1.39	India	0.90
Malaysia	1.99	South Korea	1.35	United Kingdom	0.86
United Arab Emirates	1.97	Czech Republic	1.30	Swaziland	0.86
Singapore	1.94	Canada	1.26	Indonesia	0.84
Uganda	1.87	South Africa	1.25	Italy	0.80
Sweden	1.80	Sirilanka	1.21	Djibouti	0.76
Kenya	1.80	United States	1.12	Thailand	0.72
Belgium	1.75	Finland	1.09	Romania	0.71
Switzerland	1.70	Netherlands	1.08	Hong Kong	0.64
Yemen	1.61	France	1.06		
Israel	1.60	Germany	1.04		

Source: Own estimation

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECCOMENDATIONS

This chapter presents a summary of the entire paper and conclusion, policy recommendation and limitation and area for further research also forwarded.

5.1 SUMMARY

The purpose of this study was to investigate the determinants of leather and leather products export performance of Ethiopia. The study began with background to show how important the export sector in general and the leather and leather products sector in particular. As one of the major manufacturing product in the world leather and leather products is most important for Ethiopia in terms of its resource base, production and future growth. So an evaluation of past performance is necessary for better future of leather and leather products export in international market.

A review of literature related to export performance revealed that the subject matter although deeply studied with limited consensus in many areas including methodology and also its determinants and performance measures. For this reason it is considered a complex, multidimensional phenomenon, which comprises three main dimensions i.e. effectiveness, efficiency and adaptiveness which a considerable number of authors apply at least one of these dimensions even if implicitly, in order to assess the export performance.

Further, the gravity model reviewed both theoretically and empirically. The assessment showed that gravity model is as one of the best model to estimate export equations using panel data. Based on the research questions the following seven hypothesis was formulated, Gross Domestic Product, Foreign Direct Investment, Bilateral Real exchange rate, Distance , Domestic infrastructure Population and Market preference have significant effect on leather and leather products export performance of Ethiopia and a conceptual framework was designed on their relationship.

The study followed positivist paradigm, explanatory research approach and quantitative research design. A sample of 43 countries was chosen for the empirical analysis. The study

was specifically analyzed the influence of external factors such as distance, foreign direct investment, gross domestic product, real exchange rate, domestic infrastructure, quality of institutions and market preference.

The study was conducted using secondary data collected from different sources for the period of 17 years (2000 to 2016). For the meaningful interpretation of data, appropriate percentages and averages were worked out in the descriptive analysis. The performance of leather and leather products export over the period was studied by using gravity model. The potential was calculated in order to find out unutilized markets. In order to get a reliable result , data was checked by different tests including , normality, multicollinearity, autocorrelation etc. and finally, multiple regression analysis was carried out using REM estimation procedure in order to find out factors affecting the exports of leather and leather products from Ethiopia. Breusch and Pagan test was also carried out in order to ensure that random effect is appropriate estimator than Pooled OLS estimator.

The results of the study showed that fluctuating characteristic of leather and leather products export during the study period. The export value was 47.7 Million USD in 2000, which had increased to 111.2 million USD in 2016 and many ups and downs in the middle. The percentage share of total leather and leather products export to total export had decreased from 9.9 per cent in 2000 to 4.3 per cent in 2016. The overall growth of leather and leather products export in terms of value found increased as high positive and significant growth rates of 10.3 percent on average were observed. But, this growth was less than the growth of the total export.

Further, Ethiopia's export of leather and leather products is highly concentrated on few countries. Similarly, the number products annually exported from Ethiopia are limited to 34.8 percent of the total number of products imported by countries in the world. Ethiopia had registered negative leather and leather products export growth rates for years six years and the mean growth rate was closer to the world and less than other competitor African countries except Morocco and Tunisia.

Results of regression indicated that Ethiopia's partner country's Gross domestic Product, Foreign direct investment, and Ethiopia's domestic transport infrastructure found to be positive and significant factors affecting Ethiopia's leather and leather products export performance. In addition, Weighted distance between Ethiopia and partner countries found significant and negative result. Meanwhile, bilateral real effective exchange rate between birr and partner's currency and market accesses preference with trading partners found to be insignificant in affecting Ethiopia's leather and leather products export performance.

