ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

INSTITUTE OF AGRICULTURE AND DEVELOPMENT STUDIES

TRENDS AND DETERMINANTS OF HIDES AND SKINS EXPORT PERFORMANCE OF ETHIOPIA

BY:

BEREKET ABRHAM

JUNE 2016

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A Thesis Submitted to the School of Graduate Studies St. Mary's University, in Partial Fulfillment of the Requirements for the Degree of Masters of Science in Agricultural Economics

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As members of the Board of Examining of the final MSc thesis open defense, we certify that we have read and evaluated the thesis prepared by Bereket Abrham under the title "TRENDS AND DETERMINANTS OF HIDES AND SKINS EXPORT PERFORMANCE OF ETHIOPIA" We recommend that the thesis be accepted as fulfilling the thesis requirement for the Degree of Master of Science in Agricultural Economics

Chairman (Institute Dean)	**Signature**	**Date**
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Declaration

I declare that this Msc. thesis is my original work, has never been presented for a degree in this or any other university and all source of materials used for the thesis have been duly acknowledged.

Student Name: Bereket Abrham

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ENDORSEMENT

This thesis has been submitted to St. Mary's University, school of Graduate Studies for examination with my approval as a University advisor.

Wondimagegne Chekol (PhD)	_____	_____
Advisor	**Signature**	**Date**

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ACRONYMS

ADF	Augmented Dickey Fuller
ARMD	Animal Resources Marketing Department
CSA	Central Statistics Agency of Ethiopia
ERCA	Ethiopian Revenue and Custom Authority
ETC	Expenditure on Transport and Communication
IMF	International Monetary Fund
LDCs	Least Developed Countries
LMA	Livestock Marketing Authority
MoA	Ministry of Agriculture
MOTI	Ministry Of Trade and Development
NBE	National Bank of Ethiopia
REER	Real Effective Exchange Rate
SLDP	Second Livestock Development Program
SNV	Netherlands Development Organization
UNCOMTRADE	United Nations Commodity Trade Statistics Database
USAID	United States Agency for International Development
VAR	Vector Auto Regression
VECM	Vector Error Correction Model

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ABSTRACT

Despite owning the largest livestock resources in Ethiopia, the export performance of hides and skins have not yet reached the desired stage of development due to several factors and constraints. The major objective of this study is therefore to investigate factors that determine hides and skins export performance of the country by analyzing data for the period from 1975-2014G.C. This study also tried to review the export performance; trends and production of Hides and skins export and examine the long run and the short run determinants of export performance of Ethiopia. The data collected from NBE, CSA, ERCA and WB and WDI were analyzed for long run and short run estimates using Johansson cointegration and Vector Error Correction approaches. The findings of the study revealed that in the long run export performance has found to be positively influenced by real effective exchange rate, RGDP of trading partner and infrastructural development. The RGDP of Ethiopia has found to be negatively affecting this sector. Hence, the long run elasticities of export performance with respect to real effective exchange rate, RGDP of Trading partner, infrastructural development and RGDP of Ethiopia were 2.9, 4.4, 2.4 and -1.25respectively. In the short run only last year RGDP of Ethiopia and Expenditure on transport and communication has directly involved in enhancing export performance of current year. improving livestock production mechanism, increasing demand for meat, maintaining high and sustainable economic growth and improvements in infrastructural facilities should due emphasis so as to improve Ethiopia's hides and skins products export performance.

Key words: expenditure, hides and skins, Johansen co-integration, openness, Real effective exchange rate, RGDP of home country, RGDP of trading partner, Vector Error Correction

CHAPTER ONE

1 INTRODUCTION

1.1 Background of the Study

Similar to other developing countries, Ethiopia's economy is also highly dependent on agriculture, where 80% of its population employed in this sector. That is why agriculture is widely regarded as the back bone of Ethiopian economy. It plays a key role both in the development of the economy as well as in the well being of its people. Its contribution to the national economy can be seen from different aspects. For instance, its contribution as a source of food and raw materials, its contribution to GDP, export earnings and so on (Samuel, 2012).

Though Ethiopia's total exports have been growing at an average rate of 15.23% during the year 1970/71 to 2010/11, its export sector is still small; evidenced by the lower export/GDP ratio and the declining share of exports in import financing. Exports of goods in Ethiopia are only about 7% of GDP, compared to an average of nearly 30%of GDP in Sub-Saharan Africa. Export levels still fall short of what is registered by other African countries with much smaller populations (Uganda and Tanzania both export more than $3 billion per year. Growth rates are also very modest if one makes a comparison with Asian countries over a decades-long time frame. For instance, Ethiopia's total exports were higher than that of Vietnam in the 1980s but now the export of Ethiopia $2 billion is just a tiny fraction of Vietnam's export of $65 billion (Belayneh, 2012).

Regarding the composition of exports, until the 1990s the Ethiopian export sector could be characterized as a 'three-commodity sector' consisting of coffee, hides and skins, and oilseeds and pulses. Between 1966 and 1996, on average 59% of the country's export earnings came solely from coffee. According to MOTI (2008), although coffee is still the dominant export item, since 2001/02 its contribution to total export earnings has declined to 36.3% in 2007. On the other hand, the share of non-coffee agricultural exports and major manufacturing export commodities (leather and leather products; textile; and agro processing products) has increased remarkably and reached 63.7% (Yishak, 2009).

According to the World Bank report in 2009, the share of Ethiopia's manufactures export in the total export was only 9.0% while that of China is 94%. When we look at the last 41 years data, the export structure of Ethiopia has been characterized by greater concentration on few traditional exports such as coffee, hides and skins and oilseeds and pulses.

The hides, skin and leather is a critical strategic sector for the economic and industrial development of Ethiopia. It has an abundant and renewable resource base in Ethiopia's large population of cattle, sheep and goats. It is labor-intensive with the potential to be a major source of employment all along its value chain. The government of Ethiopia has identified the leather and leather products value chain as one of the top four most promising industries in the country due to its strong backward linkages to the rural economy, and potential for poverty reduction. To date, over 10,000 formal jobs have been created along with thousands of informal handicraft and trading activities. The country has 25 commercial tanneries of which 23 are operational, 17 footwear and 8 leather goods producing factories. Thirteen Out of the 17 large shoe factories, 14 are engaged in exporting. About 1,000 small and microenterprises were also engaged in the production of footwear. Today the sector consists of over 850 legal hides and skins traders, 6,515 workers in tanning, 5,400 workers in foot wear and leather goods factories (USAID, 2013).

The Ethiopian leather industry is one of the leading subsectors in earning of foreign currency in the country and an important creator of jobs. Until 2006/07 exports of pickled sheepskins and wet-blue goatskins ranked second only to coffee as a source of foreign exchange. However, with the advent of the law that applied a tax on the export of semi-finished leather, the exports of these products declined. However, as the global economy recovered and the tanneries in Ethiopia began to invest more in finishing capability, the level of leather exports recovered and in 2011/12, reached a record of USD 112 million. Despite this rebound in the export levels of finished leather, tannery capacity is still significantly underutilized with most tanneries producing at well below 50% of their installed capacities (USAID, 2013).

In general, despite Ethiopia's comparative advantage in hides and skin export sector due to its huge livestock resource and cheap labor, the country's export performance is not satisfactory though there is slight improvement (Mulat, 2015). There are various factors affecting or determining agricultural export performance of the country in general and that of hides and skins export in particular. Hence a closer look at the major factors determining the hides and skins export supply of the country theoretically and empirically is essential in order to help the country to experience or achieve a sustainable growth in its exports.

1.2 Statement of the Problem

The leather and leather products industry is hobbled by supply, quality, market, skilled labor and finance constraints. The leather supply chain is characterized by a non-integrated chain in which most participants operate independently instead of interdependently across the value chain. Prices do not reflect premiums for different grades of quality. The industry is still operating with out-dated equipment as little new technology has been introduced and capacity utilization is low. Important issues facing the industry as it strives to strengthen its capabilities in the face of increasingly fierce global competition include lack of sufficient supply of hides and skins to meet demand, lacks of a price incentive that reflects premiums for superior quality; limited foreign and domestic investment in the value chain and lack of access to operating capital; lack of specialization necessary for accessing key niche markets in Europe and Asia; low worker productivity and weak backward and forward linkages (USAID,2013).

Hides and skins has been one of the most important export commodities of Ethiopia for a number of years. This may not come as a surprise when we concider the livestock potential of the country. Ethiopia is believed to have the largest livestock population in Africa.According to 2012/13 livestock survey conducted by CSA; the total cattle population for the country is estimated to be about 53.99 million. It is estimated that there are 25.5 million sheep and 24.06 million goats are found in the country. As per the survey results, there are about 1.91 million horses, 6.75 million donkeys, 0.35 million mules, and about 0.92 million camels in the sedentary areas of the country (CSA, 2012/13).

Based on annual off take rates of 7% for cattle, 33% for sheep and 35% for goats, the potential production is estimated at 3.8 million cattle hides, 8.4 million sheep skins and 8.4 million goat skins in 2012/13. This raw material of the leather industry is mainly derived from local areas of the country where basic facilities for slaughtering and subsequent marketing were either not inexistence or lacking. Additional sources of hides and skins include slaughter slabs, municipal slaughter houses, the limited number of export abattoirs, and meat and meat product processing plants. The wide dispersion of the slaughtering points across the country, along with the lack of proper slaughtering amenities has a negative impact on the volume and quality of hides and skins entering the formal market chain. As a result, all available raw materials are not recovered; a considerable proportion is wasted before reaching the tanneries, the final consumers of the raw hides and skins (Ahmed, 2000).

Despite its huge contribution in the country's export, hides and skins export performance of Ethiopia still did not reach to the desired level due to several factors and constraints. So identifying and addressing such factors determining the hides and skins export performance of the country is main aim of this study.

1.3 Hypothesis of the Study

The hypothesis of the study is that Ethiopia's hides and skins export performance is positively related with real income of trading partner, openness, real GDP of home country and infrastructural development in the long run. Exchange rate depreciation is also positively correlated with the export supply of hides and skins. That means depreciating birr helps the country to get a significant increase in export supply of hides and skins.

1.4 Objectives of the Study

1.4.1 General Objective

The overall objective of this study is to assess the major determinants of hides and skins export performance of Ethiopia.

1.4.2 Specific Objectives

The specific objectives of this study are:-

1.4.2.1 To assess the production, export performance and trends of Hides and Skins.

1.4.2.2 To evaluate the relative importance of major factors that determine hides and skins export performance of the country.

1.5 Significance of the Study

The study is important in identifying and analyzing the major factors that affect the hides and skins export of the country. It is important to understand how changes in economic variables could affect trade flows or resource shifts of a specific exportable commodity such as hides and skins. The output of this study is therefore expected to provide estimates of production response for export of hides and skin products with respect to change in prices and other quantitative determinants, identify qualitative factors and policy relevant information for sustain growth of the export sector under study. Identifying the determinants of hides and skins export performance could help to provide information to the policy makers to enable them to come up with the appropriate policy regarding the growth of the sector.

1.6 Scope and Limitation of the Study

Since covering the total export of Ethiopia is a very broad portion on this paper the researcher chose to study only on a single export commodity of the country, which is talk only about the determinants of Hides and Skins export performance of Ethiopia for the period1975-2014. The performance of hides and skin export could be influenced by numerous internal and external factors, and as such a cause and effect type of equation will be difficult to formulate for all the determinants. Hence this study was based mainly on qualitative evidence as well as important quantitative explanatory variables in order to capture their effects on the supply response of the export sector. The major limitation of the study was shortage of related literatures with regard to livestock export sector especially on hides and skins subsector.

1.7 Organization of the Thesis

This thesis is organized into five chapters. Chapter one pinpoints the background of the study, statement of the problem, research questions, objectives, significance of the study and scope and limitations of the study. Chapter two deal with review of theoretical and empirical literatures relevant to the study. Chapter three discusses research methodology. Chapter four presents major findings of the study and subsequent discussions. The last Chapter deals with conclusion and recommendations of the study.

CHAPTER TWO

2 LITERATURE REVIEW

2.1 Definitions and Concepts

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. Countries with better supply conditions are expected to export more. Supply capacity is affected by access to raw materials and factor related to costs such as: labor, capital and other resources. Besides resource endowment, economic policy and the institutional environment also affect the supply capacity of the country.

The general policy implication is that market access and supply capacity have to be considered equally important along with the development process of the export sector. Simultaneous efforts to improve both supply capacity and foreign market access enhance the performance and the structural deepening of the export sector. Foreign demand is influenced by various elements. Firstly, it is strongly linked to geography; countries at the centre of a fast growing region are more likely to be benefited, ceteris paribus, than countries situated outside that region. Second, it is likely to be related to competition and trade policy which could have, in principle, a similar impact on trade than geography. Finally, both the quantity and quality of physical infrastructures are expected to play important roles. Important elements of supply capacity at the early stage of development of the export sector are infrastructure, FDI and macroeconomic stability. These elements are significantly determining the performance of export at all levels UNCTAD (2004).

According to the definitions provided in International Trade text books „Trade Performance‟ of a given country would mean the following five elements: a) the share of exports and imports of the country in world exports and imports and in total world trade, b) growth rates in exports and imports, c) concentration and diversification of commodity composition of trade, d) concentration and diversification in geographical direction of trade and, e) ratio of trade to gross domestic product (IGNOU, 2009,p.12).

Hides and skins are broadly defined as the external integuments of large animals, while skins are the outer coverings of small stock (goats and sheep) .The best sources of hides and skins from domesticated animals are cattle hides and sheep-goat skins. However, hides and skins may also be obtained from other species of domesticated and non domesticated animals (hides from, buffalo, horse, camel, elephant etc) and (skins from, pig, impala, rabbit, mink, snake, frog, ostrich, shark etc) (FAO, 1995).

These hides and skins are the end products of animal production, as an end product although more correctly they are by-products; they are important and valuable resources. In the developing world they are almost never exploited to anything like their full potential. Hides and skins are often intrinsically and up discarded or wasted because of ignorance or misinformation (FAO, 2009).

