Study on Determinants of Sugar Beans Import Demand in Eswatini (Swaziland)

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ABSTRACT

Sugar beans have been known to be one of the staple in Southern Africa where it is recognized as the second most important source of human dietary protein and the third most important source of calories. However, the kingdom of Eswatini is faced with the pandemonium of self- insufficiency in the production of the legume. The objectives of this study were to analysis sugar beans import trends for a period of 32 years in Eswatini and to estimate significant relationship between the determinants (the dependent variable and independent variables) of sugar beans import demand in Eswatini for a period of 32 years. The study adopted time series data from the year 1988 to 2020. This study adopted the double logarithm model with the import quantity of sugar beans being the dependent variable and the independent variables included sugar beans local production, Eswatini sugar beans consumption, sugar beans domestic price, Eswatini GDP, Eswatini Population, sugar beans import price, and the annual exchange rate. The data was tested for stationarity using the Augmented Dickey fuller test and AIC to select lags. Import quantity, consumption, population, and import price were found to be stationary at their level. Production, GDP, domestic price and annual exchange rate were found to be stationary at first differencing. Results revealed that consumption and local production are the major determinant of sugar beans import demand in Eswatini and these variables are significant at 1% level of significance in the short-run. Eswatini should adopt policies that will reduce the levels of sugar beans imports. This study found out that as the population increases, the level of sugar beans imports quantity decreases.

***Keywords**: Import demand, stationarity, and determinants, short-run and long-run relationship.*

INTRODUCTION:

Sugar beans are a globally cultivated legume which provides a high source of protein which can be consumed in its immature or mature state. Sugar beans are the most widely grown pulse, second only to maize as a food crop and a major source of food security in Southern Africa. It is readily available and a popular food to both the urban and rural populations in Eswatini. According to Kara et al. (2009) sugar beans are consumed by people from all income levels and serves as a primary source of dietary protein for people in the lower income bracket [1].

The majority of the population lives in the rural area and their survival depends directly and indirectly from agriculture. Small holder farmers in the rural areas practice subsistence farming and they are focusing on crops like sugar beans, maize, groundnuts, jugo beans and as well as livestock [2].

Nationally, 58.9% of *EmaSwati* live below the poverty line [3]. To reduce poverty and food insecurity, the Kingdom of Eswatini government has urged all farmers to increase agricultural productivity [3]. To increase agricultural productivity, small holder farmers diversify their crop production to a number of crops. Small holder farmers do not specialize and concentrate into one particular crop as most of them practice subsistence farming. This in turn reduces the output of each crop as the land is divided to accommodate a number of crops.

Besides subsistence farming, in order to meet local demand for agricultural products, Eswatini imports from other countries. The study seeks to ascertain the determinants of sugar beans import demand in Eswatini and it also seeks to examine the properties of data to evaluate sugar beans imports trends over the years in Eswatini.

Agricultural production in Eswatini

Economically, Eswatini depends on the agriculture sector to achieve most of the country`s development goals. The unemployment rate in Eswatini is 22.08% [3]. In an effort to reduce the unemployment rate and to create job opportunities, Eswatini continues to encourage all agricultural activities across the country. The ministry of agriculture also encourages people to practice subsistence and commercial farming in order to minimize the dependence of the nation on imported agricultural products.

Eswatini has two land tenure systems where agriculture is practiced. Commercial agriculture is mostly practiced within the Title Deed Land (TDL) which account for 26% of the total land and holds about 90% of the available irrigation infrastructures and uses modern technology to produce mainly cash crops. The other 10% occurs on communal land in the Swazi Nation Land (SNL) where subsistence farming is mainly practiced by smallholder farmers [4].

Agriculture has contributed significantly to the development of Eswatini`s economy by making available the raw materials required by agro-based industries that form the major support of the manufacturing sector. Agriculture contributed 8.77% to Eswatini GDP (Gross Domestic Product) in 2019. The agricultural activities practiced on Swazi Nation Land (SNL) contributed

approximately 3% of the country`s GDP in 2019 [3]. Agriculture acts as a source of income and food security to a large proportion of the rural households, a market for industrial products and an earner of foreign exchange. About 75% of the rural population obtains their living from agriculture, of which 65% get their income from crops and livestock, while the remaining 25% obtains their living from wages, remittances and informal sector activities.

