Factors Affecting Export Performance of Sesame Seeds: the case of Ethiopia

Jimma University, College of Business and Economics,

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DECLARATION

I declare that the researchReport entitled "**Factors Affecting Export Performanceof Sesame Seeds: the case of Ethiopia"**submittedtoResearch and Postgraduate Studies' Office of Business and Economics College is original and it has not been submitted previously in part or full to any university.

Messeret Abebe

Date:May 20, 2020

CERTIFICATE

We certify that the Research Report entitled ““**Factors Affecting Export Performanceof Sesame Seeds: the case of Ethiopia**wasdone by **Meseret Abebe** for the partial fulfilment of Masters Degree under ourSupervision.

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ABSTRACT

Export is the crucil economic sector to ones country. For the developing ethiopia and a country which has oil seeds potential, it is worth important to study the factors that affect export performance of sesame. The main objective of this thesis was to gain clearer understanding of how different factors affect export performance of oil seeds (sesame) and to realize the interaction of these two variables so as propose a workable marketing modality to better perform in the sesame business. For this study, five variables were considered as independent variables and one variable was considered as dependent variable. Inflation, exchange rate, trade openness, interest rate, and production volume were the independent variable where as export performance is the dependent variable. To analyse the data with these variables, distribution error test, multicollinearitytest,and multiple regression were employed using SPSS. As a result, trade openness is not significant factor affecting export performance, revenues generated from seasame export where as the rest 4 variables, inflation, interest rate, exchange rate and production volume were found affecting export performance of seasame.After the backward regressin analysis based on the tests, the optimal model selected is with one independent variable, exchang rate, which shows positive relationship with and has significant influence on export performance in terms of revenues.Finally, the study concluded the relationship between exchang rate and export performance is positive and the extent of relationship is high, which shows exchang rate is the major significant determinant of export performance.Based on the study result, the researcher suggested that government has to take concrete measures on exchange rate to the reasonable level by enhancing production,devaluation of birr, increasing savings, controlling prices, managing credit and decreasing unnneccessary expenditures & debts among crucial ones.

Key words: Factors affecting export, Sesame export performance, Sesame Export, Ssame export in Ethiopia .

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Export is crucial to the economy development of a country. It is widely accepted that outward looking strategies should be used by poor countries in their transition toward emergence. East Asian tigers have witnessed wonderful and sustainable exports, as have emerging countries like Chile, Tunisia, Botswana and Mauritius (World Bank, 2012). Even fast-growing countries such as Brazil and China have relied on world markets (World Bank, 2012). In fact, exporting allows firms in poor countries to enlarge their markets and benefit from economies of scale. Moreover, through exports a country may generate foreign exchange earnings, increase productivity and increase employment which in turn promote economic growth.

Access to foreign markets is a critical determinant of export performance. Here, the term “foreign market access” is seen as representing the foreign market potential of a country. In that sense, it is a broader notion than the term “market access” as used in trade negotiations. It relates directly to the characteristics of the trading partner countries, such as the size of their market and transport facilities, and inversely to their own internal transport costs. It also depends positively on the size of the export basket and the number of differentiated items and their prices, which in turn are affected by market entry conditions. Transborder costs, which also include tariff and non-tariff barriers, have the expected negative impact on foreign market access. which matched to a large extent improvement in export performance.

Ethiopia has a total area of 112 million hectares out which about 45% is arable land with different agroecological zones. The different agroecological zones, extensive arable land and high population in rural areas make Ethiopia an agrarian country. Agriculture is the mainstay of the national economy contributing about 46% of GDP, over 90% export and 83% of employment (World Bank 2015). With the emerging of new commodities year after year the number of importing countries of its export products has risen to more than 100.On a per-continent basis, $1.1 billion or 43.7% of Ethiopian exports by value were delivered to Asian countries while 28.4% were sold to European nations. Ethiopia shipped another 17.5% worth of goods to other African nations, with 7.4% going to North America (Daniel, 2019).

It is known that Ethiopia has a potential for major oilseeds export. Its suitable climate for annual and persistent oil plan; availability of cheap labor force and global demand for quality food oil have a positive contribution to its oilseed export growth. These advantages helped Ethiopia to expand its foreign market share through increased production level and leads to at least doubling of its current annual export (Boere, 2015). The report also stated that the consumption of oilseeds in Europe has skyrocketed in recent years and thus, there is a high growing demand for quality and organic verities of seeds. Europeans are among the largest importers and processers of edible oils. They also have oilseed demand for their cosmetics industry. This increasing demand for oil seeds brings great opportunity for Ethiopian oil seed producers and exporters in addition to Asian and Far East countries. oil seeds are recognized as high value export products by the Ethiopian government and sesame seed is the major oil seed export products among other oil seeds (Abera, 2009).

The export of oilseeds of Ethiopia in general is performing in the growing world market. 80% of the export earning of oilseeds comes from sesame seeds and it has become next foreign currency earning crop following to coffee. The major destinations for Ethiopia's sesame seeds are China, Israel, Turkey, Japan and other European countries (NBE, 2014/15). With the emerging of new commodities year after year the number of importing countries of its export products has risen to more than 100. On a per-continent basis, $1.1 billion (43.7%) of Ethiopian exports by value were delivered to Asian countries while 28.4% were sold to European nations. Ethiopia shipped another 17.5% worth of goods to other African nations, with 7.4% going to North America (Daniel, 2019).

Ethiopia has been experiencing a persistent balance of trade deficit for many years. The unfavorable gap between exports and imports is a result of slow moving export growth compared with a rapid rise in imports. Expanding imports and trade deficits have adverse effect on economic growth and employment. The fact that balance of payments deficit is made up by donor assistance and borrowing may result into an unsustainable external debt burden. Lack of donor or borrowed foreign exchange would restrict the import capacity of the country which in turn would constrain the productive capacity by denying industrial and agricultural activities the necessary inputs such as raw machinery, fuel and fertilizers. Ultimately, this would cause a low production of consumer goods for exports (Marandu, 2008).

Now a day's oil seed and pulses played an important role in the export sector generating foreign currency; but the level of export is not satisfactory. Therefore due to this reason, the main purpose of this paper is to investigate the factors affecting Export performance in Ethiopia in case of oilseeds specially on sesame exports.

1.2.Statement of the problem

Most of the total exports of Africa countries which is more than80 percent are primary commodites and the long term decline in price ,variability of export volum,deterioration in the terms of trade,and the instability of commodity markets are said to be major factors that affect export performance and constrain economic growth in Africa(UNCTAD,2010).