The results also point out that Ethiopia leather and leather products exports performance had a insignificant result with the increase of own GDP, and this is not consistent with theoretical expectation. Of the included variables, the importing country GDP had the highest effect on the exports of the sector.

In terms of potential trading partners, 12 Middle East and Asian countries and 11 in the EU region, 4 African countries and USA are strong potential importers of Ethiopian leather and leather products.

5.2 CONCLUSION

The objective of this study was accomplished and some conclusions can be drawn. Ethiopia has low and erratic export performance in the leather and leather products sector with limited diversification in number of products and dependence on few markets. Hence, it is desirable to widen the product and engage in many countries as a destination.

Ethiopia's partner country's Gross domestic Product, Foreign direct investment, Weighted distance between Ethiopia and partner country and Ethiopia's domestic transport infrastructure have been found to be significant determinants of Ethiopia's leather and leather products export performance. Therefore, any efforts to improve Ethiopia's leather and leather products export performance should focus on activities like expansion of leather and leather products FDI and improving the infrastructure.

5.3 RECCOMENDATIONS

The findings from the gravity trade model estimations suggest the following recommendations for consideration by concerned parties.

- The inflow of foreign capital through FDI contributes for the improvement of the country's export in general and leather and leather products export in particular. Thus, the government should continue exert its efforts to attract foreign investment through taking various measures;

- Improvement in infrastructure contributes for a reduction of the cost of doing business and this in turn strengthens the price competiveness country's exports in the international market. Thus infrastructure should be given considerable attention from policy maker in order to improve the exporting capacity of the economy.

- Distance is a proxy of high transportation costs, is a barrier that discourages trade between Ethiopia and its trading partners. Therefore, finding ways to reduce the transportation costs is important in overcoming such barrier. Key points to reduce transportation costs included the improvement of transportation infrastructure as well as logistics system.

- Huge portions of the country's leather and leather products exports concentrated on a few product lines. Hence, a diversification to other product lines, in particular a step towards value added products is recommended.

- In addition to diversification in the type of export products, the country should also expand its export destinations. Because depending only on few trading partners for very high share may affect the demand if some economic shock happens and capturing new export markets may reduce the competition that comes from countries exporting similar products. This may be achieved by working on the partners with unused potential by considering all its efforts including market promotion works geared towards those

markets. Thus, the government should give attention to promote exports to exploit the unexploited trade potential.

5.4 LIMITATION AND FUTURE DIRECTION

Data availability was one of the challenges as most of less developed countries Ethiopia being one of them; it was difficult to get the right and reliable data. Never the less it was managed to accomplish this task by abiding to the available data and the use of international recognized publications such as World Bank.

This study look only the external factor of export performance, hence the future study has to deal both external and internal factors to assess export performance, both are equally important and should be used due to their complementary nature.

It is obvious that there are other possible factors contributing to the export performance in Ethiopia. Therefore, other variables to be considered for further research. Extension of the study to other priority export sectors of Ethiopia is important. Future research can also collect primary data from the perspective of suppliers or buyers to analyze the determinants of leather and leather products export performance. In addition the future study investigates effective strategies to improve leather and leather products export performance.