2.2 Theoretical Review

2.2.1 Conceptual and Theoretical Literatures on International Trade

Generally speaking, international trade refers to exchange of goods and services between one country and the rest of the world. Mercantilism was the philosophy that guided European thinking about international trade in the several centuries before Adam Smith published his Wealth of Nations in 1776.Mercantilists viewed international trade as a source of major benefits to a nation. A central belief of mercantilism was that national wellbeing or wealth was based on national holdings of gold and silver (specie or bullion). Given this view of national wealth, exports were viewed as good and imports (except for raw materials not produced at home) were seen as bad. Because of its peculiar emphasis on gold and silver, mercantilism viewed trade as a zero –sum activity –in which one country gains at the expense of some other countries (Pugel, 2008,pp.33-38).

In a developing nation like Ethiopia, international trade can play an important role in its economic growth. Haberler (1964) pointed out that trade can lead to the full utilization of otherwise underemployed domestic resources. That is, through trade, a developing nation can move from an inefficient production point inside its production frontier, with unutilized resources because of insufficient internal demand, to a point on its production frontier with trade.

For such a nation, trade would represent an outlet for its potential surplus of agricultural commodities and raw materials. This has indeed occurred in many developing nations, particularly those in South Asia and West Africa. In addition, it is an excellent antimonopoly weapon because it stimulates greater efficiency by domestic producers to meet foreign competition. This is particularly important to keep low the cost and price of intermediate or semi finished products used as inputs in the domestic production of other commodities.

Porter (1990) noted that a rising national share of world export is tied to living standards when the growth of exports achieving high level of productivity contributes to the growth of national productivity. A fall in overall world export share because of the inability to successfully increase exports, conversely, is a danger signal for a national economy. However, the particular mix of exports is more important than a nation's average export share. A rising sophistication of exports can support productivity growth even if overall exports are growing slowly.

The theory of traditional trade argues that if each nation specializes in the production of the commodity of its comparative advantage, world output will be greater and, through trade, each nation will share in the gain. With the present distribution of factor endowments and technology between developed and developing countries, the theory of comparative advantage thus prescribes that developing nations should continue to focus primarily in the production of and export of raw materials and food to developed nations in exchange for manufactured products (Salvator, 2001).

Thirlwall (2000) also tried to examine the dynamic gains from trade which continually shift outwards the whole production possibility frontier of countries if trade is associated with more investment and faster productivity growth based on scale economics, learning by doing and the acquisition of new knowledge from abroad, particularly through foreign direct investment.

The essence of dynamic gains is that they shift outwards the whole production possibility frontier by augmenting the availability of resources for production through increasing the productivity of resources and increasing their quantity. One of the major dynamic benefits of trade is that export markets widen the total market for a country's producers. Other important dynamic benefit from trade consist of the stimulus to competition; the acquisition of new knowledge, new ideas and the dissemination of technical knowledge, the possibility of accompanying capital flows through foreign direct investment and changes in attitude and institutions.

The resulting theory of comparative advantage is rich in its implication about the gains from trade, the following among them: (i) any country can increase its income by trading because the than those which prevail at home in the absence of trade (ii) the smaller the country the greater this potential gain from trade but all countries benefit to some extent (iii) a country will gain most by exporting commodities that it produces using its abundant factor of production most intensively while importing those goods whose production would require relatively more of the scarce factor of production(Gills M., Perkins D.H.,Roemer M.and Snodgrass D.R, 1983).world market provides an opportunity to buy some goods at relative price that are lower.

Mercantilism, One of the events has occurred at end of the seventeenth century is that Mercantilism ancient trade thought existing in the world. ``Commercial revolution`` argument trade was one of typical explanation of mercantilism trade thought. According to mercantilist, the concept of the commercial revelation means the way of transformation, that transform the market characteristic from local economic to national economic, from feudalism to capitalism and from small scale trade to large scale trade.

The philosophers of mercantilism they strongly suggest that if a country will gain from the international trade by, will promote the export performance and limited import. This would have a positive gain for country gain thought trade. An accumulation precious metal (i.e. gold) was the main central idea of the mercantilism thought (Ajami, 2006)

According to Mercantilism's trade theory thought if a country want enjoin a positive trade balance or increase wealth and will its export over import. This positive trade balance will increase the money supply which will reduce unemployment. ``Adam Smith's views of trade as positive sum game in which all trade partners can benefit. However, in the case of mercantilist trade theory view trade as zero sum game in which trade surplus of one country is offset by a trade deficit of another country``.(Heckscher, 1987)

The argument of mercantilism theories of international trade i.e. ```commercial revolution`` commuted some basic fallacies. First, the philosopher of mercantilism they have believed that a nation gain of trade only measured by accumulation wealth, i. e gold. This would have not have effect on increase production and consumption. Second is, all classical and neo-classical economic school they believed that the gain of trade by efficiency and specialization. However, in case of mercantilism thought they did not rather, they were emphasizes a nation power will come by rise the volume of export and limited restriction import. Third, ``they have focused on the overall goal of system that means maximize wealth from sale export. This is the big failure theory trade since all nations cannot maximize export´´. (Ajami, 2006)

Adam Smith, the Scottish earlier father of economic Adam Smith in his ``wealth of nation book ``state that absolute advantage of the free international trade. Smith, international trade theory thought completely differs from the mercantilism thought of international trade. According to him international trade is based on absolute advance a country only produce a goods their most efficient product while Importing goods from abroad where they can be produced more efficiently is better as it allows the importing country to focus on production of other goods that can itself be produced efficiently. In addition to absolute advance the cause trade smith have suggested the technology difference as the reason of trade between the importer and exporter (Ajami, 2006).

David Ricardo, Book entitled "Principle of Political Economy and Taxation in 1819" presents the law of comparative advantage of international trade theory developer's by one of early classical economist David Ricardo. He was suggests that the mechanism of a two country gain mutual benefit from international trade though absolute disadvantage. If a one country is less efficient than other nations in the production of both commodities even if there is still a basis for mutually beneficial trade. Assumption of David Ricardo was only the factor of production is labor and a country gain through trade by comparative advantage`.

H-O theory for international trade, David Ricardo, in his comparative advantage of trade theory, did not give the answer as to how pattern of foreign trade can be determined. This was the failures the David Ricardo comparative advantage trade theory. The answer was provided by two Neoclassical Swedish economists, Heckscher (1919) and Ohlin (1933). They focused on "factor endowments" variability as the source of international trade (Horvant, 1999)

2.3 Overview of Export Performance in Ethiopia

Ethiopia's export sector grew more than fivefold in the past decade from 483 million USD in 2002/3 to 2.7 billion by 2010/11. This is equivalent to a 25% growth rate per annum which is more than double that of the average growth rate of the past four decades (i.e. 1960/61-2000/01). Primary agricultural commodities are the major sources of growth in the export sector during this period. In fact, earnings from export of primary agricultural commodities grew rapidly and consistently from a little higher than 300 million USD in 2002/3 to a little lower than 2 billion USD in 2010/11. Moreover, the share of agriculture to total export proceeds increased consistently from about 63% in 2002/3 to 82% in 2008/9, though it slightly declined to 71% in 2010/11. In contrast to this, the share of non-agricultural goods (merchandise goods and gold) was, by and large, constant during the same period with a slight increase since 2008/9 (EEA, 2013).

When we look at the last 41 years data, the export structure of Ethiopia has been characterized by greater concentration on few traditional exports such as coffee, hides and skins and oilseeds and pulses. From the total exports of the country coffee was the dominant export commodity accounting for about 52.27% of the country's total exports, on average.

Though Ethiopia's total exports have been growing at an average rate of 15.23% during the year 1970/71 to 2010/11, Ethiopia's export sector is still small; evidenced by the lower export/GDP ratio and the declining share of exports in import financing. Exports of goods in Ethiopia are only about 7% of GDP, compared to an average of near 30% of GDP in Sub-Saharan Africa. Export levels still fall short of what is registered by other African countries with much smaller populations (Uganda and Tanzania both export more than $3 billion per year. Growth rates are also very modest if one makes a comparison with Asian countries over a decades-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 billion in Ethiopia versus $65 billion in Vietnam (Capital, 2010 and NBE, 2011).

Similarly, the share of export in import financing (Export/Import ratio) has contracted from the 1970/71 to 1979/80 average level of 88.46% to 40.67% in 1980/81 - 1989/90 and 28.94% in 1990/91 – 1999/2000 and further it declined to 24.68% for the period 2000/01-2010 /11 on average. With regard to share of world export, Ethiopia's share in total world exports is still very low, amounting to 0.01% in 2010 (WTO, 2011).

When we consider the major determinant of export sector of the country, according to Yishak (2009) supply side conditions are a major factor to determine Ethiopia's export performance. Besides domestic national income, the major supply side factors such as internal transport infrastructure and institutional quality are found to be statistically significant and affect Ethiopian exports positively; whereas FDI and real exchange rate are found to be statistically insignificant. He also identified foreign market access conditions significance in Ethiopia's export performance. The national income of trading partners, which determines their market capacity or import demand, trade openness of the trading partners and distance, which is a proxy for transport costs, are the major

determinants. While trading partners' income and trade openness affect Ethiopian exports positively, distance between Ethiopia and its trading partners affects Ethiopian exports negatively (Yishak, 2009).

Belayneh and Wondaferahu (2012) on their assessment of short run and long run determinant of Ethiopia's export suggested that real GDP of home country, real effective exchange rate, financial development, trade liberalization, infrastructural development are positive and significant determinants of country's export. They recommended that real GDP of trading partners were insignificant to determine country's export in the long run. Among the aforementioned variables only trade liberalization (openness) was the only determinant of country's export in the short run. It is found to be positive and statistically significant whereas the rest variables are found to be statistically insignificant.

Belayneh and Wondaferahu (2012) also suggested that an increase in the country's real effective exchange rate cause a gain in competitiveness of that country. Thus, a conducive and stable exchange rate policy has to be ensured. That is government has to control up rising movement of domestic price and allow further nominal depreciation of local currency in longer run in order to encourage more export. In promoting Ethiopian export the role of maintaining a high and sustainable economic growth is indispensable. The development of telecommunication and transportation facilities is crucial not only in promoting countries economic growth; it is also to sustained export performance. Thus, it needs investment in infrastructural development. This pertains in particular improvements of the main roads that connect the production areas and central markets. The role of communication service should also due attention. Thus it needs more investment to improve the role of the sector for export growth. Access to finance is critical. That is the empirical finding has policy implication that needs encouragement of credit to the private sector. This can be maintained by further reduction cost of borrowing, improving the institutional qualities, controlling inflation and reducing the government budget deficit (Belayneh and Wondaferahu 2012).

2.4 Overview of Hides and Skin Sector in Ethiopia

FAO (1998) report revealed that the off take rate in the country is estimated at about 8% for cattle, one of the lowest in Africa in terms of proportion to the livestock population. This amounts to between 2.2 and 2.8 million head of cattle per year. Off take for sheep and goats is estimated at 40.5% and 34% respectively or a total of about 14.5 million shoats annually. Nevertheless, there is a possibility that the FAO estimate may not include the off-take that takes place through the cross-border trade to Somalia, Djibouti and Kenya. Thus the off-take level of livestock particularly for shoats and to some extent cattle could be relatively higher than both estimates (Yacob, 2002).

Ethiopia has been exporting more of hides and skins relative to its meat and live animals export. The channels for the collection of hides and skins to the tanneries are relatively well established but need significant improvements to reduce damages caused by thorns, ectoparasitic diseases, poor flaying and storage methods. Whereas achieving significant improvements on the former two may not be easy given the country's' under developed animal health delivery system and livestock grazing habits, technical improvements on the latter two are within reach given some commitment (Yacob, 2002).

According to Girma (2002) the introduction of modern system of improvement of hides and skins in an organized form in Ethiopia could be looked at in three different stages of development:

The first was the establishment of Livestock and Meat Board in 1964 and continued introducing the system of moving the traditional method of preservation of hides and skins (ground drying, smoking and pegging of sheep and goat skins etc.) to modern preservation frame drying technique, so as to promote the production and supply of better quality raw material and to discourage the improperly preserved hides from reaching the central market. This resulted in a systematic procedure of marketing. The Board has been involved in the employment, training and assignment of hides and skins technicians at potential hides and skins production centers such as Shashemene, Addis Ababa, Dessie, Mekele and Gondar.

The second stage was the establishment of the Second Livestock Development Project (SLDP) in 1972 for the improvement of livestock marketing infrastructure and quality of hides and skins, planned to intensify the improvement scheme initiated in phase one of the Meat Board, and has contributed greatly to the proper handling of hides and skins in the country.

In the third stage of development, the government tried to have a broader outlook of the hides and skins industry of the country and a detailed work was done. A series of comprehensive hides and skins development programs and projects were also systematically prepared and launched. The hides and skins improvement responsibilities were decided upon in 1980, to be under the MoA, which were represented in all 14 provinces and in each province there were a number of extension workers responsible to properly execute the extension programs in their respective areas.

Under such a scheme, the specific responsibility of hides and skins improvement development was then vested in the MoA. The Animal Resources Marketing Department (ARMD) in the Ministry, whose mandate covers both extension and regulatory activities, took over these responsibilities together with the hides and skins improvement staff of the SLDP that were transferred to the MoA (Girma, 2002).

To implement the foregoing of the Ministry found necessary to establish an autonomous and responsible public authority with appropriate powers and duties. Therefore, an animal products and by-products marketing authority, known as Livestock Marketing Authority (LMA) has been brought into being by proclamation as an autonomous Federal Government body having juridical personality.

The objective of the Authority as given by the Proclamation is to promote the domestic and export marketing of animals, animal products and by-products (hides and skins) by increasing their supply and improving their quality. Its mandate is wide ranging including direct involvement in the construction and establishment of marketing infrastructure, abattoirs and processing facilities (Girma, 2002).

The Military Government (Derg) in accordance with the general framework of socialist oriented economic growth; a number of fundamental and far-reaching reforms and institutional changes were introduced since early 1975 (Ahmed, 2000).