Sugar beans production in Eswatini

Sugar beans production in Eswatini has been declining over the years [5]. The factors that affect sugar beans production have been negative on the production since the production has been declining since early 1990s. According to the World Food Program (WFP), sugar beans are rich in proteins and are most commonly cultivated in SSA where a large number of the population does not afford to consume meat as a source of protein.

In Eswatini, sugar beans are cultivated across all the four regions and are most produced in the Middleveld where the climatic conditions required by sugar beans are most suitable. The Manzini region in the Middleveld is the leading producer and consumer of sugar beans in the country. Smallholder farmers and agricultural companies cultivate sugar beans for commercial purposes in the urban areas of the Manzini region. Of all the leguminous crops cultivated in the country, sugar beans are the most expensive. One tonne of sugar beans is ranging from E15000 to E20 000 in Eswatini, 2020.

According to the FAO, 2018, sugar beans production has been fluctuating over the years. The country saw the greatest decline during the drought season in 2016 where 700 metric tonnes of sugar beans were produced [2]. The fall in sugar beans production in 2016 growing season was the worst in 30 years, lower than the 2007 drought season. The significant decline in sugar beans production compels the country to rely heavily on imports to meet the local demand and to cover the shortage.

Sugar beans imports have been shown to reduce domestic sugar beans prices and stifle domestic sugar beans production and act as a disincentive to local farmers and hence reduce sugar beans production in Eswatini. In Eswatini, before the 1990s sugar beans imports were low since sugar beans consumption was almost commensurate with domestic sugar beans production. However, after 1995 sugar beans imports have been high because of the decline in domestic production [3]. Large amounts of sugar beans are imported from South Africa, Mozambique and from developed countries such as the USA and EU. These are countries where food production is highly subsidized and that pose a threat to domestic production of sugar beans in Eswatini.

Sugar beans imports represent imbalanced competition to domestic producers since they increase supply and lesser prices in local markets. This makes domestic producers to be unable to offload their produce to the local market since the prices offered do not cover their cost of production. Cheap sugar beans imports also shifts demand towards imported non-traditional sugar beans because tastes and preferences change as they get used to imported beans. This is reflected in the

stagnation of traditional crop production as a result of rapid growth of demand for non-traditional crops.

Bean-related research has focused on the agronomic aspects of beans over the past years [6]. They exclude other important aspects of sugar beans production such as the determinants of sugar beans import demand in Eswatini. It is therefore important to understand the relationship between the determinants of sugar beans import demands so that relevant policies can be adopted. This would be important in guiding and designing appropriate strategies aimed at relieving South Africa from feeding the nation but to enhance local production as Eswatini imports about 80% of food and agricultural products from South Africa [3].

The main objective of the study is to analyse the key determinants of import demand for sugar beans in Eswatini (Swaziland). This study analyse sugar beans import trends for a period of 30 years in Eswatini and also estimate the significant relationship between the determinants of sugar beans import demand function in Eswatini

LITERATURE REVIEW:

In the theory of demand, such invariance is attributed to the consumers` preferences for the combinations of various commodities bought during a given period. Consumer theory is the study of how people decide to spend their money based on their individual preference and budget constraints. Consumer theory shows how individuals make choices, subject to how much income they have to spend and the prices of goods and services. Demand theory is an economic principle relating to the relationship between consumer demand for goods and services and their prices in the market.

According to Kramer (2019), Consumer demand theory provides insight into understanding market demand. In particular, this theory analyses consumer behaviour, especially market purchases, based on the satisfaction of needs and wants (that is, utility) generated from the consumption of a good [7].