Ethiopia noted that the basic constraints for Ethiopian exports include the low volume of exportable products, the limited degree of diversification of exports, which are made up mainly of unprocessed primary products, frequent economic crisis which substantially reduce the demand for and prices of primary products, artificial trade barriers by trading partners unfair trade competition within the exporters in the country.

World Bank (1987) report also indicated that exchange rate overvaluation, low level of investment, the coffee surtax, and inadequate marketing infrastructure, high raw material import tariffs, unfavorable terms of trade and insufficient adjustment of producer prices are the major obstacles of Ethiopian primary export performance.

According to Allaro (2011), the study argued that a country's oilseeds export may fail to grow as rapidly as the world average for three reasons. First, exports may be concentrated in commodity groups for which demand tends to grow relatively at a low rate. Second, export may be going mainly to relatively stagnant regions/blocs. Third, the country in question may have been unwilling or unable to compete effectively with other sources of supply in the international market. For this purpose, exports from rest of the world are treated as competitor to Ethiopia. Therefore, regional

trading arrangements (within Africa) should be set to put in economic efficiency, trade, investment, and growth in the region.

This research will mainly focus on factors affecting on export performance of oil seeds specially sesame in the case of Ethiopia.

1.3. Basic Research Questions

The main research questions of this study are presented here under.

1. What model can be developed where the major sesame export related variables predict sesame export performance?
2. What is the relationship among inflation rate, exchange rates, interst rate, production volume, trade openness and export performance?
3. What is the extent to which export related factors (inflation rate, exchange rates, interst rate, production volume and trade openness) influence export performance of sesame seeds in Ethiopia?

1.4. Objective of the study

The general objective of the study is to gain clearer understanding of how different factors affect export performance of oil seeds (sesame) and to realize the interaction of these two variables so as propose a workable marketing modality to better perform in the sesame business.

The specific objectives of the study are the following:

- To specify an appropriate model where the major factors that affect sesame seeds export performance can be predicted.
- To evaluate the relationship between the independent variables (inflation rate, exchange rates, interst rate, production volume, trade openness) and export performance, the dependent variable
- To investigate the extent to which export related factors influence sesame seeds export performance

1.5. Significance of the study

Ethiopia's export sector is currently too small to contribute to structural transformation, there is a need to look into how factors affect the export so that the country can focus on exporting quality product at competitive price, and increase the product volume and boost its export earnings. This research is highly valuable, timely and important in various aspects. It serves a means for solving problems that are to be identified from the study. Since there are no several researches conducted so far on this issue specifically oil seeds and other pulses, this study could be served as a benchmark reference for further empirical research works on the same issue. The study is also initiative for concerned bodies to give due attention for the factors affecting export performance of sesame (oil) seeds and pulses. Above all, it contributes a lot on assurance and striving for activities in the macro economy. The purpose of this study assesses the factors affecting export performance of sesame in the country level held on to their yields hoping for higher profits. However, their

calculations were misguided. Consequently, other global sesame producers were able to take advantage of the opportunity by low price and high quality and volume.

1.6. Scope of the Study

The scope of the study was limited to assessing the influence of of factors on export performance of Sesame Seed in Ethiopia. The study considered 13 physical years series data (2005/6-2017/18).

1.7. Organization of the Paper

The paper is organized in to five chapters. The first chapter contained the introduction part with background of the study, statement of the problem, objective of the study, research questions, and significance of the study, limitation of the study. The second chapter incorporated review of related theoretical and empirical literature review and conceptual model of the paper. The third chapter included research design and methodology, data analysis and interpretation. The fourth chapter is the data analysis and interpretation. Finally, chapter four summarizes major findings, concluded them and suggest recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Introduction

International trade is exchange of goods and services on an international level between two or more countries. Export is the process of selling the goods and services which the host country has produced in the country more than enough. Industrial equipment, oil, agricultural products, services like banking transportation, telecommunication, and tourism services are main part of international trade commonly. International transportation and communication cost has been reduced significantly resulting in greater integration between the economies of the world. The interdependence of countries can affect prices, wages, employment, and production in other country; it also affects economic trends and financial condition of each other. For prosperity countries have to work together more closely and rely on each other (Essays, 2018).

2.2. International Trade Theories

There are mainly two theories that are classical theory of trade and new trade theory each differentiates from each other with different advantages, assumption and drawbacks.

2.2.1. Classical Trade theory

Classical theory focused mainly on occurrence of trade. The firms felt need of a separate theory due to fundamental differentiation of internal trade. These theories feature the variation in comparative benefit of manufacturing commodities of 2 countries to the diversity in the manufacturing competence of workers in that country.

There are several sub theories in this concept which is explained as followed (Dutta, n.d)

Absolute advantage Theory of trades (Adam smith, 1776): In the book "The Wealth of Nations" published in 1776 author Adam Smith stated that mercantilism theory favors the producers and reduces the interest of the consumers. Adam smith says in his theory that exports are profitable but countries should also import goods and services to satisfy better requirements of consumers instead of making them here in internal market (Segal, 2019).

Comparative advantage Theory (David Ricardo, 1817): This theory states that both the countries involved in trade can gain a lot even if one of the countries is producing less than all goods and services that produced by other country. Both counties should specialize in what there is low opportunity cost is required (Heakal, 2019).

Mercantilism Theory (16th century): Mercantilism theory is a thinking of 16th century. Major trading nations were thinking that if they increase their exports internationally, they will gain power, wealth and also the precious metals like gold and silver in return. The theory says that in total world there was only fixed wealth which will increase countries wealth resulting in becoming powerful country through either importing or exporting the goods in high quality but in lower cost. Earlier days transactions were used to take place in the form of either in gold or in silver coins which created trend of exporting more and importing less is called as mercantilism(Essays, 2018).

Factor Endowments Theory (Heckscher in 1919, Ohlin in 1933): In this theory both Swedish economists Heckscher and Ohlin have different view/explanation about

comparative advantage. They both think that comparative advantage comes from difference in national factor endowments. Factor endowments means the scope of the country is endowed with resources like land, labor, and capital, workforce, and infrastructure.

Different countries have different factors endowed, and different factor endowments explain differences in factor costs. To lower the cost the factor should be more profuse. This theory proposes that the nations would export those goods that makes demanding use of those factors that are locally more in numbers and should import those goods with scarcity locally (Dutta, n.d).

2.2.2. New trade theory:

This theory endeavor to comprehend and give details of the global trade affect the diversity of goods accessible to consumer around the world, these theories also describe concentration of market structure (Anshuree, n.d).