First, establishment of the Hides and Skins Marketing Corporation (HSMC) in 1976 under the supervision of the ministry of trade and industry was done. The Corporation was set up to further strengthen the hides and skins trade on the basis of the following objectives:

- To improve hides and skins qualities to compete in the world market;
- To advertise both at home and abroad the quality of Ethiopian hides and skins
- To publicize daily international hides and skins prices as well as future trends; and
- To introduce a countrywide system of buying and selling on an established grade and weight system; and to provide a regular supply of hides and skins for the tanneries. The Corporation had participated in the local and export trade of the commodities.

Gearing towards the expansion of the business, the Corporation offered premium prices and incentive for both high volume supply (above quota) of better grades and weights of hides and skins (Girma, 2002). Besides, efforts have been made by the same corporation to train slaughter home people, and hides and skins merchants in order to properly handle and maintain hides and skins.

Second, establishment of the National Leather and Shoe Corporation (NLSC) in recognition of the economic importance of the leather sector in Ethiopia, and having in mind the raw material availability and market opportunities, in 1976. The NLSC, under the MoTI, was determined to reshape and administer the nationalized leather sector including 8 tanneries, 6 shoe factories and one garment factory (LMA, 1999).

Third, establishing and expanding Agricultural Service Cooperatives organized from three to five peasant associations, and cooperative marketing were became the important rural institutions to provide economic and social services to their members.

The major constraints of hides and skins marketing faced were reflections of the economic policy which were characterized by socialist-oriented development and centralized planning system: nationalization of major industries, financial institutions, allocation of quotas, fixing prices, legal monopoly of corporations, restriction of trade movement and the like (Girma, 2002). Apart from the problems that stemmed from the system, the main constraints in the marketing of hides and skins included an inadequate network of primary buyers, lack of facilities for slaughtering, preservation, storage and transportation, 'lack of incentives for improvement' and limited effectiveness of government extension service (Ahmed, 2000).

Following the demise of Derg in May 1991, the Ethiopian People's Revolutionary Democratic Front (EPRDF) led government, introduced a series of significant policy reforms. The total changes of the economic and institutional environment of the country focused on stabilizing the economy and deregulating economic activities, which were previously characterized by central planning. The role of the state was limited; the trade regime liberalized; capital ceiling of private sector removed; private traders allowed in the domestic and foreign trade sector; private investment procedure simplified and other significant reforms enacted (Girma, 2003).

2.5 Export of Hides and Skins in Ethiopia and Its Determinants

The hides and skin is a very critical strategic sector for the economic and industrial development of Ethiopia. The country has an abundant and renewable resource base in Ethiopia's large population of cattle, sheep and goats. The sector is labor-intensive with the potential to be a major source of employment all along the value chain. The government of Ethiopia has made the leather and leather products value chain among the top four most promising industries in the country due to its strong backward linkages to the rural economy, and potential for poverty reduction; which reveals the importance of hides and skins sector to Ethiopia's Economy (USAID, 2013).

Ethiopia earns over 51 million USD from the export of hides and skin on average annually before 2010. According to Ministry of industry report, Ethiopia is harnessing its capacity to grow competitive in the international skin and hides market by utilizing its potentials (www.serkadis.com). By the year 2010/11 skin and hides export grew nearly by two fold earning 104.3 million USD. The year 2011/12 has shown a 7.4% increase, according to Ministry of Industry report. The report says the increase is due to the role of private investors and government in the sector (Ethiopian express, 2013).

When we consider the determinants of hides and skins export in the country, Elias; on his analysis of the effect of depreciation of Birr on hides and skins export, stated that exchange rate is one but not the top factor that affects the export volume of hides and skins. By its nature the production of hides and skins is subject to many other factors including the weather conditions, the farmers' attitude, government efforts for improved technology disseminations, type of sheep and goat bear, and many other which are not included for the estimation. The level of export of hides and skins has been increasing, but not at a consistent rate due to other factors. The positive effect of devaluation may appear to exist after some sufficient time lag, which is the enlightenment of the J – curve (Elias, 2011).

According to Elias's report real exchange rate is one of the factors that can affect the level of export of hides and skins, but there is no guarantee for its intended long run effect that the change in real exchange rate definitely positively affects the level of export of hides and skins.

Meat consumption drives the supply of hides and skins to the market in Ethiopia and all over the world. Maintaining ever larger herds of animals is a traditional sign of prosperity, heightening the social status of the owner while contributing to a continual shortage of hides and skins in the leather supply chain. In addition to a shortage of supply, the quality of sheepskin in Ethiopia is generally low due to poor flaying habits as well as the proliferation of Ectoparasites, known as "Ekek" in Ethiopia. Nearly 80% of all

sheepskin from the highland areas of Ethiopia is affected by Ekek, while most of the rejected sheepskin is due to defects as a result of Ekek (USAID, 2013).

The main challenge among others in the hides and skin sector of the country is lack of coordination among actors in the sector. Due to lack of quality, the resource is not generating the desired foreign currency as it deserves (Ibrahim, (2007)).

With regard to the challenges faced by each of the three animals (cattle, sheep and got) used for hides and skin production in the country, each of the animals face a different situation with regards to their hides and skins production, collection and delivery to the tannery. According to USAID report, wattle raw hide production at the producer level exceeds tanning capacity, yet traders supplied too few of those hides to tanneries. The tannery collection-to-production rate approximates to 38% for cattle; 92% sheep skin, and 86% for goat skin. For cattle hides, the issue appears to be a matter of collection – since production levels at 3,649,000 hides would meet tannery capacity.

Value chain inefficiencies in all three livestock categories resulted in lost income, employment and market opportunities for cattle hides because of insufficient collection, sheepskin due to insufficient collection and production and Goatskin from both insufficient collection and production (USAID, 2013).

2.6 Empirical Literature

Belayneh (2012) in his thesis of "determinants of export performance of Ethiopia" using vector auto regression model revealed that in the long run export performance has found to be positively influenced by REER, RGDP, infrastructural development and financial development. The paper also studied that in short run only openness has directly involved in enhancing export performance.

Nega Muhabaw (2013) used VEC model to analyze what determines the export performance of Ethiopia. The researcher used annual data from 1974– 2011 The results from the econometric analysis revealed that trade openness, GDP, REER, significantly affected export performance in the long run except capital expenditure. In the short run, terms of trade became insignificant and negative.

Samuel Tekeste (2012) in his study analyses determinants of agricultural export in Ethiopia, during the period 1980-2010, has been made using co integration analysis. The results from the cointegration and error correction models revealed that world price, GDP, fertilizer inputs and kilometers paved roads significantly affected agricultural export performance in the long. In the short run, gross domestic product (GDP) became insignificant and negative in sign which was unexpected.

Elias Ali (2011) on his study the effect of depreciation of birr on major export products of Ethiopia; the case of hides and skins from 1992-2008 using Johansen cointegration model he found that real exchange rate is one factor, among many others, that affects the volume of export of hides and skins.

Kebede Bekele (2011) using Gravity Model to study that if Real Exchange Rate Matter for Ethiopia's Exports? He found that both lagged and current real exchange rates are not in a position to exert significant effect on the bilateral exports of the country.

Mulualem Eshetu (2002) used ordinary least square method to analyze the performance and determinants of the Ethiopian leather Sector. The world market unit price/value of the exports and the local real exchange rate have been found to have significant effect on the long run supply of the export sector. In the short run analysis, the domestic consumption pressure and world supplies from major exporters are found important factors in hindering the growth of the export sector.

Yishak Tekalign (2009) on his discussion paper of Determinants of Ethiopia's export performance using Gravity model revealed that good institutional quality and internal transport infrastructure appear to be major determinants, whereas 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.

Debele Gemechu (2002) on his master's thesis used cointegration and errer correction model to study export and economic growth in Ethiopia. The key finding in this study was that export growth positively and significantly affected economic growth of Ethiopia.

Daniel D.Abshir (2011) in his study "domestic market structure and export performance: case of the Ethiopian leather industry" during the period 1998-2009 by using Concentration Ratio and Herfindahl-Hirschman Index method finds that local market concentration is potent Predictor of Ethiopian leather industry firms' export revenue.

Eyayu Tesfaye (2011) studied determinants of agricultural export in sub-Saharan Africa from the period 2000-2008.he used Fixed Effects Estimation Technique to estimate the data. The estimation result shows that on the supply side, factors such as real GDP, real GDP (lagged) of exporting country and lagged agricultural input use positively and significantly affects agricultural export of the SSA countries. The study also indicates that on the demand side the effect of per capita GDP of US, the major trading partner of SSA countries, is positive and significant.

Yared Mesfin (2010) in his thesis of "Economic impact and determinants of export: the case of Ethiopian textile and Apparel industry" used Cointegration and error correction revealed that labor cost and trade openness (liberalization) have positive impact on the export performance of the sector, whereas cotton export and exchange rate have negative impact.

CHAPTER THREE

3 RESEARCH METHODOLOGY

3.1 Data Type and Sources

Time series secondary data from 1975 to 2014 on hides and skins are used in this study to analyze its performance over the mentioned period. Time series data incorporated in this study are export of hides and skins valued in US dollar, real income of trading partner (average real GDP of 10 major trading partners which accounts about more than 75 percent of Ethiopia's export destination) valued in USD, real GDP of home country valued in USD, openness (calculated using the sum of export and import of goods and services as a ratio of GDP), real effective exchange rate and Government expenditure for transportation and communication is calculated by taking both capital and current expenditure for communication and transportation including road are collected from NBE (2015),ERCA (2015), United Nation and World Bank (2015).

3.2 Model Specification

This study focuses on demand side as well as supply side determinants of Ethiopia's hides and skins export performance. As mentioned in the previous chapter the major supply side factors that could determine the export of a country include domestic national income, real exchange rate, internal transport infrastructure, institutional quality and financial development. When we consider supply side determinants, foreign market access conditions, national income of trading partners, trade openness of the trading partners and distance are the major determinants.

Hence, this study assesses Ethiopia's export performance as a function of real GDP of Ethiopia and its trading partners, real effective exchange rate, openness, infrastructural development and trade openness of the country. Empirical methodology is applied to address the purpose of the research mentioned in the research question.

There are some prerequisites dealing with data before realizing VAR models that should be implemented. First, time series included in VAR model have to be stationary. Therefore, unit root test is applied. The test primarily utilizes Augmented Dickey Fuller (ADF). Secondly, the appropriate lag length is determined. And then co integration test, VECM, finally stability test follows.

$$HSX_{ijt} = \alpha + \beta X_{ijt} + U_{ijt}, \qquad i = 1, 2 \ldots N \quad t = 1, 2 \ldots T$$

The vector β is a constant vector of parameters that is of primary interest; i,j and t denotes Ethiopia, treading partners and time period respectively. U_{ijt} denotes the unobservable individual specific effects which are time invariant and account for any individual-specific effects not included in X.

HSX_{ijt} represents Hides and Skins export of Ethiopia to country j at period t (in million USD). X_{ijt} represents a vector of (ln of) explanatory variables that are assumed to affect hides and skin export of the country. The explanatory variables include Real GDP of the Ethiopia which shows the total potential supply capacity of the country; Real GDP of the importing countries to evaluate the effect of level of development or import demand, real effective exchange rate, trade openness of the country, and public expenditure on transportation and communication.

Therefore, the regression equation is given by:

$$\mathbf{lnHSX_{ijt} = \alpha + \beta_1 lnRGDP_{it} + \beta_2 lnRGDP_{jt} + \beta_3 lnREER_{it} + \beta_4 lnOPEN_t + \beta_5 ETCX_{it} + U_{ijt}}$$

Where;

- HSXijt = Hides and skin export of Ethiopia to country j (treading partner) at time t
- RGDPit = Real GDP of Ethiopia at time t
- RGDPjt = Real GDP of country j at time t
- REERit = Real Effective Exchange Rate of Ethiopia at time t
- OPEN = Openness (import + export as a percentage of GDP)
- ETCXit = Public expenditure in transportation and communication including Road construction as a ratio of GDP at time t
- Uijt = Error term

3.3 Explanation of Variables

The dependent Variable is the total hides and skin export of Ethiopia to country j and as independent variable Real GDP of Ethiopia and trading partners, real effective exchange rate, trade openness of Ethiopia and government expenditure on transport and communication including road from the period 1975-2014 measured in millions of dollars.

Real GDP

The relationship between Ethiopia's hides and skin exports with both real GDP measures is expected to be positive. A higher GDP in Ethiopia means a higher production capacity which in turn translates into the ability of the Ethiopia economy to export more of the product. On the other hand, a higher GDP for a trading partner country means a higher absorption capacity or the ability to import more.

Real Effective Exchange Rate (REER)

REER represents real effective exchange rate and is expected to have significant and positive/negative coefficient. Increase/decrease in exchange rate is defined as appreciation/depreciation of the domestic currency in this study. A depreciation of real exchange rate has a positive influence on export sector while the real appreciation of the local currency tends to reduce the external competitiveness of a nation.

A real exchange rate appreciation tends to make domestic goods more expensive at home than abroad so that it becomes difficult for export producers to sell their goods abroad but more attractive to sell their goods at home.

Real Effective Exchange Rate is used to capture appropriate incentives for exports, which may trigger supply response. Exports and real exchange rate are expected to be positively related as higher rates of exchange(depreciation of Birr) enhances the competitiveness of the domestic goods, resulting in higher demand for Ethiopia's exports, including hides and skin products.

The CPI-based REER index, for country i, is defined by the IMF (2006) as:

$$REER_i = \prod_{j \neq i} \left(\frac{e_i p_i}{e_j p_j} \right)^{w_{ij}}$$

Where ei= index of nominal exchange rate of country i in US dollar

ej= index of nominal exchange rate of country j in US dollar

pi =index of consumer prices of country i

pj=index of consumer prices of country j

wij= trade weight assigned to partner j by country i

Government Expenditure

The quality of infrastructure is one of the key determinants of export performance. Infrastructure (road, power, communication, etc) development, which is the key determinant factor for the flourishing of any industry especially export sector. Therefore, increase in public investment in infrastructure (TCEX) in Ethiopia is expected to have positive impact on export of hides and skin.