Determinants of sugar beans demand:

Price: The demand for sugar beans is highly dependent on price. When the price of sugar beans is high, the demand decreases and people will look for cheaper alternatives. However, when the price decreases, the demand tends to increase. Chirwa and Phiri (2004) mentioned a decrease in import prices increases demand for imported goods [8]. Some agricultural products are highly perishable and therefore when the demand for imported agricultural products increase because of lower prices, the domestic supply of agricultural products get spoiled and hence the production of domestic agricultural products is negatively affected. When the price of domestic agricultural products is higher than the price of imported agricultural products, people tend to demand more of the imported products in an attempt to benefit from low prices.

Preferences: Cheap sugar beans imports shifts demand towards imported non-traditional sugar beans because tastes and preferences change as they get used to imported beans. This is reflected in the stagnation of traditional crop production as a result of rapid expansion of demand for non-traditional crops. Chirwa and Phiri (2004) also believe that preferences and tastes affect the demand for sugar beans as people often demand the type of beans they prefer even when prices are high [8]. The non-traditional types of beans that are imported from other countries tend to be cheap and more affordable for a large part of the population.

Other factors: Other than price and preferences, there are a lot of factors that affect the demand of sugar beans. Some of the factors include supply, income, population, government policy, information failure and many more. The demand for sugar beans is also affected by the seasonality of the beans in some places. Sugar beans are essential food products that are highly demanded by people living in the rural areas.

Factors affecting sugar beans production

According to Yao and Liu (1998), the factors that affect sugar beans production are divided into three categories namely; production factors, institutional factors and socio-economic factors [9].

Production factors

Seed type – The seed weight of common beans is genetically controlled, probably by genes with a large phenotypic effect, and the domestication of the species has led to larger seed than the wild progenitors. However, the same seed lot when harvested usually contains seeds of widely varying size and quality, due to plant genetic variation, inter-plant competition, diseases and inflorescence location that reflects differences in flowering times and nutrition of the developing seeds. A high yielding seed type will results to greater yields when harvesting [10].

Other production factors that affect the production of common beans include fertilizers, manure, herbicides and pesticides.

Institutional factors

Extension services – The Millennium Development Goals (MDGs) of reducing hunger and to promote food security are rooted in increasing agricultural productivity, especially from crop sector. This is because agriculture is considered as the engine of growth in many developing economies, particularly in Sub-Saharan Africa (SSA). Agricultural extension programs have been one of the main conduits of addressing rural poverty and food insecurity. This is because it has the means to transfer technology, support rural adult learning, assist farmers in problem solving and getting farmers in getting actively involved in agricultural knowledge and information system [11]. Extension is defined by FAO as "systems that should facilitate the access of farmers, their organisations and other market actors to knowledge, information and technologies; facilitate their interaction with partners in research, education, agribusiness, and other relevant institutions; and assist them to develop their own technical, organizational and

management skills and practices". Other institutional factors include market access, credit access and group membership.

Socio-economic factors

Education – As education level increases, agricultural output increases [12]. The importance of education in agriculture development has been widely affirmed. Education enhances farming skill and productive capabilities of the farmers. Education enables farmers to follow some written instructions about the application of adequate and recommended doses of chemical and other inputs [13]. Again, numeracy helps them to calculate the costs and benefits of adopting a particular farming technology. Other socio-economic factors include age, gender, farm size and income.

Empirical review

The traditional approaches to estimating the import demand function relates quantity of imports to the relative price of imports. Theory further suggests that there is a negative relationship between imports and the relative price level that means an increase in relative price level reduces the level of imports. The positive relationship between the level of income and imports implies that an increase in the level of income will lead to an increase in the amount of imports which can be attributed to an increase in consumption expenditure, investment spending or an increase in government expenditure [14].

Hibbert et al. (2012) provided an estimate of the import demand function for Jamaica with two of its top ten trading partners, namely, the US and UK for the period 1996 up to 2010 [15]. They were able to obtain necessary and reliable import data for the period. The appropriate import demand function is estimated using the bounds testing approach to co-integration and therefore the unrestricted error-correction model. For independent variables, the study used real gross domestic product, relative price of imports, real foreign reserves and exchange rate volatility [15]. The empirical results obtained revealed that there is a co-integrating relationship between imports and it regresses in both the US and UK models. In the case of Jamaica-US trade, the study found that income has a lower and negative elasticity in the short run compared with the long run. Relative prices are three times more elastic within the short run than within the long run. Volatility is negative in the long run, but positive in the short run. Foreign reserves behave the same irrespective of time. In Jamaica-UK trade, GDP, and volatility area less elastic within the short run than within the long run, however, real foreign reserves and relative value change rapidly.