2.3. Empirical Review of Related Literature

Different studies have been conducted by different people to analyze the factors that affecting exports and to analyze their impact on export performance. Different studies used the imperfect substitution model proposed by Goldstein and Khan (1985) to analyze the determinants of countries export performance. For example Munoz (2006) analyze the impact of parallel market and governance factors on Zimbabwe's export performance using quarterly data and found positive and significant relationship between exchange rate and export.

Biggs (2007) explained the real exchange rate is often rendered uncompetitive in low income countries by poor economic management and turbulence in financial markets. Ensuring that the real exchange rate adjusts to more realistic levels is a means of

enhancing the economy's incentives for exporting and can lead to an increase in the production of export products (Oyejide, 2007).

Exchange rate is also one of important factors that affect export value. In general, depreciation of a country's currency tends to encourage its exports. The depreciation of the currency makes its goods cheaper in international markets to compete other similar goods produced other country in the world. Bahmani and Ltaifa (1992) analyzed the effects of exchange rates on exports and results showed that exchange rates adversely affect exports. Sivriand (2001), while studying the determinants of export growth in Turkey found that real exchange rate does not appreciably account for changes in exports. Oztang (2000) revealed total exports to be a function of foreign income and real exchange rate and results revealed that real exchange rate is a statistically significant determinant of export performance. Fanget al. (2006) analyzed the impact of exchange rate depreciation on exports for 8 Asian economies(Philippines, Malaysia, Indonesia, Japan, Singapore, Chinese Taipei, Republic of Korea and Thailand) and they found that depreciation contributes exports for most countries, but its contribution to export grow this low and varies across countries.

Wang et al. (2002) his study on exchange rate is one of the most important factors influencing China's exports with aggregated data for the period between1983-1999. Telak and Yeok (1998) showed that in the presence of high import content, export is not adversely affected by currency appreciation.

Their justification for this result is in the presence of high import content appreciation results lower import price which in turn reduce cost of export. In response to the

Sarkar's (1994), Nag and Upadhaya (1994) stated that exchange rate and exports performance of India is co-integrated from 1985 onwards. The relationship between inflation and trade has been a subject of research, theoretical as well as empirical.

Moradı (2001) concluded that Iran's inflation determinants between 1959- 1996 were the money supply, the exchange rate in the free market and the price index of foreign currencies. In the short term, he saw that the change in oil prices had an impact on inflation. Isfahani and Yavari (2003) included money supply increase, exchange rate increase and inflation expectation as nominal variables in a VAR model between 1971-2001; As the real variable, they have taken the real gross national product deficit. Using the VAR model, they found that inflation was affected by all these factors.

Iyoha (1973) took sample of 33 less developed countries using OLS technique to estimate the results and found negative relationship between inflation and trade in the less developed economies. Muhammad (2010) examines relationship between trade openness and inflation in Pakistan using annual time-series data for the period 1947 to 2007.Empirical analysis shows that a positive relation between trade and inflation in Pakistan. There are few studies on relation between export and inflation. This research is going to be one of the first such empirical evidence regarding to export and inflation.

The other factor affecting export performance is degree of openness to trade. Opening economic policies to trade with the rest of the world is needed for export and economic growth. This is because in recent decades there is no country achieving economic success in terms of substantial increases in living standards for its people without liberalizing itself to the rest of the world. Trade liberalization has generally

taken place in LDCs as part of the structural adjustment program. Trade liberalization implies considerable reduction in tariff and non-tariff barriers, to establish a noticeable open market as compared with the pre-liberalization era.

The empirical researches focusing on the impact of trade liberalization (openness) on export earnings have exhibited positive results. For example literatures show that countries which get on liberalization programs have improved their export earnings (Ahmed, 2000). Similarly, Seyyed et.al (2011), using panel data evidence for 19 countries found that open trade policy enhances GDP and export growth. Using these results clearly prefer open trade policy over more trade barrier which enhance GDP and export growth. Conversely, Giovani and Levencko, (2007) argue that increased trade openness has contributed to rising uncertainty and exposed countries to external shocks and hence, adversely affects country's export.

According to, Wondaferahu (2013) The empirical finding on Ethiopian export determination model confirms 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. Real GDP of trading partners were found to be statistically insignificant to determine country's export in the long run. Among the aforementioned variables only trade liberalization (openness) was found to be the only determinant of country's export in the short run. It is found to be positive and statistically significant where as the rest variables are found to be statistically insignificant.

2.4. Ethiopian Export Policy

According to Berhanu et al. (2003) cited in Tewodros (2016) the policy adopted in the pre-1991/92 period both in the Imperial and military government of Ethiopia was characterized by strongly inward oriented development strategy, which used a prolonged over valuation of the Birr, high tariff rates, extensive foreign exchange control and other non tariff barriers as well as heavy taxation on exports.

These policies are likely to have a detrimental impact on export by influencing directly or indirectly the profitability and competitiveness of exports. Tewodros (2016) added that even though both previous government of Ethiopia were commonly pursuing import substitution strategy and export sector was secondary for them in their economic development plans, it doesn't mean that they didn't make any effort to promote and diversify the country's exports. Ethiopia makes the export of domestic products, with the exception of some items such as leather products, free of any tax and duties. Ethiopian Custom's Proclamation describe that export of domestic products are free of any tax and customs duty, duty free importation of investment commodity and raw material. More over Ethiopian investment agency gives priority to invest on exporting products such as tax holiday, lose forwarding, priority in obtaining foreign currency, loans and etc.

The other Survey took place by Ministry of Agriculture collaboration with Canadian International Development Agency (2005) assessed the Ethiopian Rural Development Policies, Strategies and Instruments document clearly emphasizes that the development of Ethiopian Agriculture should be based on market-oriented production system. Although both the local and international markets are recognized, in the short term emphasis is put on developing the local market and in the longer term

penetrating the international market. To be successful in competing in the international market, continuous improvement in production efficiency at farm level and quality of products is envisaging.

2.5.Ethiopian Sesame Seed Export Potential and challenges

There is an enormous potential to expand sesame seed production in Ethiopia through cultivation of additional new land and improving yield per unit of land by improving the traditional way of farming (http://www.epospeaeth.org/index.php/ethiopian-sesame-and-oilseeds) .

According to FAO, due to its importance as a major export commodity, in less than a decade, Ethiopia has jumped from being a minor producer of sesame (38,000 tons in 2002) become the largest producer in Africa and fourth largest in the world (320,000 tons in 2011, (the UN's Food and Agriculture Organization).