Openness

It is assumed that the more open an economy to the external world the higher will be its foreign exchange earnings from export. The implication is that a country needs to integrate to the world market by diversifying its trading partners. The degree of integration of a country to external market is thus measured by openness to trade, which is given by the sum of exports and imports of goods and services to GDP ratio. Thus, an increase in the ratio of exports and import of goods to GDP (or OPN) implies better integration of Ethiopia to the external world and hence higher export earnings. In short, an increase in openness will have positive impact on export performance.

3.4 Methods of Data Analysis and Estimation Techniques

All the row data is transformed into natural logarithm (LN). Then all these variables are tested using VAR model of **Eviews 8 software** based on the following econometric methods;

3.4.1 Unit Root Tests

A test of stationarity (or nonstationarity) that has become widely popular over the past several years is the **unit root test.** Many macroeconomic time series are not stationary at levels and are most adequately represented by first differences. Hence, the first step in time series econometric analysis is to carry out unit root test on the variables of interest. The test examines whether the data series is stationary or not. A time series is stationary if its mean and variance do not vary systematically over time (Harris, 1985). To conduct the test, the conventional Augmented Dickey - Fuller (ADF) test has been used.

3.4.1.1 Augmented Dickey–Fuller test

The Augmented Dickey Fuller test is used to prove whether the suspected problem of non stationarity in the graphical analysis exactly happens. To allow for various possibilities, Dickey and Fuller show that the test can be estimated in at least three different forms (Gujarati 2004).

Yt is a random walk without drift: $\Delta Yt = \delta Yt{-}1 + ut$ ..... (1)

Yt is a random walk with drift: $\Delta Yt = \beta 1 + \delta Yt{-}1 + ut$ ..... (2)

Yt is a random walk with drift around a stochastic trend: $\Delta Yt = \beta 1 + \beta 2t + \delta Yt{-}1 + ut$ (3)

Where t is the time or trend variable. In each case, the null and alternative hypotheses are:
Ho: $\delta = 0$; [or $\rho=1$ that is, there is unit root or the time series is nonstationary]

Ha: $\delta < 0$; [or $\rho<1$ that is, there is no unit root or the time series is stationary]

If it is assumed that the error term ut is uncorrelated, the DF test may be used. But in case the uts are correlated, Dickey and Fuller have developed a test, known as the **augmented Dickey–Fuller (ADF) test.** This test is conducted by "augmenting" the preceding three equations by adding the lagged values of the dependent variable ΔY_t. In ADF we still test whether $\delta = 0$ and the ADF test follows the same asymptotic distribution as the DF statistic, so the same critical values can be used (Gujarati 2004).

The ADF test is based on the regressions run in the following forms.

$$\Delta Y_t = \alpha_1 + \beta Y_{t-1} \qquad (4)$$

In each case the null hypothesis is that β=0, that is, there is a unit root. The null hypothesis (H0) is thus a series contains a unit-root (non-stationary) against the alternative hypothesis (H1) stationary (deterministic trend).

3.4.2 Co integration Model Analysis

Once the order of integration of the non stationary variables has been determined and of variables is found to be non stationary the next step is Co-integration. The test for cointegration is to check for the existence of co-integrating relationships between non stationary explanatory variables, are co-integrated, if they have a liner combination of their data series that is stationary even though the individual series are non-stationary. In other words, it is needed to test for the stationary of the liner combinations of these variables.

Lag length selection is one of the most important steps after stationary test and before co integration test. Hence, we employed the information criteria methods like Akaike's (1974) information criterion (AIC), Schwarz's Bayesian (1978) information criterion, and Hannan- Quinn information criterion (HQIC) show the optimal lag length where the information criterion is smallest. With the help of this procedure it is possible to examine the long run relationships between two variables.

Cointegration means that despite being individually nonstationary, a linear combination of two or more time series can be stationary. Cointegration of two (or more) time series suggests that there is a long-run, or equilibrium, relationship between them Regarding the test for the existence of cointegration, there are a number of methods for testing it. Among these the Engle Granger two step residual based procedures and the Johansen test are the major ones used by many researchers.

In the Engle Granger methodology, the residuals from the long-run relationship are tested for stationary to determine whether the variables are cointegrated or not. The DF test could be performed on the residuals to determine their order of integration. If the residuals do not appear to be white noise, the ADF test can be used instead.

Testing for cointegration using the Engle-Granger procedure has a number of weaknesses. First the test for cointegration is likely to have lower power against the alternative tests. Second, its finite estimates of long-run relationship are potentially biased and third, inferences cannot be drawn using standard t-statistics about the significance of the parameters of the long run model [Harris (1995)]. In addition to the above the test procedure assumes that there is only one cointegration vector, when in fact there could be more, that is any linear combination of these vectors is obtained when estimating a single equation. The Johansen procedure takes care of the above shortcomings by assuming that there are multiple cointegrating vectors.

3.4.3 **Error Correction Model (ECM)**

If two variables are not cointegrated or proved to have no long run relationship, the testing procedure will stop there and one will not go for the construction of an error correction model. But if they are cointegrated or proved to have a long run relationship one needs to go for an error correction mechanism. The error correction mechanism (ECM) is a mechanism used to correct any short run deviation of the variables from their long run equilibrium.

3.5 Summary of Methods of Data Analysis and Estimation Techniques

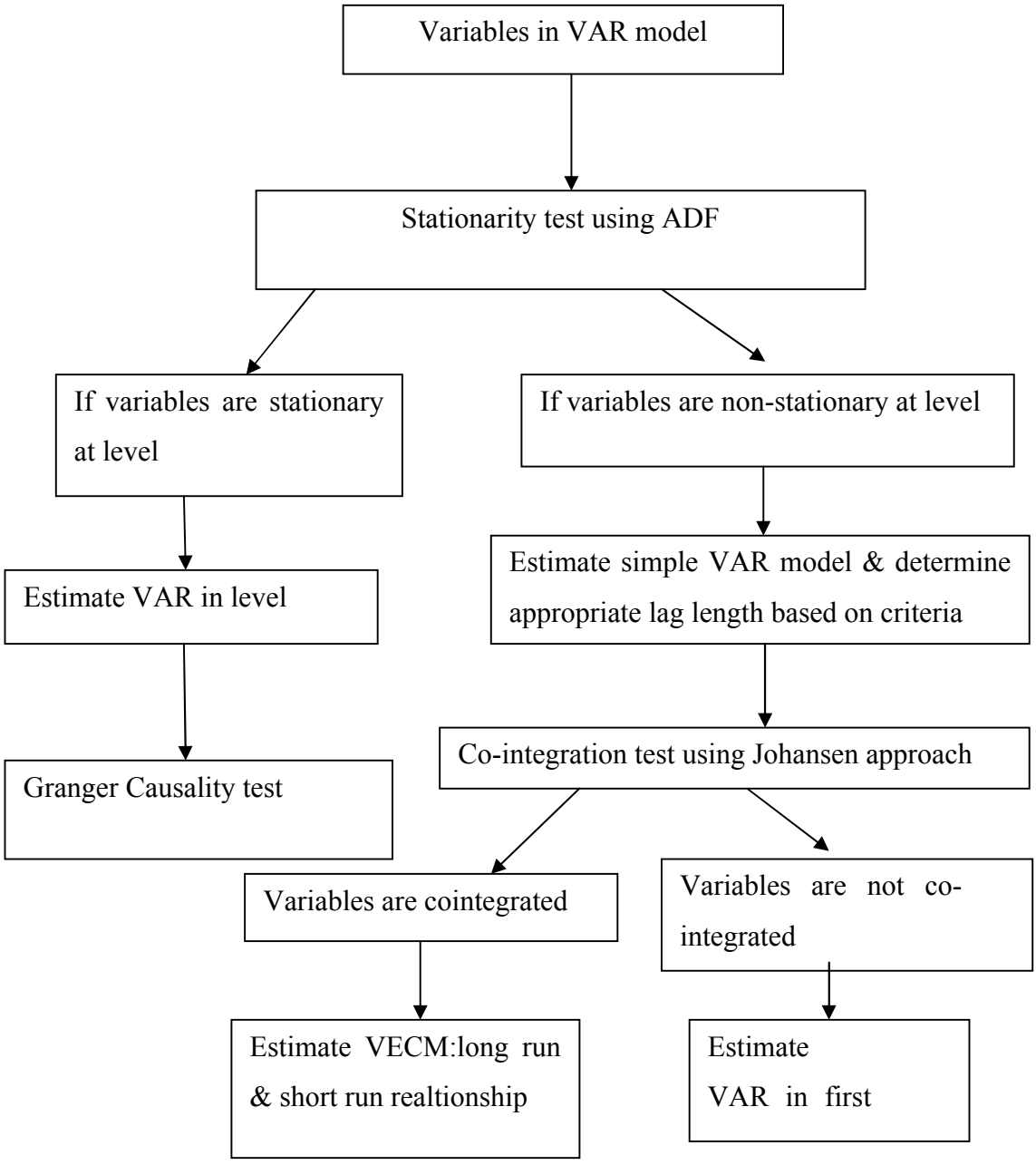

Figure: 3.1 General procedure of data analysis of VAR model

CHAPTER FOUR

4 RESULTS AND DISCUSSION

4.1 Hides and Skins Production of Ethiopia

Hides and skins only result from animal slaughter performed by the meat industry, a by-product correlated to the animal slaughter / off-take rates. The production of hides and skins doesn't show much improvement as compared to the livestock resource of the country. The figure below shows that production of hides and skins for 16 years.

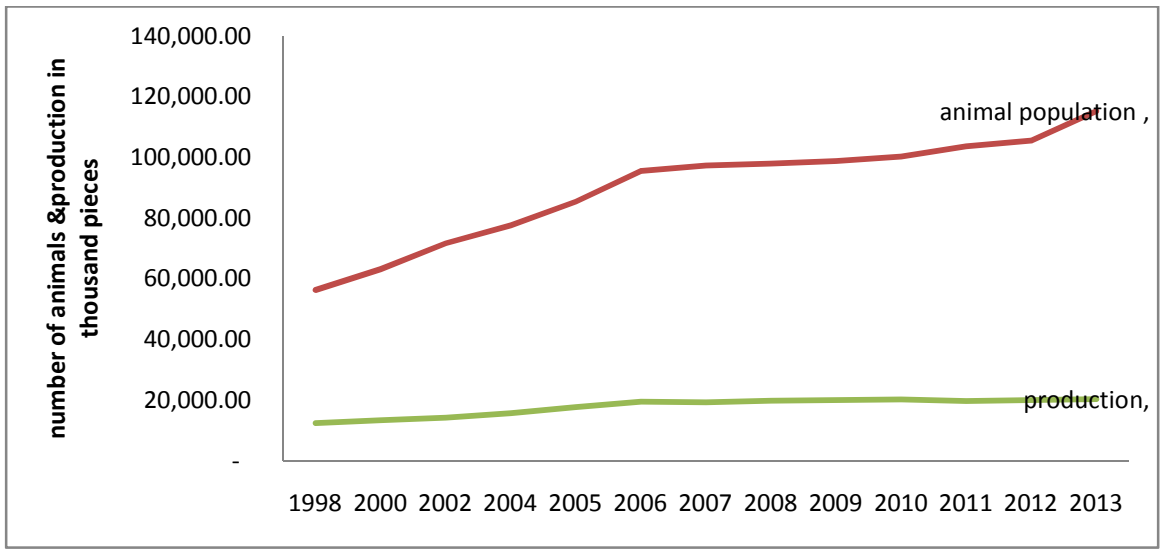

Fig 4.1: Hides and Skins production of Ethiopia

Source: own computation using data from FAO, 2015

From the above figure we can see that the number of animals which is the sum of cattle, sheep's and goats increases over time on the other hand the production of hides and skins show not much increment.

The ratio of output to livestock numbers shows a maximum amount of 22 percent in the year 2000; where as a minimum amount of 18 percent output is registered in 2014. The output ratio decreased in recent time because the production of goat skins become lower

and lower. The reason for the decrement in goat skin production is that because of the low volume of trade in the international market.

Such low output rate suggests that the farmer needs his/her animal(s) as productive assets, e.g. as draught power and milk provision, more than the income he could earn if he sold them into the market.

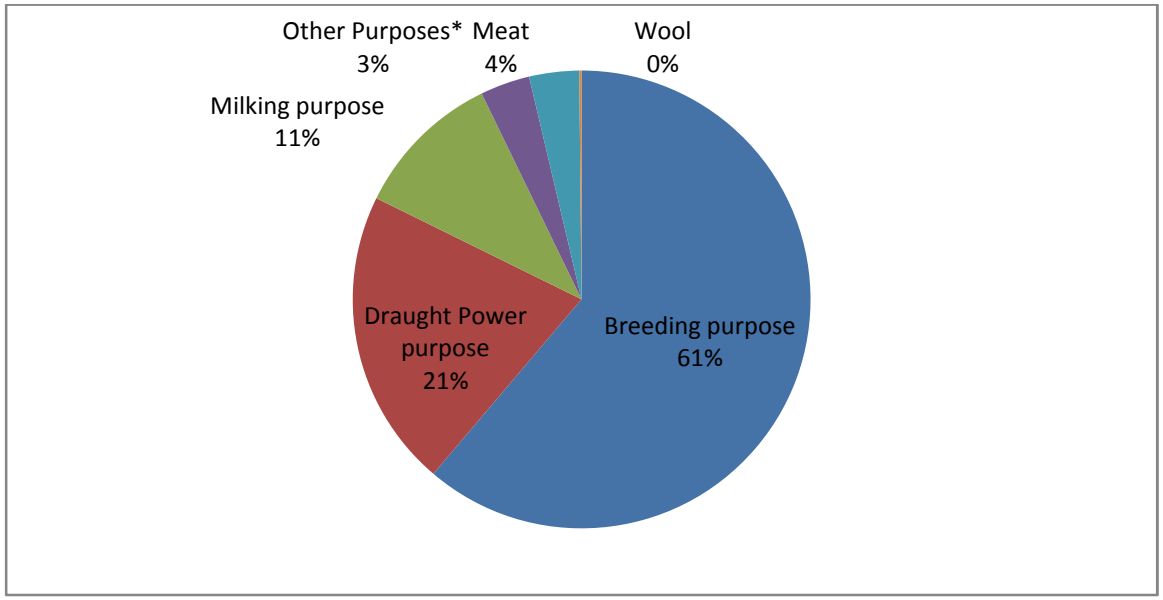

Fig 4.2: **Livestock reared by purpose in Ethiopia**

Source: own computation using data from CSA, 2015

* Other purposes include raising livestock to generate wealth, creating a "savings account" from which owners can withdraw (via sales or slaughter); having an animal to slaughter during festivals or special occasions; and/or building prestige in the local community.