Baiyegunhi and Sikhosana (2012) examined the determinants of import demand for wheat in South Africa, using data obtained from 1971 to 2007 [16]. The study used the double logarithmic linear function and the data was obtained from secondary sources. The results of the model revealed that income measured by the real gross domestic product per capita; wheat import price; the price of sugar cane (compliment for wheat); and the level of domestic wheat production are

statistically significant in explaining the variation observed in the quantity of imported wheat during the period.

Hyuha, Ekere, and Bantebya (2017) conducted a study analysing the determinants of import demand for rice in Uganda using econometric methods [17]. The study used time series data for a period of 1961 to 2013. The necessary information used to conduct the study was obtained from the Uganda Bureau of Statistics (UBOS), Bank of Uganda, Uganda Revenue Authority, Ministry of Trade and Food and Agriculture Organisation (FAO). A time series linear regression analysis was run with a dependent variable being the quantity of imported rice in the country. The study used the theoretical demand function which states that import demand is a function of own price, apparent consumption (Domestic production-exports= import), the real price of imported rice in the country, population and Gross Domestic Product and maize production(close substitute to rice). The study found that population, domestic rice production, own price, and own consumption were significant and therefore influencing rice imports in Uganda.

METHODOLOGY:

Study area:

The study was conducted in the kingdom of Eswatini. The country is located in the Southern part of Africa bordering South Africa and Mozambique. Eswatini has four climatic regions namely the Highveld, Middleveld, Lowveld, and Lubombo region. Sugar beans (Phaseolus Vulgaris) also known as common beans or dry beans are cultivated in all four regions, with the Middleveld being the largest producer.

Research design:

The study used secondary data. To examine and fully comprehend the trends associated with sugar beans production in Eswatini the study used the historical time series data for the period of 32 years from 1988 to 2020. The study used both descriptive statistics (tables and charts) and an econometric model to analyse data.

Sources of data:

Sugar beans import trends and local production data was obtained from the National Maize Corporation (NMC), National Agricultural Marketing Board (NAMBOARD) and from Food and Agriculture Organisation (FAOSTAT).

Data analysis:

The main objective of the study is to analyse the determinants of sugar beans import demand and to find out the variables that determine sugar beans import demand in Eswatini. In order to achieve this, the study adopted an econometric model approach. The study ran a time series linear regression analysis where the dependent variable was the quantity of imported sugar beans in Eswatini. The time series data obtained was converted to logarithms and suitable tests were made to evaluate autocorrelation.

Model:

The study adopted the econometric model below. The study opted for this method so that it can describe sugar beans import flow in Eswatini. The sugar beans import demand followed the theoretical demand function which states that the quantity of sugar beans imports is a function of Eswatini GDP per capita, Eswatini population, sugar beans consumption, sugar beans import price, sugar beans domestic price and annual exchange rate.

$Q_m = f$ (GDP, EsPop, SBC, SBP, SBIP, SBDP, AER) ----------[1]

Where Q_m is the quantity of sugar beans imports, SBP is sugar beans production, EsPop is Eswatini population, SBIP stands for sugar beans import price, SBDP is sugar beans domestic price, SBC is sugar beans consumption and AER is the annual exchange rate.

The statistical form of the model is;

$Q_m = \beta_0 + \beta_1 GDP + \beta_2 EsPop + \beta_3 SBC + \beta_4 SBP + \beta_5 SBIP + \beta_6 SBDP + \beta_7 AER + \rho$ ----------[2]

The independent variables included in the model aforementioned and their definitions and expected signs on sugar beans imports are presented in table 2.

A logarithmic functional form is adopted from:

$\ln Q_m = In\beta_0 + In\beta_1 GDP + In\beta_2 EsPop + In\beta_3 SBC + In\beta_4 SBP\ In\beta_5 SBIP + In\beta_6 SBDP + In\beta_7 AER + \rho$ ----[3]

Where β is the parameter estimate of the independent variables and Ɛ represents the error term.