However, Ethiopian Sesame Export Revenue is fluctuating with declining trend. For example, According to ERCA (Ethiopian Revenue and Custom Authority) data, Ethiopia exported 285,073 tons and earned about USD 615 million from Sesame export in 2014, while the volume of Sesame export was 292,378tons and earning was USD 403.7 million in 2015. In 2016 Ethiopia Exported 412,401 tons of Sesame but earnings were USD $ 431.3 million. Excess Sesame supply, falling prices in the global market, poor local sesame quality caused by bad weather, hoarding of seeds by

farmers and limited number of export destinations can be mentioned as the causes for the revenue drop. The drop in export revenue is reportedly associated to drop export prices.

However, this has exposed underlying vulnerabilities in export structure and highlighted the importance of strengthening competitiveness. Ethiopia is vulnerable to such price swings because unprocessed and undifferentiated agricultural products dominate its exports. While benefitting from upward price trends since 2003, the recent drop in prices of key commodities led to the worst export performance in a decade (World Bank 2014).

The World Bank study argues that 'More than "what" is being exported it is the "how" that is hindering potential. There is scope for improving the quality of existing commodity exports, through basic value addition (World Bank 2014). Therefore, as Ethiopia's export sector is currently too small to contribute to structural transformation, there is a need to look into how price and quality affect the export so that the country can focus on exporting quality product at competitive price, and boost its export earnings.

The Major buyers of Ethiopian Sesame seed are China, USA, Germany and Saudi Arabia. China, buyer of 64.5 percent of Ethiopia's Sesame seed export, decreased its import as it met its demand via imports from India and local production. Presently, Sesame is sold at USD 1,300 per ton, down from USD 2,000 to 2,400 per ton a year ago, according to Ministry of Trade.

"Many farmers were tricked by 2014's inflated prices and held on to their yields hoping for higher profits. However, their calculations were misguided. Consequently,

other global sesame producers were able to take advantage of the opportunity," (Personal Communication with, Crops Market Director at the Ministry of Trade, cited by Capital News Paper).

"The most challenging factor was the high supply in the global market that forced Ethiopian sesame exporters to sell below their targeted prices. Additionally, weather fluctuations in India worried the Chinese, who decided to buy Indian sesame earlier than usual. Chinese demand for Ethiopian sesame thus decreased" (Capital Newspaper, Published on 29 June 2015).

2.6.Factors affecting of sesame Export performance

The factors affecting of sesame export performance include inflation foreign exchange rate, production interest rate, and other macroeconomic environment and microeconomic variables for this study focus only macroeconomic variables.

2.6.1. Inflation.

Inflation is such a generic term used in many contexts, there is no commonly accepted definition of inflation, nor is there a common agreement on what constitutes acceptable levels of inflation, bad inflation, or hyper-inflation. Generally, it can be said that inflation is a measure of a general increase of the price level in an economy, as represented typically by an inclusive price index, such as the Consumer Price Index in the United States. The term indicates many individual prices rising together rather than one or two isolated prices, such as the price of gasoline in an otherwise calm price environment. The inflation rate is typically expressed as an annual growth rate in prices (again, as measured by an index) even if measured over a shorter period of time. For example, if a radio report states that "consumer prices rose at an inflation

rate of four percent last quarter," that would typically mean than the Consumer Price Index for All Urban Consumers (the most quoted index) rose over the last three months at an annualized rate of around four percent, and the press would generally refer to the current inflation rate as around four percent.

Another factor is the risen price of the local market exporters cost to sale is greater than from international market price. Assumed to be export of sesame affected by local price. According to Iyoha et al (2003) the demand pull inflation is induced by excessive demand not matched with increase in supply.

2.6.2. Foreign exchange rate.

Exchange rate is the price at which one country's currency exchanges for another country's currency. The exchange rate plays a pivotal role in determining the price of a nation's product in the rest of the world and domestic price of goods imported from abroad. Today world trade is conducted in a floating exchange rate system, where exchange rate changes continuously throughout the day (Thomas, 2006). Samuelson and Nordhaus (2010) define exchange rate as prices of one currency expressed in terms of another, they can be expressed in two ways, direct and indirect quotation. The role of exchange rate in an open economy frame work is important in the monetary transmission mechanism. Real exchange rates affect aggregate demand channel of the monetary transmission of monetary policy. It affects the relative prices between domestic and foreign goods and foreign demand for domestic goods (Ncube and Ndou,2011).

2.6.3. Interest Rate.

According to Thomas (2006) interest rate is the cost of borrowing expressed as a percentage per year. It is a key economic variable that plays an important role in

consumer's decision to purchase. The real interest rate, the interest adjusted for expected inflation is particularly significant. The real interest rate influences consumption and investment expenditures and the way in which wealth is redistributed between borrowers and lenders. Ifreal interest rates are unusually high lenders benefit at the expense of borrowers.

If real interest rates are abnormally low, borrowers benefit at the expense of the lenders (Thomas, 2006). Interest rates rank among the most crucial variables in macroeconomics and in the practical world of finance. Interest rate changes influence many economic phenomena, including the level of consumer expenditures on durable goods, investment expenditures on plants, equipment and technology and the way wealth is redistributed between borrowers and lenders. Interest rates influence the prices of key financial assets such as stocks, bonds, and foreign currencies (Thomas, 2006).

2.6.4. Sesame production.

Production is the quantity of sesame produced in Ethiopia. This production includes sesame produce from smallholder farmers as well as commercial farmers. The variable was added because the beginning of any agricultural commodity export is from the available production. As the level of production increase, all other factors remaining constant, the larger the growth of the export volume. On the contrary, holding other factors constant, domestic supply reduces export value. Read literatures. According to Nwachuku et al. (2010), the study discovered that there is strong positive impact of increments in production on volume of export. But in some instances where there is an internationally abundant production of the commodity globally, production and export growth can have opposite relationship Kumar & Rai (2007).

2.6.5. Trade openness.

Trade openness is expected to raise productivity through increased competition and transmission of technology from the rest of the world (Levine and Zervos, 1998).

Further based on Ngouhouo&Makolle (2013), openness to trade introduces countries to competitions from other countries creating opportunities, as well as markets. Hence, the study discovered a significant positive relationship between terms of trade index and export performance of a country. While deterioration in terms of trade index results in contraction of export performance and hence export earnings (Jayant 2006).