As noted in the graph above, the principal purposes for rearing cattle are draught power and breeding, while the primary purpose given for raising sheep and goats is breeding; yet raising animals for commercial reasons is not a major consideration for livestock owners. For example the share of livestock being raised for the purposes of meat production is only 4 percent. This shows that why the output of hides and skins become low in Ethiopia despite large number of cattle population in the country.

4.2 Hides and Skins Export Performance and Trend

In this sub-section, the trend and performance of Ethiopia's hides and skins export is assessed. The total volume and value of hides and skins export from Ethiopia for the past forty years is presented below.

4.2.1 Trends in Volume

On average Ethiopia has been annually exporting about 5,526.47 tons of hides and skins to the world market for the past thirty years. The volume of export of hides and skins reached a maximum 15,774 metric tons in 2007 and minimum of 0.026 metric tons in 2011. There has been high fluctuation in the total volume of hides and skins throughout the period under consideration. The main reason for the fluctuation was the fall in world markets prices for hides and skins and the export tax levied on the export of the product by Ethiopian government.

The decline in volume of Ethiopia export item which includes hides and skins was in response to the fall in world markets price and weaker foreign demand for primary product owning to economic slowdown in the Asian economies.

The other reason for the volume fluctuation was the relatively small size of Ethiopian hides and skins compared to other countries which presents another vexing challenge for Ethiopian tanneries. For instance, the average Ethiopian hide size is 22 -24 square feet while the average European hide size is about 50 square feet; more than double the size of Ethiopian hides.

In the year 2001 the volume of hides and skins export reached 12,049 metric ton. According to the annual report of national bank this was due to the revival of the Asian economies from financial crisis and associated with strengthening of foreign demand for leather products.

What can be learnt from figure4.3 is that the trend of the volume of export of hides and skins over the past four decades was gloomy and not shown any significant positive trend. Yet it has been highly fluctuating on year to year basis. The fluctuating hides and skins volume trend is shown in the following figure.

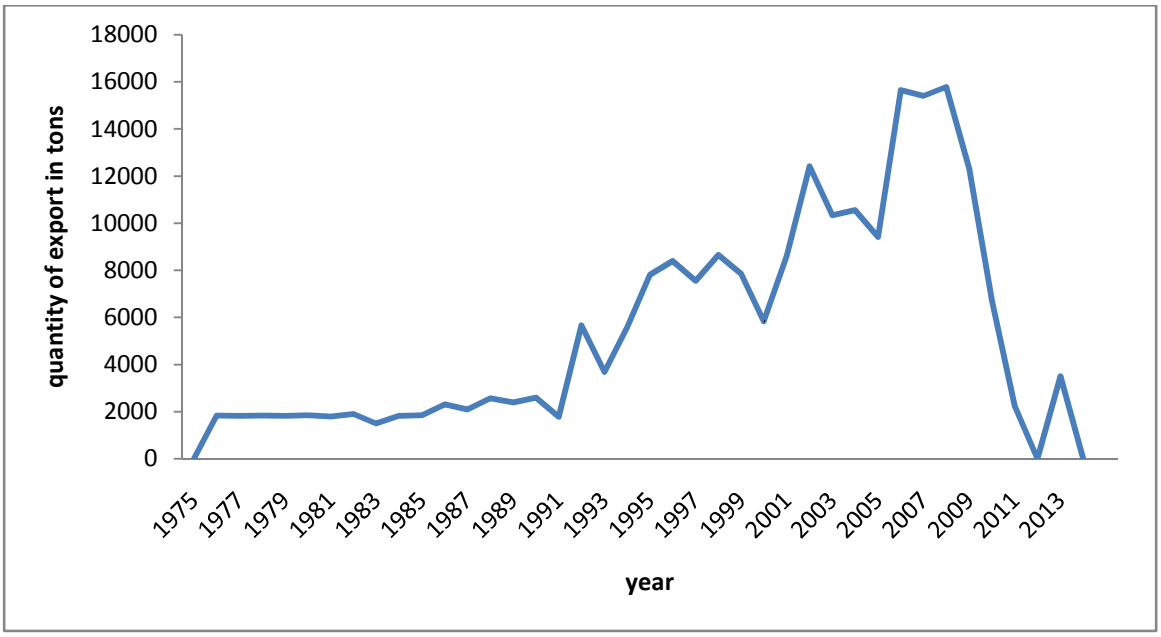

Figure 4.3: Volume of Hides and Skins Export of Ethiopia

Source: Own Computation Using data from NBE, 2014

4.2.2 Trends in Value

For the past four decades Ethiopia had exported hides and skins whose value is a total of $ 1,834,575,394.15 worth to the world. The country's exported value of the product has been continuously fluctuating. The export had reached a maximum of 79.6 million dollar in 2008 and a minimum of 1.2 million dollar in 2013 as it is shown in the figure below.

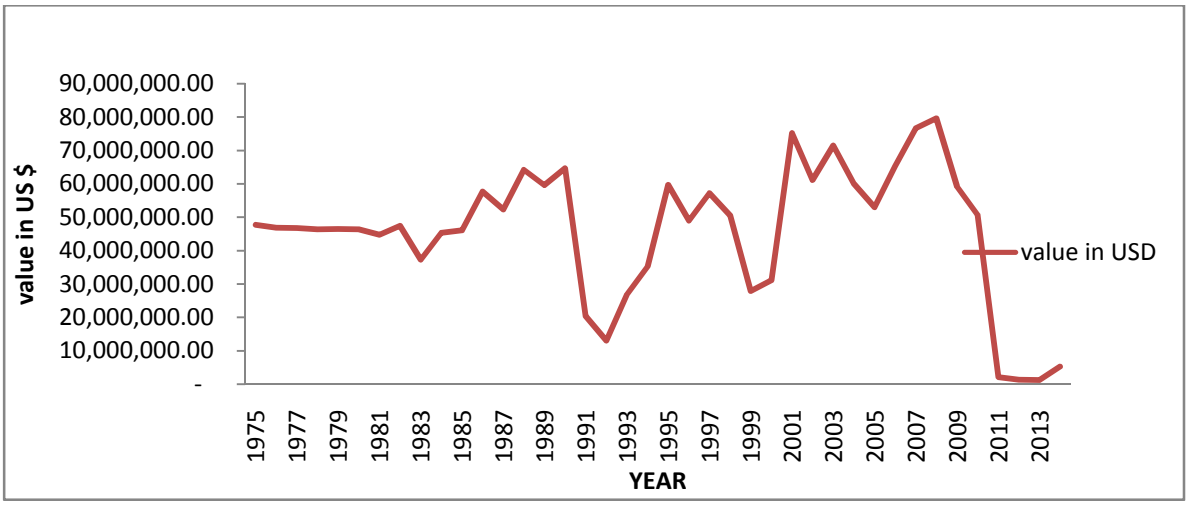

Figure 4.4: Total value of hides and skins export of Ethiopia

Source: Own Computation using data from ERCA and NBE, 2015

The export earning of hides and skins had been fluctuating mainly due to volatility of international market prices, quality deterioration and it has been also vulnerable to the vagaries of nature and the economic and non economic conditions of its trading partners (NBE, 2008).

In recent years the main reason for the fluctuation of hides and skin has been the export tax levied on the export. That is February 2008, the House of People's Representatives has passed a proclamation to toll export taxes up to 150% on raw and semi-processed hides and skins.

The export tax on the product aims to serve as an instrument to encourage industries engaged in the production of hides and skins to shift to exporting processed hides and skins from exporting raw or semi-processed hides and skin. The three stages of the production process of hides and skin are: first, handling of the raw hides and skins (including disease control, slaughtering, preservation and storage of the hides and skins); tanning of the raw hides and skins into leather; and finally, the manufacture of leather products.

Therefore; the next task is to assess the impact of the hides and skins export tax on the total export of the value added hides and skins, i.e. leather products. The figure below presents the trend of leather product export of Ethiopia in the last decade.

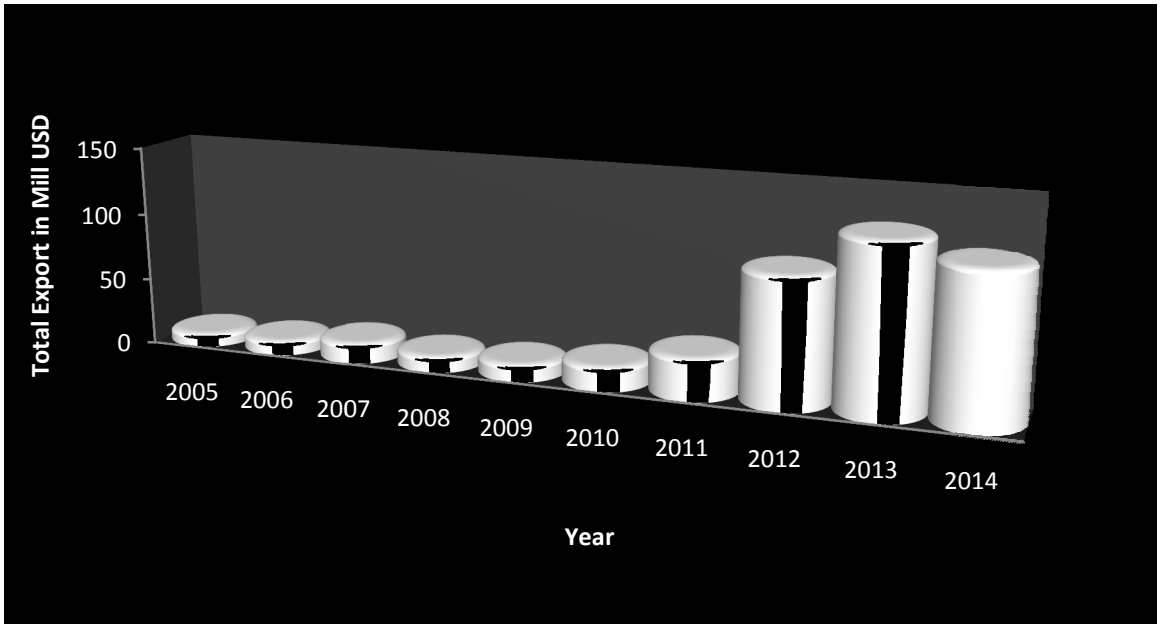

Figure 4.5: Total value of leather export

Source: Own Computation Using data from ERCA

The figure above reveals that the export of leather products had shown a dramatic swing in 2012. The country's total export of leather products has significantly increased from 31 million $ in 2011 to 94.5 million $ in 2012. From this it could be concluded that the government policy to levy export tax on raw hides and skin in order to promote value addition and industrial export had been reasonably successful and promises a positive result in the future.

4.3 Destination of Hides and Skins Export

For the econometric analysis, 10 trading partners that had performed the highest amount of hides and skins import from Ethiopia were selected. The list of countries included in the model and the total value of hides and skins export to these countries is presented in the figure below. As it can be seen from the graph, Italy is the most important destination for the hides and skins product followed by China and United Kingdom.

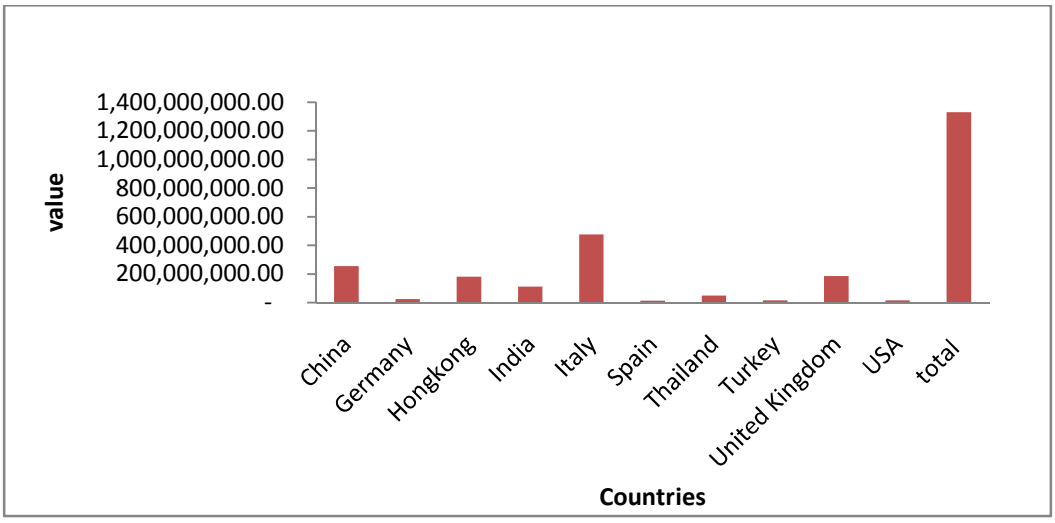

Figure 4.6: Destination of Hides and Skins Export

Source: Own Computation using data from ERCA, 2015

The total value of hides and skins export for the past 40 years to these selected countries accounts 75 percent of the total export of hides and skins of Ethiopia .Italy takes the first rank by importing more than 475 million dollar for the past four decades followed by china and united kingdom.

4.4 Trends of Variables

4.4.1 Trends in Real GDP of Ethiopia

The data collected from National Bank showed that on average the real GDP of Ethiopia had shown a 5 percent growth rate for the past 40 years. Figure 4.7 below shows that maximum growth rate was obtained in the year 2004 which is a two digit increment of 14percent and a minimum growth rate of-55 percent in the year 1991G.C.