RESULTS AND DISCUSSIONS:

The statistical properties of the data used in the analysis are described in Table 1. It shows the mean, standard deviation, minimum and maximum of the variables used in the study. On average, the country imports 2954.5 metric tonnes of beans with a maximum of 8268 and a minimum of 316. Sugar beans consumption averaged 4679.8 metric tonnes with a maximum of 9083 and a minimum of 1291. The local production of sugar beans averaged 1725 metric tonnes with a maximum of 4958 and a minimum of 700. The domestic price per tonnes averaged E6054.27 with a maximum of E15808 and a minimum of E1168. The annual exchange rate averaged 7.6 with a maximum of 16.5 and a minimum of 2.5. The GDP in US Dollars/million averaged 2838.9 with a maximum of 4886.7 and a minimum of 1049.

Table: 1

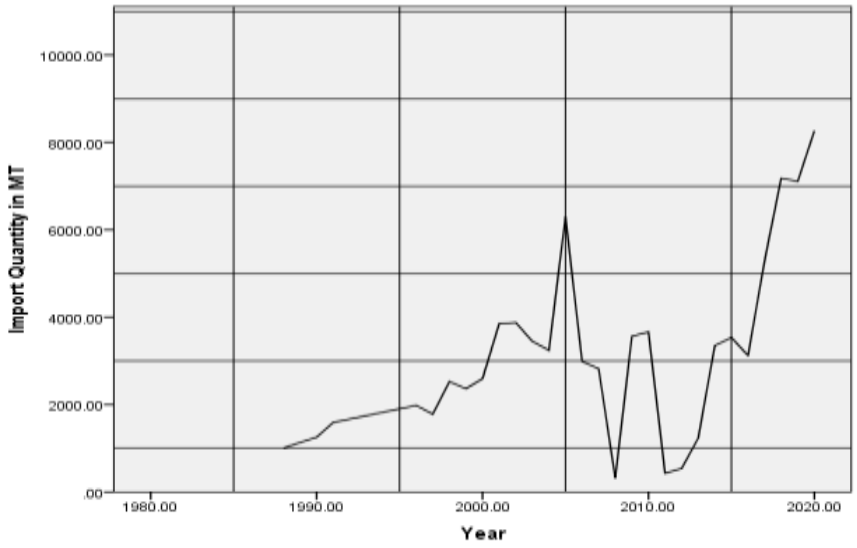
Variable	Mean	Standard Deviation	Minimum	Maximum
Import quantity	2954.5	1983.7	316	8268
Consumption	4779.8	1870.4	1291	9083
Production	1725.3	1296.8	700	4958
GDP/$	2838.9	1340.1	1049	4886.7

Population	1006.09	103.7	773.8	1160.1
Domestic price	6054.27	4655.5	1168	15808
Import price	669.97	397.5	155.7	2039.5
Annual Exchange Rate	7.56	3.94	2.5	16.5

Import trend analysis

The study employed the line graph to visualize the sugar beans import trends for a period of 33 years from 1988 to 2020.

Figure 1: import trend analysis



The Figure 1, shows that there is an upward trend of sugar beans imports and also imports have been fluctuating over the past 33 years. In the year 2005, there is a sharp increase in imports. In the years between 2008 and 2010, the world saw an increase in prices caused by world economic depression and this was evident by the decrease in imports in 2009 and a sharp increase in 2010. Sugar beans imports decreased sharply in 2011 and they have been increasing ever since till 2020.

Estimation of the relationship amongst the variables

Stationarity test using ADF test

To avoid spurious regression, the time series variables were tested for unit root. The null hypothesis suggest that time series data is non-stationary; it is tested against the alternative hypothesis that suggest that time series data is stationary. The variables were transformed to logarithmic forms; the Augmented Dickey-Fuller test was used to test the Stationarity of the

logged variables. If the negative value of the ADF test statistic is higher than the critical value, reject the null hypothesis, there is stationarity. If the negative value of the ADF test statistic is lower than the critical value, accept the null hypothesis, there is non-stationarity.