A conceptual definition of export performance addresses two parts: export and performance. Cavugil and Neviv (1981) cited in Hailegiorgis (2011) export is the international marketing related decisions and activities of internationally active firms. The connotation of the word performance, in the literature sense, does not cause any problem for it is the act of carrying out or accomplishing something such as a task or action. Zou and Sta(1998), Shoham (1991) cited in Hailegiorgis (2011) defined export performance as: success or failure of the effects of nation to sell domestically produced products in the other nations market; or export effectiveness and efficiency as well as continues engagement in the international market.

Export performance is defined as: the success or failure of the efforts of a nation to sell domestically produced goods and services in other nations markets, the export effectiveness, export efficiency and continuous engagement in exporting, the composite outcome a nation's international sales, and the three sub-dimensions which encompass sales, profit and growth (Allaro, 2011)

The measures of export performance can be looked in three categories such as objective (financial, non perceptual), subjective (non financial, strategic, perceptual) and composite scales (Allaro, 2011; Ayan&Percin, 2005).

2.7.Conceptual Framework

Based on the well-informed assessment of different theoretical and empirical literatures, this study identified the gap that there are limited empirical reviews on sesame export performance in Ethiopia. There are very limited researches on the performance of sesame exports. Where most of the studies focus on whereas oil seed and sesame in particular have been overlooked. There are few researches on the export performance of sesame from the viewpoint of business and management; almost studies on sesame are agriculture focused researches.

Conceptually, this study primarily focuses on the sesame export performance in terms of Inflation, the real effective exchange rate, production, Interest rate and trade openness sesame business.

Export over the period of 12 years and Policies and implementation will be Viewed from national point of view Input distributors, Intermediaries, local supplier and sesame exporters. This then is a call for improvement by government policy's and well as commitment of its value-chain actors. More specifically, the conceptual framework consists dependent Variables: - the dependent variables of the Study are export performance of sesame seed. The measure of these dependent variables is described below in Data analysis. Independent variables included in the study are inflation, the real effective exchange rate, production, Interest rate and trade openness

sesame business. other variables are captured by the model as discussed under chapter Data analysis.

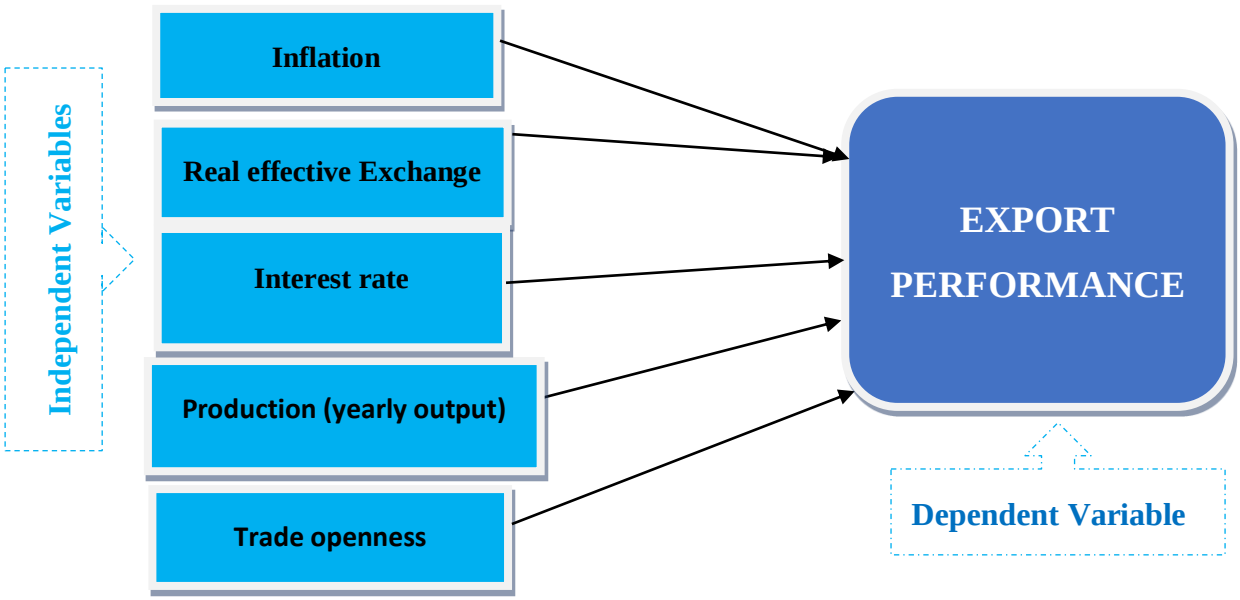

Figure 1.Conceptual frame work, designed by the researcher

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Research Approaches

The quantitative research approach is used so as to make use of statistical analysis by applying systematic measurements and statistics. Research survey and already collected data are used while conducting the study.

Throughout the research report, the researcher used descriptive and explanatory research design to reveal the determinants of export performance. This descriptive type of research was used to describe the data collected; to examine the relationship and impacts between the trade related factors and export performance. The explanatory studies are used because it establishes causal relationship between variables.

3.2. Type and Source of Data

In the process of measuring the export performance (Carneiro, Farias, da Rocha, & Ferreira da Silva, 2016) studied that export revenue is one of the successfulness or unsuccessfulness indicator for export performance. There are input variables to be considered while analyzing export performance. Different scholars has studied the impacts of inflation, exchange rate, trade openness, interest rate, and production volume on export performance(Mwakanemela, 2014), (Boug & Fagereng, 2010), (Batten & Belongia, 1984).

A sustained increase in the general price level in an economy or inflation is one of the variables which impacts export performance. A positive correlation between inflation rate and export performance was exhibited on the study of impact of FDI inflows, trade openness and inflation on the manufacturing export performance of Tanzania(Mwakanemela, 2014).(Boug & Fagereng, 2010) has also investigated the relationship between export performance and inflation.

The impact of exchange rate was also investigated by different researchers. A significant influence due to change in exchange rate volatility have been observed by (Boug & Fagereng, 2010). In this study "volatility changes proxied by blip dummies related to the monetary policy change from a fixed to a managed floating exchange rate and the Asian financial crises during the 1990s enter significantly in a dynamic model for export growth in which the level of relative prices and world market demand together with the level of exports constitute a significant cointegration relationship".

Even though it is difficult to assess the impact of trade openness on economic performance because of multi-channel impact, trade openness strongly enhances economic performance. Trade liberalization should be undertaken as part of a broader package that ensures macroeconomic stability and includes structural reforms (such as reducing impediments to business), as this will strengthen and make the benefits from trade liberalization. more durable(Hallaert, 2006).