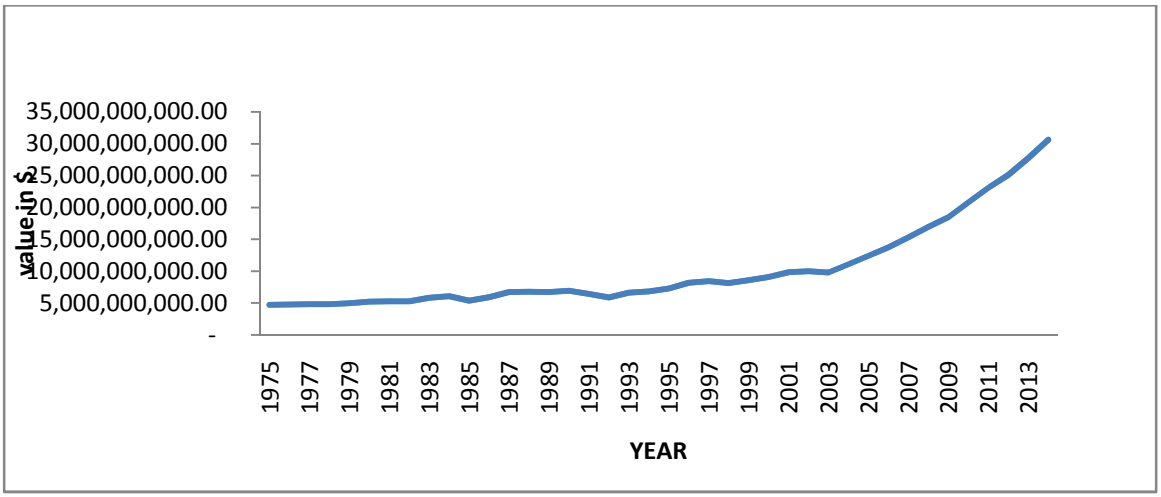

Figure 4.7: Trends in real GDP of Ethiopia

Source: own computation using data from NBE, 2015

The above graph shows that real GDP grow on average 10percent in the past decade (2005-2014). This remarkable growth was mainly attributed to service sector (51.7 percent), agricultural sector (21.9 percent) and industrial sector (26.4 percent) NBE, 2014

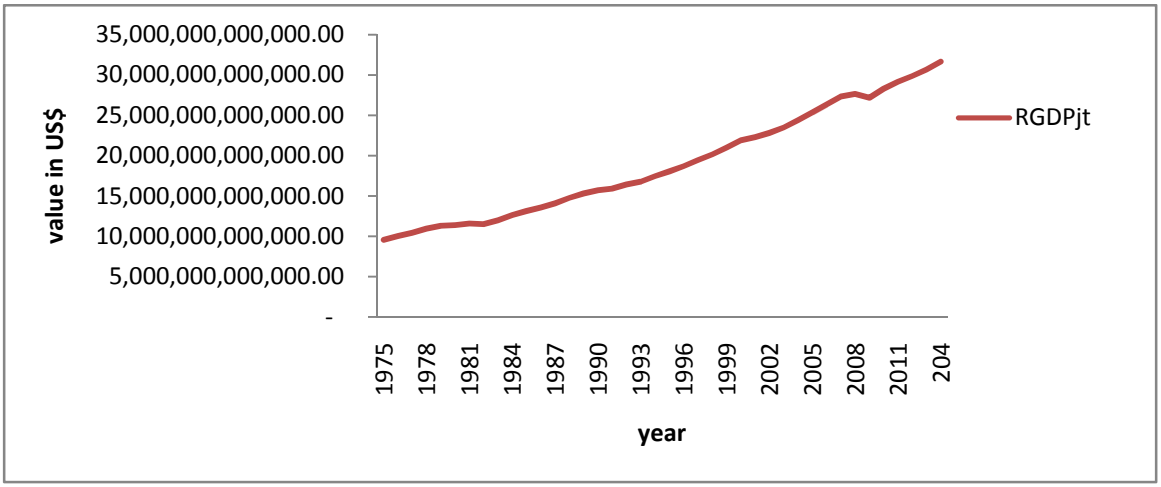

Figure 4.8: Trends in real GDP of trading partners

Source: Own Computation using data from WB, WDI, 2015

Like Ethiopia the trading partners real GDP increase continuously through ought the years. Most of these nations are highly developed countries which have a very high GDP in the world.

4.4.2 **Trends in Total Import and Export**

Ethiopia experiences a negative trade balance for the past decades which shows the export is less than the import of the country. This deficit can be largely explained by the unequal terms of trade between agricultural commodities (the country's major export) and capital goods (the country's major import).

Balance of Trade in Ethiopia averaged -1962.82 USD Million from 1975 until **2014,** reaching an all time high of -72.39 USD Million 1976 and a record low of -9898 USD Million in 2014. This deficit can be largely explained by the unequal terms of trade between agricultural commodities (the country's major export) and capital goods (the country's major import).

In fact, imports have increased in value more than the value of exports, which contributed to the worsening of trade balance. Ethiopia has experienced a chronic trade deficit although it devalued its currency which aimed to bolster the export above import. Although the total trade is increasing continuously, the trade deficit has been widening because of the base for import growth is relatively larger than the export growth.

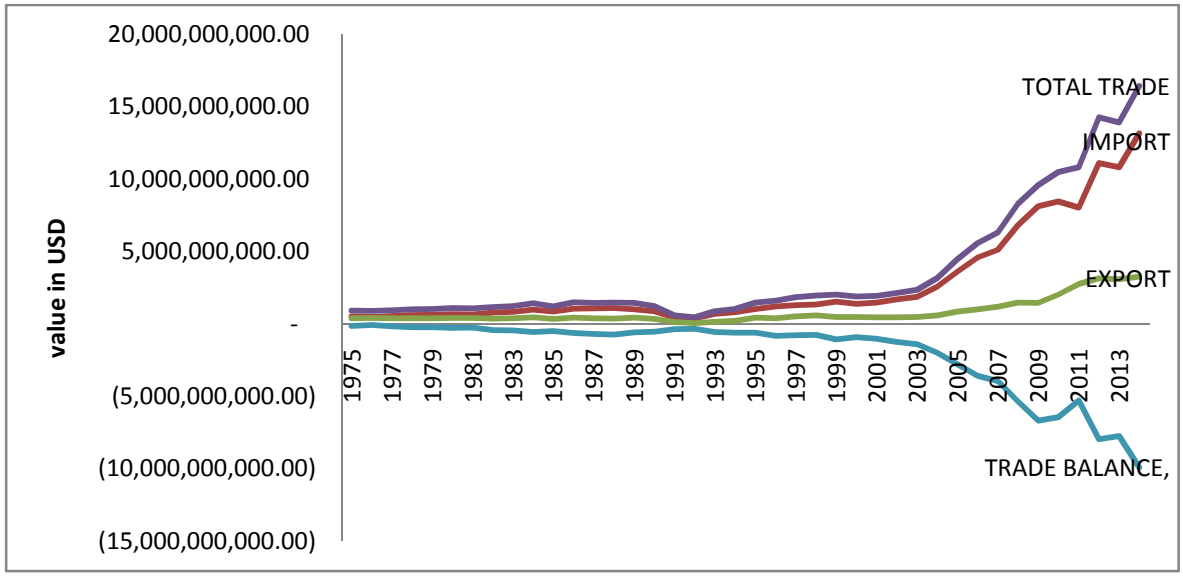

Figure 4.9: Trade Balance of Ethiopia from 1975-2014

Source: Own Computation using data from NBE, 2015

4.4.3 **Trends in Real Effective Exchange Rate**

Real Effective Exchange rate is one of the factors to be looked into while assessing a country's external trade performance. The movement in Real Effective Exchange Rate (REER) as shown in the figure below from the year 1975 to 2014, showed about three distinctive periods with some exclusion that is appreciation of real effective exchange rate from 1975 to 1992 and from 2006 to 2013 but 1979,1981,1987, 1988, 2010 & 2011 and depreciation from 1993 to 2005 but 1998, 2001 & 2003. The REER depreciated by about 40 percent in 1993.

The real effective exchange rate reached its peak in the year 1992 mainly attributed to arise in domestic price level in time of regime change. After the regime change (i.e. the current government), relatively REER has been depreciating due to competitive exchange rate policy measures taken by the authorized body.

In recent years, however, it was appreciated by 35.5 percent in 2009 due to higher domestic inflation relative to that of major trading partners in combinations of nominal effective exchange rate that appreciated by 5.2 percent. This rate of appreciation has been declining after a year 2010 as a result of devaluations of birr in 2010 and intensive effort of the government to control inflation rate. Consequently, REER appreciated in 2012, 2013 and 2014.

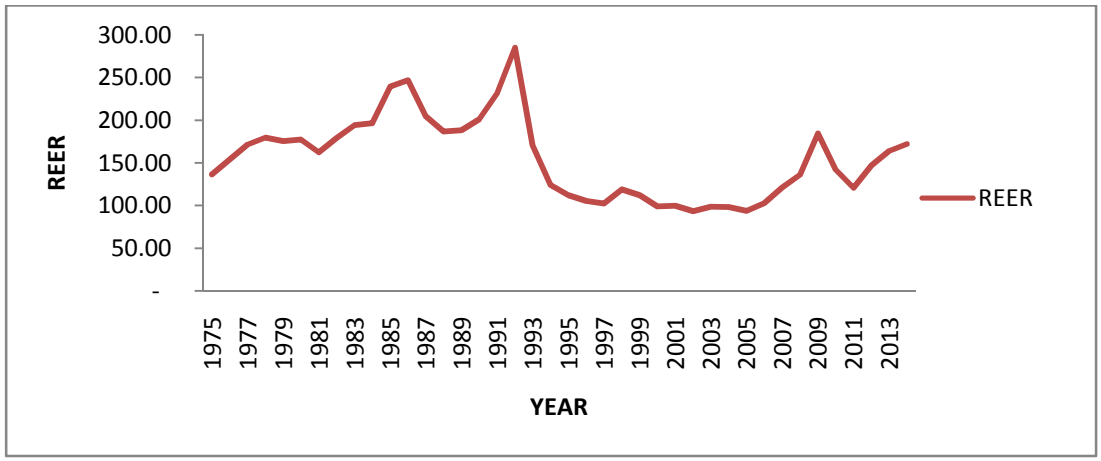

Figure 4.10:- Real Effective Exchange Rate Ethiopia

Source: Own Computation using data from NBE, 2015

4.4.4 **Trends in Government Expenditure**

Government expenditure represents total [current + capital] government expenditure. It is assumed to have positive and significant effect on real gross domestic product since it is expenditure by the government that may increase aggregate demand initially and boost aggregate supply finally. The data from the national bank shows that there is a fluctuation on government expenditure for the past decades. On average the government expenditure grows by 23 percent annually.

The graph below shows that the trend on expenditure for the past 40 years is fluctuating but after the year 1992 it shows somehow continuous increment compared to the year before 1992.

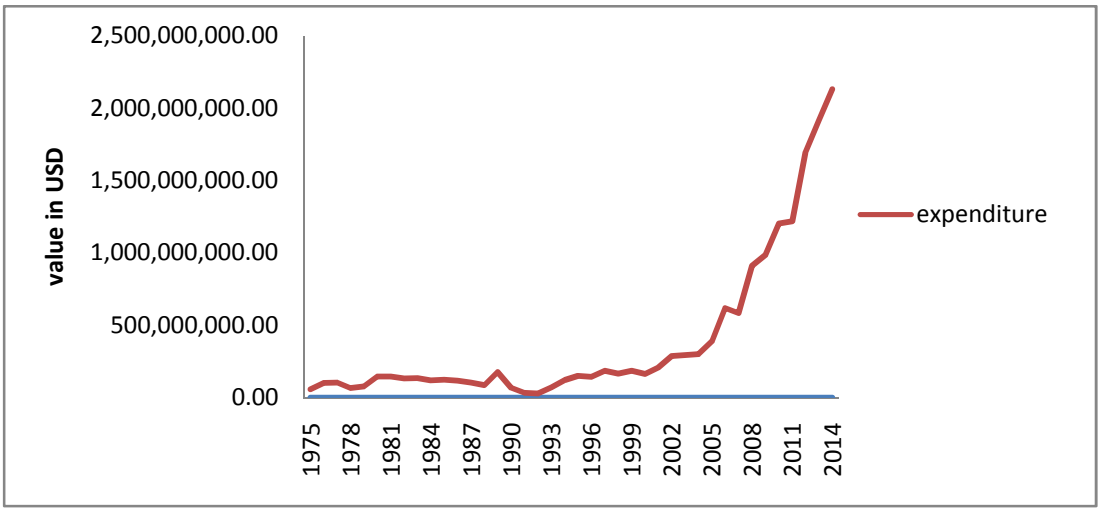

Figure 4.11: government expenditure on transport and communication

Source: Own Computation using data from NBE, 2015

The growth rate reached maximum by the year 1993 with the expenditure amounting 357.7 million us dollar which shows a 176 percent increment as compared to the year 1992 an expenditure amount of 129.6 million dollar. On the other hand the minimum growth rate incurred in 1990 G.C with an increasing rate of -61 percent. When we see the total amount spent yearly on this sub sector the expenditure amount reached more than 40 billion US dollar in 2014 which is a record amount.

4.5 Empirical Analysis

4.5.1 Result of Unit Roots Tests

The unit root analysis helps to establish the stationarity or non-stationarity of the time series data. This test was undertaken by use of the Augmented Dickey-Fuller (ADF) test. The results are given as shown in Table 4.1;

Table 4.1: Unit Root Test at Level

Unit Root tests in levels						
Variable	ADF	1% level	5%level	10%level	P-value	Result
LnHSXijt	-2.5208	-3.6155	-2.9411	-2.6090	0.1186	Non-stationary
LnGDPit	-1.4475	-3.6104	-2.9389	-2.6079	0.5491	Non-stationary
LnREERit	-1.5623	-3.6104	-2.9389	-2.6079	0.4919	Non-stationary
LnOPEN	-0.9119	-3.6104	-2.9389	-2.6079	0.7739	Non-stationary
LnTCEXit	-0.1558	-3.6104	-2.9389	-2.6079	0.9357	Non-stationary
LnGDPjt	-1.0963	-3.6104	-2.9389	-2.6079	0.7077	Non-stationary

The null hypothesis of a unit root will be rejected if the calculated t-statistics associated with the estimated coefficient exceeds the tabulated critical value of the test at pre-determined significance level.