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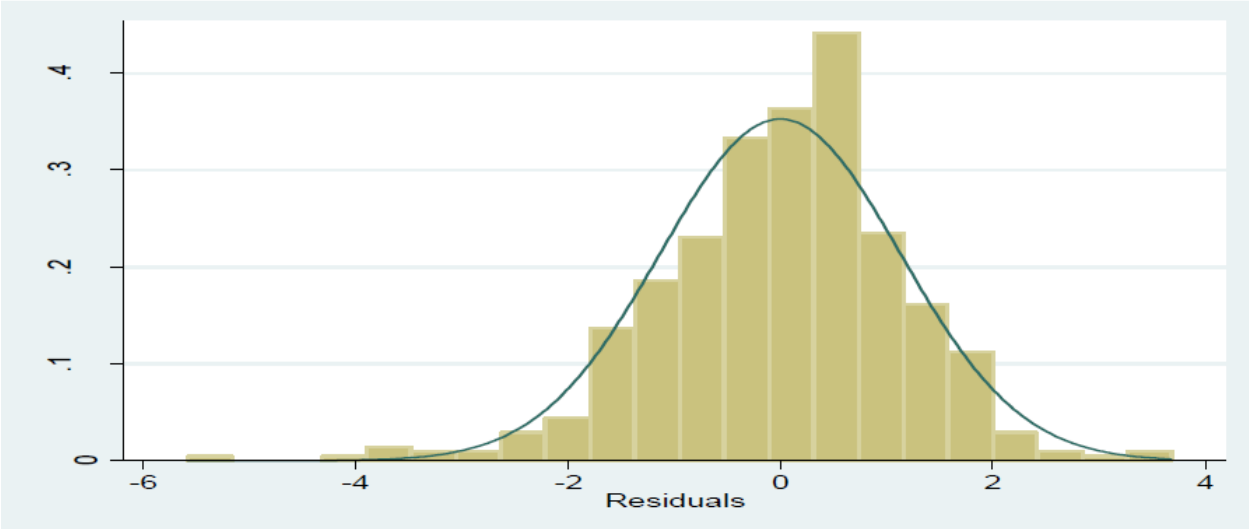
ANNEXES

Annex 1: Normality test



Annex 2: Multicollinearity test

Variable	VIF	1/VIF
log_gdpj	3.27	0.305371
log_gdpi	2.51	0.398477
log_Invest	2.31	0.433341
log_popj	1.86	0.536821
log_wdistij	1.77	0.566158
log_infi	1.61	0.620388
maprefi	1.47	0.680351
log_rerij	1.30	0.767146
Mean VIF	2.01	

Annex 3: Heteroskedasticity Test

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: e

         chi2(1)      =    213.11
         Prob > chi2  =    0.0000
```

Annex 4: Serial correlation

```
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F(  1,      42) =     22.288
           Prob > F =      0.0000
```

Annex 5.1: Panel unit root (Levin-Lin-Chu) test

```
. xtunitroot llc e, lags(1)

Levin-Lin-Chu unit-root test for e
---------------------------------

Ho: Panels contain unit roots                  Number of panels  =      43
Ha: Panels are stationary                      Number of periods =      17

AR parameter: Common                           Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t        -10.3168
 Adjusted t*          -3.2142        0.0007
------------------------------------------------------------------------------
```

Annex 5.2: Panel unit root (Hadri LM) test

```
Hadri LM test for e
-------------------

Ho: All panels are stationary                  Number of panels  =      43
Ha: Some panels contain unit roots             Number of periods =      17

Time trend:         Not included               Asymptotics: T, N -> Infinity
Heteroskedasticity: Not robust                                  sequentially
LR variance:        (not used)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 z                    21.7931        0.0000
------------------------------------------------------------------------------
```

Annex 6.1: OLS regression

Source	SS	df	MS	Number of obs	=	730
				F(8, 721)	=	26.50
Model	3079.03238	8	384.879047	Prob > F	=	0.0000
Residual	10469.8555	721	14.5212975	R-squared	=	0.2273
				Adj R-squared	=	0.2187
Total	13548.8879	729	18.5855801	Root MSE	=	3.8107

log_leaexpij	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
log_rerij	-.1504592	.059411	-2.53	0.012	-.2670983	-.03382
log_wdistij	-.6299477	.2630429	-2.39	0.017	-1.146369	-.1135261
log_infi	2.807005	2.178513	1.29	0.198	-1.469982	7.083992
log_popj	.5827921	.1270832	4.59	0.000	.3332949	.8322894
log_gdpi	.216964	.2932207	0.74	0.460	-.3587044	.7926324
log_gdpj	.6366208	.1319358	4.83	0.000	.3775966	.895645
log_Invest	.784078	.5152462	1.52	0.129	-.227484	1.79564
maprefi	1.293886	.3428541	3.77	0.000	.6207747	1.966998
_cons	-30.54963	6.414681	-4.76	0.000	-43.14332	-17.95595

Annex 6.2: Fixed –effect (within) Regression

Fixed-effects (within) regression — Number of obs = 730
Group variable: CountryNum — Number of groups = 43

R-sq:
within = 0.1447
between = 0.0517
overall = 0.0306

Obs per group:
min = 16
avg = 17.0
max = 17

F(6,42) = 5.06
corr(u_i, Xb) = -0.9718 — Prob > F = 0.0006

(Std. Err. adjusted for 43 clusters in CountryNum)

log_leaexpij	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
log_rerij	3.914045	1.586605	2.47	0.018	.7121465	7.115944
log_wdistij	0	(omitted)				
log_infi	-1.634032	1.341731	-1.22	0.230	-4.341755	1.073691
log_popj	.0702163	.7924703	0.09	0.930	-1.529054	1.669486
log_gdpi	.1828823	.6935977	0.26	0.793	-1.216855	1.582619
log_gdpj	2.810117	1.130261	2.49	0.017	.5291582	5.091077
log_Invest	.4463692	.4666623	0.96	0.344	-.4953936	1.388132
maprefi	0	(omitted)				
_cons	-69.75074	20.73842	-3.36	0.002	-111.6026	-27.89891
sigma_u	12.719149					
sigma_e	3.138099					
rho	.94262084	(fraction of variance due to u_i)				

Annex 6.3: Random Vs OLS Model