Time continuous secondary data used in this study is collected from sources:Ethiopian Ministry of Trade, National Bank of Ethiopia, Ethiopian Commodities Exchange, and Ethiopian Statstics Agency .In the resulting data set inflation, exchange rate, trade openness, interest rate, and production volume are the five independent variables used in this study whereas the amount of revenue in million USD obtained as the result of exporting sesame for fourteen years is used as the dependent variable. Generally, the data used in this study has the following formats:

$$Y=\alpha+\beta1X1+\beta2X2+\beta3X3+\beta4X4+\beta5X5+\varepsilon$$

Where:

Y= Total export Performance (on yearly basis)

X1 = Inflation (Local market price-international market price)

X2 = Foreign exchange rate(Birr Vs dollar)

X3 = Interest rate

X4=Production

X5=Trade openness

ε = Error term, whichdefines the variation in the response variable, Y, which cannot be explained by the predictorvariables.

α = Constant term b1–b3 = Regression coefficients – define the amount by which Y (response variable) is changed for every unit of change in the predictor variable

3.3. Data Analysis and Estimation Mechanisms

The time series data were collected processed, analyzed, interpreted and presented in such a manner that it is clear, precise and unambiguous. This data were quantified and coded using statistical package for social sciences (SPSS 20.0).Multicollinearity test, distribution error and multiple regression were employed in this study in analyzing data.

3.3.1. Multicollinearity

Multicollinearity check between independent variables is important while multiple regression analysis. Extreme multicollinearity implies that the two independent variables in a regression equation are perfectly related by linear function. Checking R^2 during multicollinearity test is important. For any two independent variables if the R^2 for regression is near +1, then the two variables are said to be collinear. However, multicollinearity become problem when the main goal of the regression analysis is to predict the dependent variable. The other aspect to be checked is tolerance (T) which varies between (0) which is completely predictable from the other independent variables and that there is perfect collinearity, and (1) which means the variable is completely uncorrelated with the other independent variables. Variance Inflation Factor (VIF) is also closely related to tolerance. VIF relates to the amount that the standard error or the variable has been increased because of collinearity. For good VIF value less than 10 is preferable(Fah, n.d.).

3.3.2. **Distribution of errors**

Most commonly residual plots done against either the dependent or independent variables. In multiple regression only the predicted dependent values represent the total effect of the regression variate. The pattern generated during residuals plot help to identify violation of

assumption. Null plot is a special interest which confirms all assumptions are met. It shows the residuals falling randomly, with relatively equal dispersion about zero and no strong tendency to be either greater or less than zero(Beckett et al., 2017).

3.3.3. Regression Modeling

Multiple Regression (MR) is a statistical technique which is used to study the correlation between a single dependent variable and one or more independent variable(s). It is used both for predicting outcomes and causal analysis. A variable being forecast or described by the set of independent variables is known as dependent variable whereas a variable selected as predictors and potential explanatory variables of the dependent variable is known as independent variable(Beckett, Eriksson, Johansson, & Wikström, 2017).

Data types used with multiple regression analysis are mostly interval or ratio data. Since, the analysis assumes an increase or decrease of one unit on the scale and linear equation requires information on changes in magnitude ordinal variables are inappropriate for multiple regression.

There are different variable selection methods for Multiple regression analysis. Forward selection is one of the variable selection methods which starts with a regression model that contains only the constant term and adds a variable which results in the largest increase in multiple R^2 at each step. Entering variables into the model is stopped when there are no more variables that result in a significant increase in R^2. The second variable selection method Backward elimination, the regression model starts by containing all the independent variables and removes a variable that changes R^2 least at each step. In this case variable removal is stopped when removal of any variable in the model results in a significant change in R^2. Stepwise method is

a combination of forward selection and backward elimination. In this method variables with decreasing importance while adding another one is removed.

3.4.Ethical considerations

Each discipline should have its own ethical guidelines regarding the treatment of human research participants (Vanderstoep and Johnston, 2009). Research ethics deals with how we treat those who participate in our studies and how we handle the data after collected. The researcher has kept privacy (i.e. leave any personal questions), anonymity (i.e. protecting the identity of specific individual from being known) and confidentiality (i.e. kept the information in secret) (Saunders et.al, 2007). Besides, the questionnaire was distributed to voluntary participant, it also have clear introductory and instruction part regarding to the purpose of the research.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1.The Data Set for the Study

As shown in **Error! Reference source not found.**below table 1, 13 observations of the dependent and independent variables were used to generate the regression model. Inflation is an independent variable measured by National Bank of Ethiopia with a measurement unit index for average consumer prices index (CPI). Exchange rate is the relative price ofEthiopian national currency per current international dollar collected from National Bank of Ethiopia (NBE). Based on the data obtained from NBE, the interest rate is adjusted monthly. However, for the independent variable interest rate, the average value for each year is used as a single value. … The variable "value" is the value of revenue collected from export of sesame seeds in million USD. The production volume measured in mega tones of sesame produced for 13 years.

Table 1.Dataset

Year	Inflation	Exchange	Interest	Trade	Production	Value
2005	19.78	2.16	10.5	-0.1053	1488610	211.4
2006	22.46	2.33	10.5	-0.2492	1493867	187.4
2007	26.33	2.65	10.66	1.5658	1876727	218.8
2008	38.01	3.37	10.5	0.4487	2167407	356.1
2009	41.23	4.1	11.9375	0.3922	2605343	358.5
2010	44.59	4.19	12.219	1.39	6246395	326.6
2011	59.41	4.92	11.875	0.0734	2447834	472.3
2012	73.74	6.44	11.875	-1.3503	1813707	443.5
2013	79.69	6.68	11.875	1.4752	4405201	651.9
2014	85.59	7.28	11.875	0.3643	2887701	510.1
2015	93.78	7.98	11.91667	-0.0837	2769859	477.2
2016	100.00	8.68	12.656	0.3913	2678665	351.0
2017	110.69	9.06	12.9375	0.2007	2559034	423.5

Source: NBE&CSA

4.2.Data Test

Multicollinearity between predictor variables and normal distribution errors are the criterion for validity of multiple regression models(Dhakal, 2018).

4.2.1. Distribution of Errors

Assessment of the extent of random variation in different parts of the data performed using scatter plots of the residuals versus the explanatory variables and versus the predicted values from the model. Based on the criterion for validity of a multiple regression model, the standard errors are plotted against the dependent variable to visualize the correlation between the two. As shown in Figure 2 the dots are scattered thorough without any pattern. This pattern less scattering of the dots shows that the standard errors are normally distributed.