Table 2: Shows the unit root tests results at their level

Variable	ADF t-test	Critical Value	p-value	Conclusion
log_Import quantity	-3.092	-2.980	0.004	Stationary
log_Consumption	-2.828	-2.980	0.008	Stationary
log_Production	-1.753	-2.980	0.090	Non-Stationary
log_GDP/$	-1.527	-2.980	0.137	Non-Stationary
log_Population	-4.417	-2.980	0.000	Stationary
log_Domestic price	-0.185	-2.980	0.854	Non-Stationary
log_Import price	-2.295	-2.980	0.029	Stationary
log_Annual Exchange Rate	-0.528	-2.980	0.601	Non-Stationary

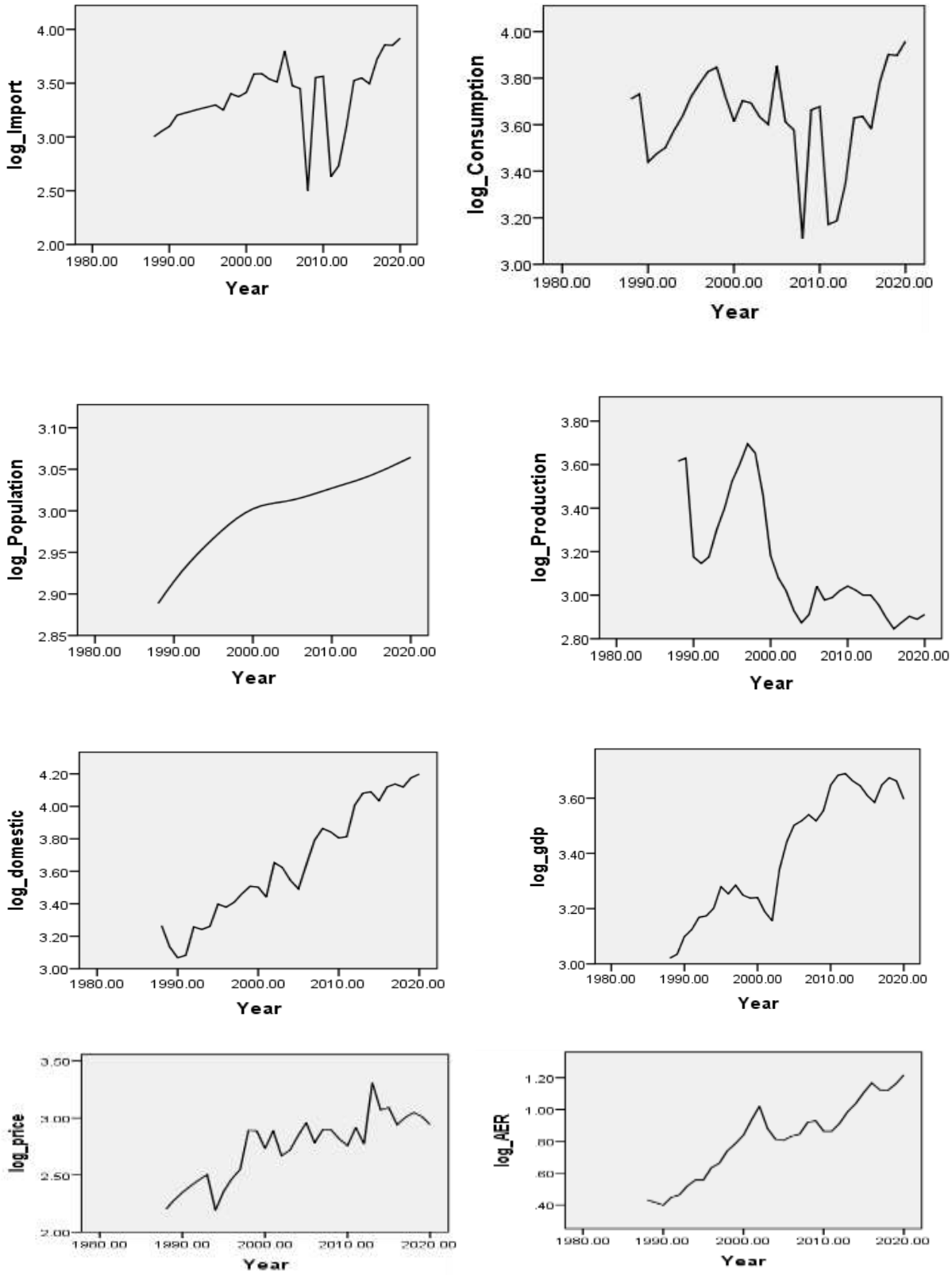
The Table 2 shows that the alternative hypothesis of log_Imports, log_Consumption, log_Import price, log_Population is accepted because these time series variables are stationary, yet log_Production, log_GDP/$, log_Domestic price, log_Annual Exchange Rate is rejected because the times series variables are non-stationary, they contain a unit root. Since time series of these variables are non-stationary, further analysis cannot be performed on them. However, the problem of non-stationarity can be solved by differencing.