```
Breusch and Pagan Lagrangian multiplier test for random effects

        log_leaexpij[CountryNum,t] = Xb + u[CountryNum] + e[CountryNum,t]

        Estimated results:
                         |       Var      sd = sqrt(Var)
                ---------+------------------------------
                log_lea~j |    18.58558          4.3111
                        e |    9.847665        3.138099
                        u |    4.645524        2.155348

        Test:   Var(u) = 0
                                chibar2(01) =    406.79
                            Prob > chibar2 =    0.0000
```

Annex 6.4: Random -effect GLS regression

```
Random-effects GLS regression                   Number of obs      =       730
Group variable: CountryNum                      Number of groups   =        43

R-sq:                                           Obs per group:
     within  = 0.0957                                         min =        16
     between = 0.3760                                         avg =      17.0
     overall = 0.2055                                         max =        17

                                                Wald chi2(8)       =     47.99
corr(u_i, X)   = 0 (assumed)                    Prob > chi2        =    0.0000

                              (Std. Err. adjusted for 43 clusters in CountryNum)
------------------------------------------------------------------------------
             |               Robust
log_leaexpij |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    log_rerij |  -.1008706   .1591362    -0.63   0.526    -.4127719    .2110306
 log_wdistij |  -1.416311   .7227346    -1.96   0.050    -2.832845    .0002228
    log_infi |   2.268847   1.184757     1.92   0.055    -.0532335    4.590927
    log_popj |   .2762619   .3442863     0.80   0.422    -.3985269    .9510506
    log_gdpi |  -.0743235   .3408844    -0.22   0.827    -.7424446    .5937976
    log_gdpj |   1.330835   .3963959     3.36   0.001     .5539136    2.107757
  log_Invest |    .803019   .4448717     1.81   0.071    -.0689135    1.674951
     maprefi |   .4558367   .8193259     0.56   0.578    -1.150013    2.061686
       _cons |  -28.36553   11.91396    -2.38   0.017    -51.71646   -5.014609
-------------+----------------------------------------------------------------
     sigma_u |  2.1553477
     sigma_e |   3.138099
         rho |  .32053151   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Annex 7: Haussmann test

	Coefficients (b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
ln_rerij	4.034736	-.0901545	4.124891	.9277587
ln_fdii	-.0291246	-.0060393	-.0230852	.0015363
ln_popj	.031604	.2948081	-.2632041	.7855016
ln_gdpi	.4973646	.2944451	.2029195	.3574597
ln_gdpj	2.953029	1.321236	1.631793	.5785249
in_infi	-2.592942	.4223807	-3.015322	.1398265

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 53.58
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)

APPENDIX 1 Definition of leather and leather products

Chapter 41

4101 Raw hides and skins of bovine (including buffalo) or equine animals (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not dehaired or split:

4102 Raw skins of sheep or lambs (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not with wool on or split, other than those excluded by note 1(c) to this chapter:

4103 Other raw hides and skins (fresh, or salted, dried, limed, pickled or otherwise preserved, but not tanned, parchment-dressed or further prepared), whether or not dehaired or split, other than those excluded by note 1(b) or 1(c) to this

4104 Tanned or crust hides and skins of bovine (including buffalo) or equine animals, without hair on, whether or not split, but not further prepared:

4105 Tanned or crust skins of sheep or lambs, without wool on, whether or not split, but not further prepared:

4106 Tanned or crust hides and skins of other animals, without wool or hair on, whether or not split, but not further prepared:

4107 Leather further prepared after tanning or crusting, including parchment-dressed leather, of bovine (including buffalo) or equine animals, without hair on, whether or not split, other than leather of 4114:Other

4108: Chamois Leather,

4109: Patent Leather,

4110: Leather Parings and Waste Products

4111: Leather Slabs, Sheets and Strips

Chapter 42

4201: Saddlery and harness for any animal (including traces, leads, knee pads, muzzles, saddle cloths, saddle bags, dog coats and the like), of any material

4202: Trunks, suit-cases, vanity-cases, executive-cases, brief-cases, school satchels, spectacle cases, binocular cases, camera cases, musical instrument cases, gun cases, holsters and similar containers; travelling-bags, insulated food or beverages bags, toilet bags, rucksacks, handbags, shopping bags, wallets, purses, map-cases, cigarette-cases, tobacco-pouches, tool bags, sports bags, bottle-cases, jewellery boxes, powder boxes, cutlery cases and similar containers, of leather or of composition leather, of sheeting of plastics, of textile materials, of vulcanized fibre or of paperboard, or wholly or mainly covered with such materials or with paper

4203: Articles of apparel and clothing accessories, of leather or of composition leather (e.g trousers, waist coats, belts, gloves)

4204: Articles of leather or of composition leather, of a kind used in machinery or mechanical appliances or for other technical uses

4205: Other articles of leather or of composition leather

4206: Articles of gut (other than silk-worm gut), of goldbeater's skin, of bladders or of tendons

Chapter 64

6401: Waterproof footwear with outer soles and uppers of rubber or of plastics, the uppers of which are neither fixed to the sole nor assembled by stitching, riveting, nailing, screwing, plugging or similar processes (excluding orthopedic footwear, toy footwear, skating boots with ice skates attached, shin-guards and similar protective sportswear)

6402: Footwear with outer soles and uppers of rubber or plastics (excluding waterproof footwear of heading 6401, orthopedic footwear, skating boots with ice or roller skates attached, and toy footwear)

6403: Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of leather (excluding orthopedic footwear, skating boots with ice or roller skates attached, and toy footwear)

6404: Footwear with outer soles of rubber, plastics, leather or composition leather and uppers of textile materials (excluding toy footwear)

6405: Footwear with outer soles of rubber or plastics, with uppers other than rubber, plastics, leather or textile materials; footwear with outer soles of leather or composition leather, with uppers other than leather or textile materials; footwear with outer soles of wood, cork, twine, paperboard, fur skin, woven fabrics, felt, nonwovens, linoleum, raffia, straw, loofah, etc and uppers of any type of material, n.e.s.

6406: Parts of footwear, incl. uppers whether or not attached to soles other than outer soles; removable in-soles, heel cushions and similar articles; gaiters, leggings and similar articles, and parts thereof (excluding articles of asbestos)

APPENDIX 2 List of Countries

1. Australia
2. Belgium
3. Canada
4. Czech Republic
5. China
6. Djibouti
7. Finland
8. France
9. Germany
10. Greece
11. Hong Kong
12. Hungary
13. India
14. Indonesia
15. Israel
16. Italy
17. Japan
18. Kenya
19, South Korea
20. Malaysia
21. Netherlands
22. Pakistan
23. Philippines
24. Portugal
25. Romania
26. Saudi Arabia
27. Singapore
28. Slovakia
29. Sri Lanka
30. South Africa
31. Spain
32. Sudan
33. Swaziland
34. Sweden
35. Switzerland
36. Thailand
37. Turkey
38. United Kingdom
39. Uganda
40. United Arab Emirates
41. United States
42. Vietnam
43. Yemen