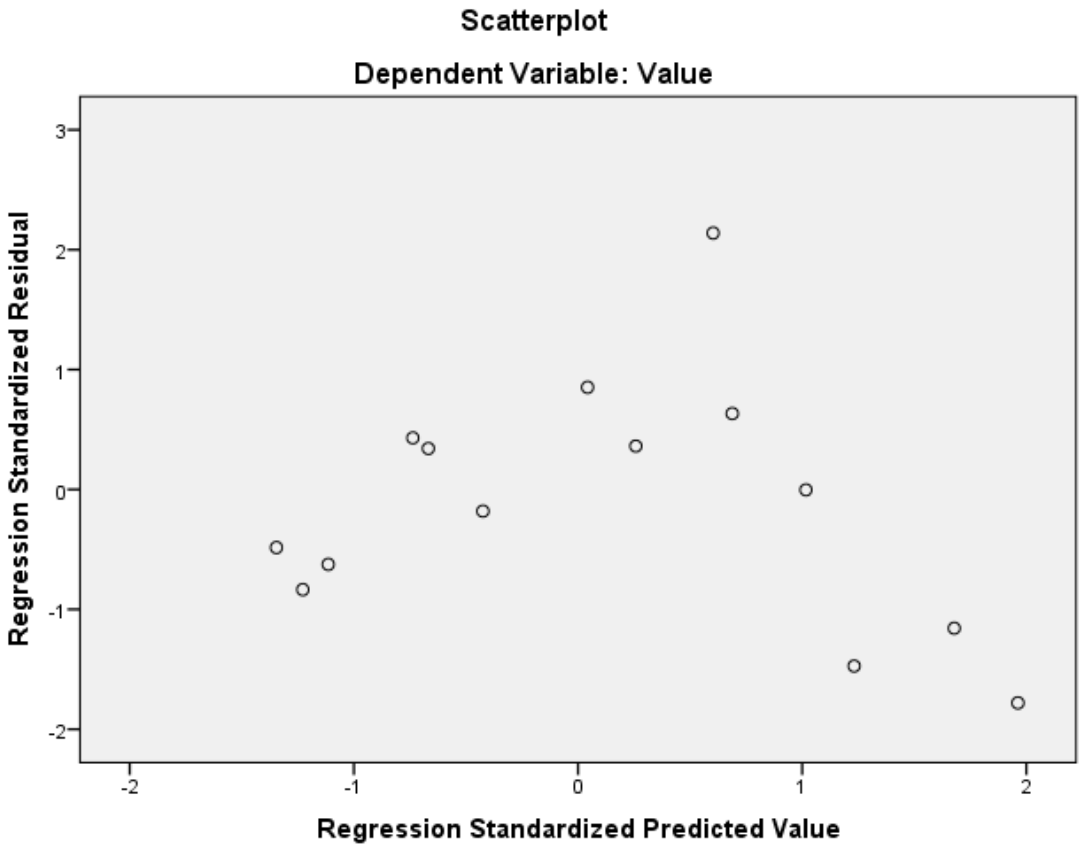

Figure 2. Distribution of errors

4.2.2. Multicollinearity Test

Multicollinearityvalues above 15 indicate multicollinearity problems, values higher than 30 are a highly strong sign for problems with multicollinearity(SAS Institute Inc., 2014). All lines in which correspondingly high values occur for the Condition Index, it is better to consider the next unit with the "Variance Proportions".According to Table 2 below, the sixth dimensions have a condition index higher than 30 (94.604) and the variance proportions value which have all values less than 0.9 and these values confirm that there is no multicollinearity problem between predictors even though the condition index is greater than 30. Additionally, for the rest four models 2, 3, 4, 5 all condition index value are less than 30 in these cases also there is no variance proportions that confirm multicollinearity between two predictor variables.

Table 2. Collinearity diagnostics data

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	Inflation	Exchange	Interest	Trade	Production
1	1	4.849	1	0	0	0	0	0.01	0
	2	0.762	2.522	0	0	0	0	0.91	0
	3	0.248	4.419	0	0.17	0.01	0	0.06	0.1
	4	0.109	6.671	0	0.02	0	0	0	0.6
	5	0.031	12.553	0	0.76	0.64	0	0.02	0.01
	6	0.001	94.604	0.99	0.05	0.35	1	0	0.28
2	1	3.905	1	0.01	0.01	0		0.02	0.01
	2	0.743	2.293	0	0	0		0.92	0.01
	3	0.235	4.079	0.05	0.17	0.02		0.04	0.24
	4	0.087	6.701	0.66	0.05	0		0	0.73
	5	0.03	11.351	0.29	0.77	0.98		0.02	0.01
3	1	3.64	1	0.01	0.01	0			0.01
	2	0.242	3.876	0.05	0.17	0.01			0.24
	3	0.087	6.467	0.66	0.05	0			0.74
	4	0.031	10.835	0.29	0.77	0.98			0.01
4	1	2.801	1	0.02	0.01	0.01			
	2	0.167	4.09	0.5	0.23	0			
	3	0.031	9.477	0.49	0.76	0.99			
5	1	1.918	1	0.04		0.04			
	2	0.082	4.833	0.96		0.96			

a. Dependent Variable: Value

Source: secondary data analysis

4.3.Model Specification

Multiple regression model with back elimination is used to obtain parsimonious combination of the predictor variables namely inflation rate, exchange rate, trade openness, interest rate, and production volume of sesame seeds with the dependent variable export performance measured in the amount of revenue (in million USD) obtained due to export of sesame seeds(Dhakal, 2018).

Using the five independent variables and one dependent variable, a multiple variable regression model is generated as shown in the model summary Table 3. The characteristics of data and study design are the two factors that confirm the correctness of the statistical test (Features - Statistical Test Selector | Laerd Statistics, n.d.). Based on this fact using backward variable elimination method of independent variable selection method, removing one variable resulted in the following new model summary shown in Table 3.**Error! Reference source not found.** Totally there are five models generated by eliminating one predictor variable at a time by checking its significance to the change of the dependent variable. The final optimized model which is the fifth model shown in Table 3 contains a single independent variable exchange rate.