Table 3: Shows the unit root tests results at first differencing

Variable	ADF t-test	Critical Value	p-value	Conclusion
log_Production_d1	-3.815	-2.983	0.001	Stationary
log_GDP/$_d1	-4.006	-2.983	0.000	Stationary
log_Domestic price_d1	-5.775	-2.983	0.000	Stationary
log_Annual Exchange Rate_d1	-4.144	-2.983	0.000	Stationary

As shown in the Table 3, all the variables were stationary after differencing once. Graphical analysis was done to show that all the variables are stationary and the results are presented in figure below (Figure 2). A visual inspection of this figure shows that the variables follow a stationary process because they clearly move around their means.

Figure: 2


log_Import
log_Consumption
log_Population
log_Production
log_domestic
log_gdp
log_price
log_AER
Year
1980.00
1990.00
2000.00
2010.00
2020.00

Co-integration test:

The results of the stationarity test of the time series data were determined to be stationary at different levels, that is, the variables were stationary at their level *I* (0) and after first differencing *I* (1), therefore cointegration tests were done. The data series were integrated of different orders; a combination of both level and first differencing stationarity, therefore the bounds cointegration was used. Table 4 presents the results from the ADRL Bounds test.

The hypothesis tested was; H_0: No cointegration and H_1: There is cointegration

Table 4: ARDL Bounds test results

F= 11.344

t= -6.46

Critical values (0.1 -0.01), F-statistics

	(I_0) L_1	**(I_1) L_1**	**(I_0) L_05**	**(I_1) L_05**	**(I_0) L_025**	**(I_1) L_025**	**(I_0) L_01**	**(I_1) L_01**
k_7	2.03	3.13	2.32	3.5	2.6	3.84	2.96	4.26

Accept if F < Critical value for I (0) regressors.

Reject if F > Critical value for I (1) regressors.

In this study, the time series variables are cointegrated because the F-statistic is greater than the critical value for the upper bound *I* (1), the null hypothesis is rejected. The time series variables exhibit a long term relationship. This implies that the time series are related and can be combined in a linear manner. That is, even if there are shocks in the short run, of which may affect the trend in the individual series; they would converge with time in the long run. Therefore, this study will estimate both the short run and long run models.