Table 4.1 above indicates that the ADF test statistics (with intercept) results of each variables (HSXij,GDPi,REER,OPEN,TCEX and GDPj) fail to reject the null hypothesis at 1%, 5% and 10% level of significance since t calculated is less than the t tabulated. This result indicates the existence of unit roots in all variables at level.

Thus this table confirms that all variables are non stationary at level. Therefore, in order to make all the variables stationary the researcher has computed their first difference. And the result for unit root test is presented in Table4.2.

Table 4.2: Unit Root Test on First Difference

Unit Root tests for the first difference						
Variable	ADF	1% level	5%level	10%level	P-value	Result
DLnHSXijt	-4.8888	-3.6155	-2.9411	-2.6090	0.0003	Stationary
DLnGDPit	-5.7125	-3.6155	-2.9411	-2.6090	0.0000	Stationary
DLnREERit	-4.9416	-3.6155	-2.9411	-2.6090	0.0003	Stationary
DLnOPEN	-5.9434	-3.6155	-2.9411	-2.6090	0.0000	Stationary
DLnTCEXit	-5.6830	-3.6155	-2.9411	-2.6090	0.0000	Stationary
DLnGDPjt	-4.5553	-3.6155	-2.9411	-2.6090	0.0008	Stationary

When the variables are differentiated, as the above table shows, all variables reject the null hypothesis (the presence of a unit root). Therefore, all variables are stationary on the first difference (integrated order one). Integrated order (I (1)) one that means all variables is needed to be differenced once before they become stationary.

4.5.2 **Co integration Analysis**

4.5.2.1 Lag Length Selection

The most common strategy in empirical studies is to select the lag order by some pre specified criterion and to condition on this estimate in constructing the VAR estimates. There are four most commonly used lag order selection criteria in the literature, which are the Akaike Information Criterion (AIC), the Schwarz Information Criterion (SIC), the Hannan-s-Quinn Criterion (HQC) and the general-to-specific sequential Likelihood Ratio test (LR).

These criteria are used to recommend the optimal lag length by making use of the lowest value in every criterion but the lag length should be supported by the majority criteria. These criteria and the respective lag length are shown in the following table.

Table 4.3: Lag Length Selection criterion

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-38.6055	NA	4.03e-07	2.3303000	2.564230	2.395096
1	180.4596	351.9930	2.33e-11	-7.484154	-5.655545*	-6.839484
2	234.0720	69.55479	1.05e-11	-8.436325	-5.040336	-7.239080
3	287.3524	51.84042*	6.56e-12*	-9.370402*	4.407033	-7.620582*

Note: * indicates lag order selected by the criterion calculated using EViews-8

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

LR: sequential modified LR test statistic (each test at 5% level)

According to the Table above the lags (ρ) of VAR model, AIC criterion the lags (ρ) and other criterion the order of VAR is 3. All criterions except SC gave the same results, so the lag (p) of 2 is used in the model as the order of VAR. Then the Johansen (1988) test of co-integration was applied and results are shown in the following table.

4.5.2.2 Johansen's Cointegration Test

Once we know VAR lag order, we can apply the Johnson Juselious maximum likelihood method of cointegration to obtain the number of co-integrating vectors. Cointegration tells us about the presence of long run relation among two or more variables. Since all the independent and dependent variables are integrated of order one, we can apply Johnson Juselious maximum likelihood method to obtain the number of cointegrating Vectors. The results of VAR co-integration are shown in the table below.

Table 4.4: Johansen Cointegration Test

	Eigen values	Maximum Eigen Values			Trace Statistics		
		Max-Eigen statistic	Critical Value (5%)	Prob**	Trace Statisitc	Critical Value (5%)	Prob**
None*	0.834044	66.45323	40.07757	0.0000	152.3499	95.75366	0.0000
At most 1*	0.667568	40.74886	33.87687	0.0065	85.89671	69.81889	0.0015
At most 2	0.471090	23.56666	27.58434	0.1506	45.14785	47.85613	0.0879
At most3	0.336659	15.18727	21.13162	0.2760	21.58118	29.79707	0.3224
At most 4	0.138319	5.508187	14.26460	0.6768	6.393912	15.49471	0.6490
At most 5	0.023654	0.885725	3.841466	0.3466	0.885725	3.841466	0.3466

*Denotes rejection of the hypothesis at5 percent significance level

** Mackinnon Haug-Michelis (1999) P-values

From the above result in table, the Trace statistics and the Max-Eigen statistics are greater than the critical value at 5% significance level. This helps us to reject the null hypothesis and which in turn implies that there is at least one cointegration vector and the remaining rank tests continue in the same procedure. Therefore, the above result indicates that the variables are cointegrated and there are two cointegrating equation at the 5% level of significance.

4.5.3 Estimation of the Long Run and Error Correction Models

Once the variables included in the VAR model found to be cointegrated, we used Vector Error Correction Model (VECM), not VAR. Indeed VECM is special type of restricted VAR, is introduced to correct a disequilibrium that may shock the whole system. In VECM, the dynamics of both short run and long run adjustment will be made. VECM will also allow us to find out the causal factors that affect our variables. But if we found that variables are not cointegarted, we will restrict our analysis on VAR only.

Table 4.5: long run estimated results

Result of the Estimated Long Run Model						
LNHSE	LNOPEN	LNETC	LNRGDPJ	LNRGDPI	LNREER	constant
1.000000	0.000000	-2.423853*** (0.29836)	-4.426705*** (0.79838)	1.254836* (0.90090)	-2.891801*** (0.88057)	55.31878
t-statistics		-8.12389	-5.54461	1.39286	-3.28400	-

* Significant at 10% *** significant at 1%

LNHSE-2.423853LNETC-4.426705LNRGDPJ+1.254836LNRGDPI-
2.891801LNREER+55.31878=0……..……equation (1)

LNHSE=2.423853LNETC+4.426705LNRGDPJ-1.254836LNRGDPI+2.89180LNREER-55.31878----
…….…...equation (2)

The cointegration rank test in the previous section suggests there are two cointegrating equations that define hides and skins export and openness as dependent variables. This study considers only the first cointegrating equation that relate hides and skins export to other Variables as the focus are to examine the impact of other variables to this dependent variable.

The results of various diagnostic tests such as ARCH test for heteroskedasticity, Breush-Godfrey LM Test for serial correlation, and Jarque-Bera test for normality are reported on annex 5.2 and all tests did not detect any problem of serial correlation, hetroskedasticity, non-normality and model misspecification.

The regression result shows that Real Effective Exchange Rate ($REER_{it}$), Public Expenditure in Transportation and Communication (lnETC) and Real GDP of trading partner ($lnRGDP_j$) are found to be statistically significant at 1% significance level; in addition Real GDP of Ethiopia ($lnrgdp_i$) is significant at 10% significance level. Explanation regarding the statistically significant independent variables is given below.

Unexpectedly real GDP of home country despite being significant at 10% level it has a negative impact on hides and skins export. This negative relationship between GDP and hides and skins export of the country might be justified in such a way that when GDP of a country increases the export of primary products will decrease because domestic absorption will increase and the country will change its strategy from exporting primary products to manufactured products by adding some value to the primary products. The finding is similar to the finding of Samuel (2012) for Ethiopia where an increase in real GDP of the country will affect agricultural export of Ethiopia. The coefficient for real gross domestic product for home country is -1.25 which means that a one percent change on real GDP of home country decreases hides and skins export earnings by 1.25 percent.

The movement in real effective exchange rate has a positive relationship with export performance. In theory, Marshal-learner condition, real effective exchange rate movements are positively related with the growth in exports performance in long run. An increase in the real effective exchange rate means a real depreciation of the domestic currency, which makes exportable items cheap. Thus, according to this research output a one percent change in real effective exchange rate results 2.9 percent change in the total export earnings. The depreciation of the real effective exchange rate improves the export performance and their international competitiveness. The finding of Nega Muhabaw (2015) also shows the same result as this paper. The main finding of his study revealed that in Ethiopia the depreciation of the real effective exchange rate improve the export performance and their international competitiveness.

The real GDP of trading partner shows a positive and significant coefficient at 1 percent. A higher GDP for our trading partner country means that a higher absorption capacity or the ability to import more of our products. The long run model also shows this fact as real GDP of our trading partner increase by 1 percent hides and skins export of Ethiopia will increase by 4.4 percent.

4.5.3.1 The Short Run Error Correction Model

Having already obtained the long-run model and estimated the coefficients, the next step will be estimation of coefficients of the short-run dynamics that have important policy implications. Hence, an error correction model will be estimated that incorporates the short term interactions and the speed of adjustment towards long run equilibrium.

4.5.3.1.1 Speed of Adjustments

The most important thing in the short run results is speed of adjustment term. It shows that how much time would be taken by the economy to reach at long run equilibrium. Negative sign of speed of adjustment term shows that the economy will converge toward long run equilibrium. But if it is positive, the economy will not converge to the long run equilibrium. (Belayneh, 2012)

Table 4.6: speed of adjustment

Error correction	D(LNHSXIJT)	D(LNOPEN)	D(LNREERIT)	D(LNRGDPIT)	D(LNRGDPJT)	D(LNTCEXIT)
CointEq1	-0.656218	-0.031992	0.205566	-0.004701	-0.040632	0.044394
Standard errors	(0.13262)	(0.02602)	(0.09132)	(0.00394)	(0.03269)	(0.02919)
t-statistics	[-4.94806]	[-1.22959]	[-2.25111]	[-1.19269]	[-1.24298]	[1.52083]

The table above shows that the adjustment coefficient is negative which shows that the variable will converge towards long run equilibrium after taking 65 percent annually adjustments in the short run. Its magnitude indicates that deviation from the long run equilibrium is adjusted fairly quickly where 65% of the disequilibrium is removed each period

Table 4.7: Short-Run coefficients

Variables t	**Coefficients**	**Standard Error**	**t-statistics**	**Prob.**
CointEq1	-0.656218	-0.132621	[-4.948059]	0.0001
D(LNHSXIJT(-1))	-0.01446	-0.181207	[0.079799]	0.9371
D(LNHSXIJT(-2))	0.363264	-0.175277	[2.072508]	0.0501
D(LNOPEN(-1))	-2.26564	-1.606637	[-1.410175]	0.1725
D(LNOPEN(-2))	-0.529385	-1.411882	[-0.374950]	0.7113
D(LNREERIT(-1))	1.637948	-1.165658	[1.405171]	0.1739
D(LNREERIT(-2))	-0.943347	-0.928418	[-1.016081]	0.3206
D(LNRGDPIT(-1))	2.72391	-1.00588	[2.707987]	0.0128
D(LNRGDPIT(-2))	2.916395	-1.08242	[2.694327]	0.0132
D(LNRGDPJT(-1))	3.314018	-7.606192	[0.435700]	0.6673
D(LNRGDPJT(-2))	-3.250093	-7.568284	[-0.429436]	0.6718
D(LNETC(-1))	1.56496	-0.4204	[3.722547]	0.0012
D(LNTETC(-2))	0.528632	-0.40493	[1.305490]	0.2052
C	1.011544	-0.45349	[2.23059]	0.0357
ECM_1	-0.656218	-0.132621	[-4.948059]	0.0001
R-squared	0.677058	Mean dependent var		-0.058769
Adj. R-squared	0.471549	S.D. dependent var		0.668889
S.E. equation	0.4486247	Akaike info criterion		1.686733
Sum sq. resids	5.201585	Schwarz criterion		2.339808
Log likelihood	-16.20457	Hannan-Quinn criteria		1.916973
F-statistic	3.294547	Durbin-Watson stat		1.930935
Prob(F-statistic)	0.006122			
Model Diagnostic test;				
Normality test: = jarque-Bera 1.407337 prob. 0.494767				
LM test for serial correlation = Prob. F(2,20) = 0.3002 Prob. Chi-Square(2) =0.1227				
Heteroskedasticity test;ARCH = Prob. F(1,34) =0.3268 Prob. Chi-Square(2)= 0.3128				

Similar to the case of long run model, the results of various diagnostic tests such as Breush-Pagan-Godfrey test for heteroskedasticity, Breush-Godfrey LM Test for serial correlation, Jarque-Bera test for normality, are listed in annex 4 and all tests did not detect any problem of serial correlation, hetroskedasticity,non-normality and model misspecification too.

Wald test has been applied to compute the statistical significance of the coefficients to the short run correlation (annex 3). In this test, we have assumed that all the coefficients estimated earlier are equal to zero as null hypothesis. When we consider the combined F-statistic value then our null hypothesis of all the regression coefficients are zero was rejected.

The taste shows that only two variables affect the Ethiopian hides and skins export performance in the short run. Those variables are expenditure and real GDP of Ethiopia. This means that there is short run adjustment running from expenditure and real GDP of Ethiopia to export of hides and skins. On contrary to the long run model the coefficient of real GDP of Ethiopia has a positive sign and statistically significant on short run. This positive sign shows that as real GDP of home country increase by 1 percent hides and skins export will increase by more than 2.5 percent in the short run. Like real GDP of Ethiopia expenditure on transport and communication sector also has a positive sign but not statistically significant.

The error correction term has important implication in linking the short-run periods to the long run period. It represents the adjustment of the short-run disequilibrium to achieve a long-run equilibrium. Its coefficient is negative and statistically less than one in absolute value. This is the expected sign for the stability of a long-run relationship. A stable cointegrating relationship adjusts the short-run deviations by the extent of the error correcting term. The finding in table 7 shows that hides and skins export of Ethiopia adjusts itself by 65.6% each year to its equilibrium value and is expected to achieve equilibrium after [almost] 1.5 years.

The result of R-squared is also 0.67(67%). This reveals that of Ethiopian hides and skins export performance is caused by the explanatory variables included in the model, while 33% is by other variables which were not included in the model. Furthermore, F-statistic is significant with a probability of 0.006 which implies that the model fit.