Table 2. Model summary generated using backward removing of independent variables

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825[a]	.681	.452	98.0843
2	.815[b]	.664	.496	94.0587
3	.801[c]	.641	.522	91.6405
4	.775[d]	.600	.520	91.7855
5	.696[e]	.485	.438	99.3857

a. Predictors: (Constant), Production, Trade, Exchange, Inflation, Interest

b. Predictors: (Constant), Production, Trade, Exchange, Inflation

c. Predictors: (Constant), Production, Exchange, Inflation

d. Predictors: (Constant), Exchange, Inflation

e. Predictors: (Constant), Exchange

f. Dependent Variable: Value

Source: secondary data analysis

From the adjusted R square values in Table 3 using all the five independent variables (Production, Inflation, Trade, Interest, Exchange), 45.2 % of the change in the dependent variable is observed due to these five independent variables. In the second model four independent variables (Production, Trade openness, Inflation, and Exchange rate) are used for 49.6% change in the dependent variable. However, when only the three independent variables (Production, Inflation, Exchange) included to model three the change on the dependent variables can be increased to 52.2 %. The change on the revenue obtained from sesame seeds export was caused by the three independent variables production volume, inflation rate, and exchange rate. In this model two variables trade openness and interest rate are removed due to their statistical significance at the second and third variable elimination steps. The fourth model involves only two variables Inflation, Exchange rate for 52% change in the dependent variable. The final parsimonious model which is the fifth model contains the independent variable exchange rate. According to this model 43.8% of change on the dependent variable is due to exchange rate.

Table 3. Coefficients table for the five models.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	545.529	749.998		0.727	0.491
	Inflation	-2.25	1.536	-0.597	-1.464	0.186
	Exchange	72.005	26.664	1.339	2.7	0.031
	Interest	-45.682	76.477	-0.287	-0.597	0.569
	Trade	34.525	48.55	0.159	0.711	0.5
	Production	2.99E-05	0	0.294	1.111	0.303
2	(Constant)	100.372	80.817		1.242	0.249
	Inflation	-2.445	1.439	-0.649	-1.699	0.128
	Exchange	62.426	20.428	1.16	3.056	0.016
	Trade	34.312	46.556	0.158	0.737	0.482
	Production	2.11E-05	0	0.207	0.977	0.357
3	(Constant)	104.516	78.548		1.331	0.216
	Inflation	-2.199	1.364	-0.583	-1.612	0.141
	Exchange	60.931	19.804	1.133	3.077	0.013
	Production	2.14E-05	0	0.209	1.016	0.336
4	(Constant)	146.546	66.871		2.191	0.053
	Inflation	-2.317	1.361	-0.615	-1.702	0.12
	Exchange	64.987	19.428	1.208	3.345	0.007
5	(Constant)	178.679	69.462		2.572	0.026

Exchange	37.447	11.645	0.696	3.216	0.008

Source: Secondary data analysis

From the data in Table 3 below, the significance of independent variables (except exchange rate) in these four models is greater than .05 which means these models are not the best models. In the second model the independent variable interest rate was removed due to its less significance to the change in the dependent variable export performance in amount of revenue obtained from export of sesame seed. In the third model trade openness was removed due to its insignificance and in the fourth model production volume was removed. The final parsimonious model consists the independent variable exchange rate which have a high significance (0.008< .05) for the change that would happen on the performance of sesame export.

Summary of models in equation form:

Equation 1

$$Export\ performance = 545.529 - .597 * Inflation + 1.139 * Exchange\ rate - 0.287 * Interest\ rate + 0.159 * Trade\ openness + 0.294 * Production\ volume + 749.998$$

The first model shown in Equation 1, with all the five predictor variables have the p value greater than 0.05(except exchange) indicates that this model is not the best fitted model. The adjusted R^2 = 0.435 indicates that 43.5% of the variance in export performance can be explained by these five independent variables.

Equation 2

$$Export\ performance = 100.372 - .649 * Inflation + 1.160 * Exchange\ rate - 0.158 * Trade\ openness + 0.207 * Production\ volume + 80.817$$

The second model with four predictor variables Production, Inflation, Interest rate, and Exchange rate has dropped the predictor variable interest rate with greater p-value and it will have a form as shown in Equation 2.

Equation 3

$$Export\ performance = 104.516 - .583 * Inflation + 1.133 * Exchange\ rate + 0.209 * Production\ volume + 78.548$$

In the third model the independent variable production volume was removed from the regression equation due to its less significance in the prediction or value. The resulting equation is shown in Equation 3.

Equation 4

$$Export\ performance = 146.546 - 0.615 * Inflation + 1.208 * Exchange\ rate + 66.871$$

The fourth model contains only two independent variables inflation and exchange rate. The resulting equation is shown in Equation 4.

Equation 5

Export performance = 178.697 + 0.696**exchange rate* + 69.462

The model with the most parsimonious predictor variable includes exchange rate, $p < 0.05$ (which is 0.008) as shown in Table 4, adjusted $R^2 = .438$ (Table 3). This indicates that 44% of the variance in export performance can be explained by this model. The equation of this model is shown in Equation 5.

CHAPTER FIVE

SUMMARY, CONCLUSION & RECOMMENDATION

5.1. Summary of Findings

The 13 years data (2005-2018) of inflation rate, exchange rate, interest rate, trade openness, seasame production volume and revenue of seasame export were collected and analysed. The first five variables (inflation rate, exchange rate, interest rate, trade openness, seasame production volume) were employed as independent variables where as the sales values of seasame export was taken as dependent variable.

The data were tested for distribution error and multicollinearity test and found fitted.Backward multiple regression was conducted to identify a parsimonious combination of inflation rate, exchange rate, production volume, interest rate, and trade openness to identify the fitted model in predicting export performance.

The first model was with all the five independent variables explaining the dependaent variable, export value by 45%. The two independent variables, inflation and interest rate have inverse relationship with the dependent variable where as the other three independent variables, exchange rate, trade openness and production volume have positive relation ship.

Regarding selecting the stable model to identify which variables can best predict the dependent variable, 3 series of backward regression analysiss have been conducted and resulted in a model with one independent variable, exchange rate explaining 43%. This variable is with p-value less than 0.05 in the analysis.

5.2. Conclusion

The five independent variables- exchange rate, inflation, production volume, trade openness and interest rate- influence the export performance by 45% in their order of descending.

The optimal model forpredicting revenues generated from the export of seasame seeds shows excahnege rate as the only independent variable. The relationship between exchange rate and export performance is positive and the extent of relationship is high.

5.3. Recommendation

Exchange rate has been found an independent variable influencing export performance in this study. In the country where hard currency shortage is the headache, export is very important economic sector that requires government to take concrete measures in improving exchange rate. Some among other things to suggest include devalluation of birr, controlling inflation and minimizing government debt.

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