CHAPTER FIVE

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This paper analyzed Ethiopia's hides and skins export performance and its determinants for the period *1975-2014*. In addition to this time series econometrics method is employed to identify determinants of hides and skins export performance. In order to know the long run and short run determinants, Johansson co-integration methodology is employed. The model includes determinants export like real GDP of the home country, real effective exchange rate, infrastructural development, openness as a percentage of real GDP and real GDP of Ethiopian major trading partners.

The export trend analysis revealed that even if Ethiopia's total export increases continuously the exported value of this specific product has been fluctuating significantly. The main reason for the fluctuation is the export tax levied on the export of hides and skins by Ethiopian government. The export tax aims to serve as an instrument to encourage industries engaged in the production of hides and skins to shift to exporting processed hides and skins instead of exporting raw or semi-processed hides and skin.

An econometric analysis, to identify determinant of export of the product, was conducted by using time series data from 10 treading partners for 40 years. Different diagnostic tests were implemented on the dataset before model estimation, which include ARCH Test for hetroskedasticity, Test for Serial Autocorrelation and normality test.

The regression result showed that Real GDP of Ethiopia, Real Effective Exchange Rate, Public Expenditure in Transportation and Communication and real GDP of trading partner are found to be significantly affecting the export of hides and skins by Ethiopia.

As expected government expenditure on transport and communication, real effective exchange rate and real GDP of trading partner significantly affect the export of hides and skins from Ethiopia. On the other hand real GDP of Ethiopia unexpectedly has a negative coefficient. This means a higher real GDP will leads to a decrease in the export of hides and skins from Ethiopia.

The negative impact of real GDP could be explained by that, since hides and skins is primary or agricultural product in nature and when the GDP of a country increases it leads to export of primary products by adding some value in our case, the hides and skins will be changed to finished leather. On the other hand an increase in real GDP will leads to a high demand internally so the export volume will decrease. Among the aforementioned variables only real GDP of home country and government expenditure was found to be determinants of country's export in the short run. Both found to be positive and statistically significant where as the rest variables are found to be statistically insignificant.

5.2 Recommendations

Based on the result of the study, the following policy implications are recommended so as to be considered in the future strategies which are aimed at the improvement of exported hides and skin by Ethiopia in particular and total export of the country in general.

- Even though the export tax imposed on raw hide and skins export has negatively affected the volume of export of the product, it clearly contributed the value addition in the sector and the export of industrial leather products. From this we can conclude that the government policy to levy export tax on raw hides and skin in order to promote value addition and industrial export has been reasonably successful and promises a positive result in the future. The manufacturing of leather products is where most of the value addition in the international leather trade occurs and it significantly contributes to job creation in the country. This successful implementation of the export tax should also be implemented for the other primary or agricultural products which the country exports. For instance the

tax could be implemented for sesame exports and raw cotton export in order to promote domestic value addition. But before implementation of the export tax, the government must first insure that substantial domestic manufacturing capacity is developed internally.

- Ethiopia is gifted with one of the largest livestock resources in the world but the country is not benefiting as expected form the potential resources. This could be because of the poor performance in implementing modern livestock technology. The government should device an integrated approach with the livestock sub-components, which will eventually improve production, marketing and export of hides and skins as well as leather products.
- Hides and skins only result from animal slaughter performed by the meat industry, a by-product correlated to the animal slaughter / off-take rates. To increase the number and quality of hides and skins, the data suggests that the approach and purpose of livestock husbandry must change to include raising animals with a more commercial focus while starting to build the necessary market linkages into which producers can sell their meat, hides and skins.
- Consequently, to grow the hides/skins value chain; i.e. to increase investment in it and receive greater income, employment and exports from it, one must first increase the number of animals slaughtered for meat. To do this there must be both a sufficient supply of animals to slaughter, as well as sufficient demand for the meat.
- Development of telecommunication and transportation facilities is crucial not only in promoting countries economic growth; it is also to sustained export performance. Thus, it needs investment in infrastructural development. This pertains in particular improvements of the main roads that connect the production areas and central markets. The role of communication service should also due attention. Thus it needs more investment to improve the role of the sector for export growth.

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Annexes

Annex 1. Summery Statistics of Variables in the Model

	LNHSE	LNOPEN	LNETC	LNRGDPJ	LNRGDPI	LNREER
Mean	17.37305	-1.269198	19.13395	30.51307	24.34187	5.003592
Median	17.67849	-1.282401	18.81489	30.50822	24.29411	5.065096
Maximum	18.19328	-0.672237	21.47959	31.08613	24.88106	5.651787
Minimum	14.07507	-2.100311	17.1759	29.89081	23.88412	4.53903
Std. Dev.	1.025266	0.40532	1.093456	0.363955	0.333296	0.304491
Skewness	-2.293518	-0.053778	0.637745	-0.052402	0.100179	0.062396
Kurtosis	7.247048	1.717753	2.6642	1.70882	1.536651	1.971741
Jarque-Bera	65.13051	2.759543	2.899396	2.796883	3.635887	1.788148
Probability	0	0.251636	0.234641	0.246982	0.162359	0.408986
Sum	694.9219	-50.76791	765.3581	1220.523	973.6748	200.1437
Sum Sq. Dev.	40.99565	6.407084	46.63016	5.166079	4.332372	3.615864
Observations	40	40	40	40	40	40

Annex 2. Unit Root test

ADF test at level

Null Hypothesis: LNHSE has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.520811	0.1186
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

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

Null Hypothesis: LNOPEN has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.911994	0.7739
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

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

Null Hypothesis: LNREER has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.562386	0.4919
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

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

Null Hypothesis: LNRGDPI has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.447591	0.5491
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

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

Null Hypothesis: LNRGDPJ has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.096390	0.7077
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

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

ADF test at first difference

Null Hypothesis: D(LNHSE) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.888889	0.0003
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

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

Null Hypothesis: D(LNETC) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.
Augmented Dickey-Fuller test statistic		-5.683084	0.0000
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

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

Null Hypothesis: D(LNRGDPI) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.712596	0.0000
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

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

Null Hypothesis: D(LNRGDPJ) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.555340	0.0008
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

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

Null Hypothesis: D(LNREER) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.941628	0.0003
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

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

Annex 3. Short run adjustment

Dependent Variable: D(LNHSE)

Method: Least Squares

Date: 05/29/16 Time: 02:11

Sample (adjusted): 1978 2014

Included observations: 37 after adjustments

D(LNHSE) = C(1)*(LNHSE(-1) + 2.42385265191*LNETC(-1) +

1.25483614021*LNRGDPI(-1) - 4.42670528807*LNRGDPJ(-1) -

2.89180112714*LNREER(-1) + 55.3187782176) + C(2)*(LNOPEN(-1)

- 0.0836675034073*LNETC(-1) + 0.105580254605*LNRGDPI(-1) -

0.427922503427*LNRGDPJ(-1) + 0.326973256108*LNREER(-1) +

11.7201835727) + C(3)*D(LNHSE(-1)) + C(4)*D(LNHSE(-2)) + C(5)

*D(LNOPEN(-1)) + C(6)*D(LNOPEN(-2)) + C(7)*D(LNETC(-1)) + C(8)

*D(LNETC(-2)) + C(9)*D(LNRGDPI(-1)) + C(10)*D(LNRGDPI(-2)) +

C(11)*D(LNRGDPJ(-1)) + C(12)*D(LNRGDPJ(-2)) + C(13)*D(LNREER(

-1)) + C(14)*D(LNREER(-2)) + C(15)

	Coefficient	Std. Error	t-Statistic
C(1)	-0.656218	0.132621	-4.948059
C(2)	3.254023	1.638079	1.986487
C(3)	0.014460	0.181207	0.079799
C(4)	0.363264	0.175277	2.072508
C(5)	-2.265640	1.606637	-1.410175
C(6)	-0.529385	1.411882	-0.374950
C(7)	1.564960	0.420400	3.722547
C(8)	0.528632	0.404930	1.305490
C(9)	2.723910	1.005880	2.707987
C(10)	2.916395	1.082420	2.694327
C(11)	3.314018	7.606192	0.435700
C(12)	-3.250093	7.568284	-0.429436
C(13)	1.637948	1.165658	1.405171
C(14)	-0.943347	0.928418	-1.016081
C(15)	-0.078159	0.286053	-0.273231

R-squared	0.677058	Mean dependent var	
Adjusted R-squared	0.471549	S.D. dependent var	
S.E. of regression	0.486247	Akaike info criterion	
Sum squared resid	5.201585	Schwarz criterion	
Log likelihood	-16.20457	Hannan-Quinn criter.	
F-statistic	3.294547	Durbin-Watson stat	
Prob(F-statistic)	0.006122		

Annex 4. Wald tests

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	2.150239	(2, 22)	0.1403
Chi-square	4.300479	2	0.1165

openess

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	1.187256	(2, 22)	0.3239
Chi-square	2.374513	2	0.3051

expenditure

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	7.249761	(2, 22)	0.0038
Chi-square	14.49952	2	0.0007

GDP Ethiopia

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	4.615014	(2, 22)	0.0212
Chi-square	9.230029	2	0.0099

Real GDP of trading partner

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	0.137477	(2, 22)	0.8723
Chi-square	0.274954	2	0.8716

REER

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	1.805824	(2, 22)	0.1879
Chi-square	3.611649	2	0.1643

Annex 5. Diagnostic tests

5.1 testes for short run

Test for correlation

Breusch-Godfrey Serial Correlation LM Test:

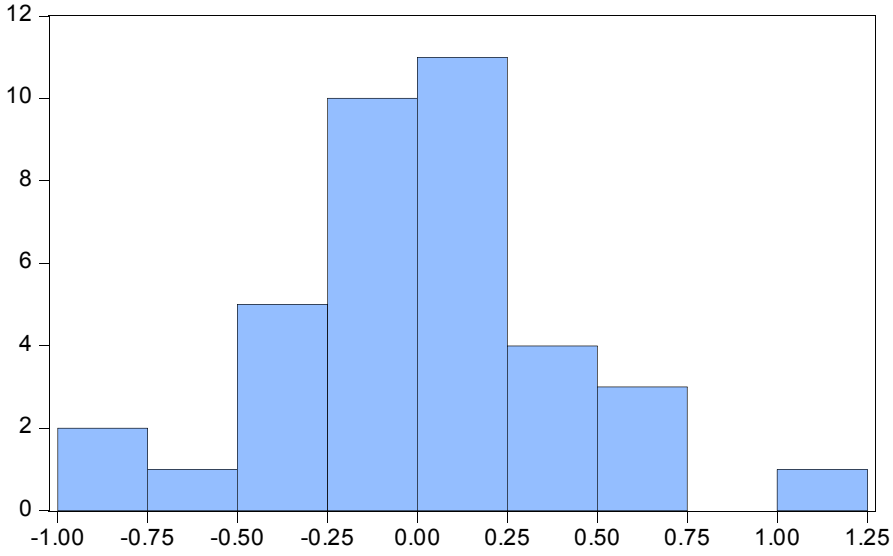
F-statistic	1.278864	Prob. F(2,20)	0.3002
Obs*R-squared	4.195277	Prob. Chi-Square(2)	0.1227

Test for hetroscedasticity

Heteroskedasticity Test: ARCH

F-statistic	0.990082	Prob. F(1,34)	0.3268
Obs*R-squared	1.018659	Prob. Chi-Square(1)	0.3128

Normality test



Series: Residuals
Sample 1978 2014
Observations 37

Mean	2.82e-15
Median	0.010451
Maximum	1.001134
Minimum	-0.965112
Std. Dev.	0.380116
Skewness	-0.099933
Kurtosis	3.934302
Jarque-Bera	1.407337
Probability	0.494767

5.2Testes for long run

Test for corelation

VEC Residual Serial Correlation LM Tests

Null Hypothesis: no serial correlation at lag order h

Date: 05/30/16 Time: 05:16

Sample: 1975 2014

Included observations: 37

Lags	LM-Stat	Prob
1	32.70820	0.6260
2	28.70122	0.8013
3	33.68654	0.5791
4	48.05702	0.0863
5	29.64068	0.7639
6	38.47239	0.3582
7	45.93210	0.1242
8	43.40997	0.1848
9	20.54130	0.9819
10	35.69592	0.4829
11	33.02129	0.6110
12	29.67596	0.7624

Probs from chi-square with 36 df.

Test for hetroscedasticity

VEC Residual Heteroskedasticity Tests: No Cross Terms (only levels and squares)

Date: 05/30/16 Time: 05:19

Sample: 1975 2014

Included observations: 37

Joint test:

Chi-sq	df	Prob.
590.4440	588	0.4639

Individual components:

Dependent	R-squared	F(28,8)	Prob.	Chi-sq(28)	Prob.
res1*res1	0.800138	1.143841	0.4505	29.60509	0.3823
res2*res2	0.702490	0.674638	0.7918	25.99213	0.5735
res3*res3	0.810029	1.218277	0.4089	29.97109	0.3646
res4*res4	0.915327	3.088593	0.0501	33.86708	0.2053
res5*res5	0.906592	2.773075	0.0675	33.54392	0.2163
res6*res6	0.800635	1.147408	0.4485	29.62350	0.3814
res2*res1	0.611390	0.449506	0.9438	22.62142	0.7517
res3*res1	0.693598	0.646769	0.8136	25.66314	0.5916
res3*res2	0.796611	1.119052	0.4653	29.47460	0.3888
res4*res1	0.776946	0.995207	0.5455	28.74701	0.4254
res4*res2	0.739091	0.809356	0.6844	27.34635	0.4995
res4*res3	0.832868	1.423798	0.3132	30.81611	0.3253
res5*res1	0.922665	3.408782	0.0377	34.13860	0.1963
res5*res2	0.681045	0.610069	0.8415	25.19867	0.6170
res5*res3	0.869758	1.907997	0.1718	32.18103	0.2672
res5*res4	0.625270	0.476739	0.9296	23.13499	0.7263
res6*res1	0.665755	0.569090	0.8712	24.63293	0.6477
res6*res2	0.753048	0.871249	0.6361	27.86278	0.4717
res6*res3	0.828148	1.376846	0.3328	30.64148	0.3332
res6*res4	0.720544	0.736681	0.7424	26.66014	0.5368
res6*res5	0.749299	0.853945	0.6495	27.72405	0.4791