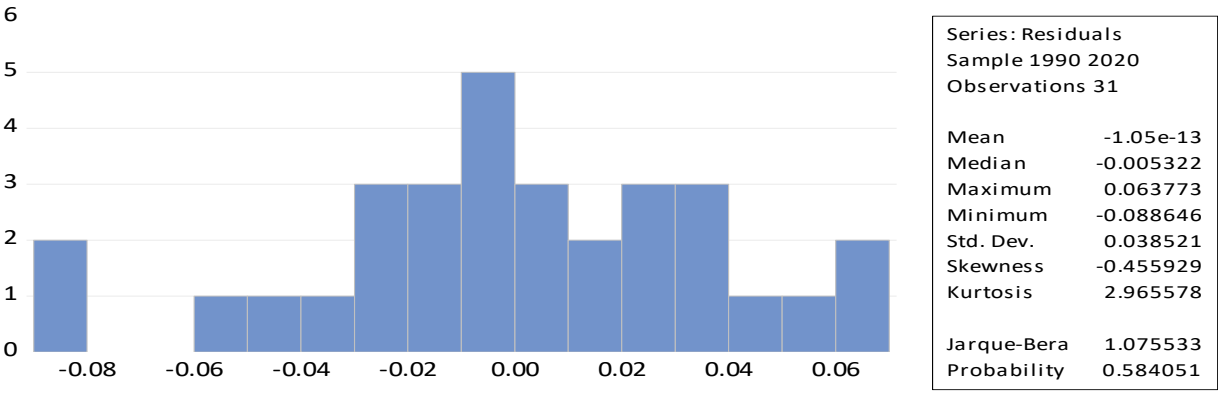
The ARDL model is used to estimate both the short run and long run relationship between the variables; therefore the study checked the time lags for the variables. The fit for purpose of lag order avoids the spuriousness of ARDL bounds testing approach to cointegration results.

Table 5: Lag Length Selection

Lag	LL	LR	FPE	AIC	SC	HQ
0	65.8		3.32e-12	-3.73	-3.36	-3.61
1	321.9	363.5	1.58e-17	-16.12	-12.79	-15.02
2	498.1	159.1*	2.92e-20*	-23.36*	-17.01*	-21.31

Normality test:

Figure 3: Results of the normality test



Stability:

Figure 4: Results of the stability test

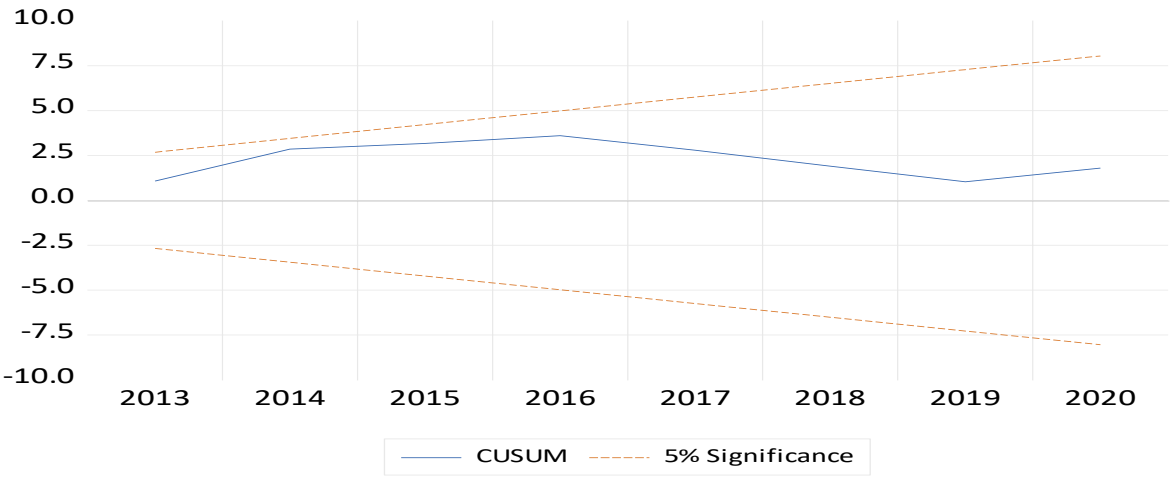


Figure 4, shows that the time series data is statistically stable from the year 2013 to 2020 as it is within the 5% level of significance range.

Serial correlation:
The hypothesis tested was;

H_0: No serial correlation up to 2 lags

H_1: There is serial correlation up to 2 lags

F= 1.0264

LM t-statistic= 7.9026

Probability F(2,6)	0.4136
Probability Chi-square (2)	0.0192

The null hypothesis is rejected, there is serial correlation. The time series variables are statistically significant. This means that the time series are serially correlated, that is, past time series data will affect future series data. This implies that the time series variables have a long run relationship.

Results of the long-run relationship:

The results showed in Table 6 shows that some of the signs of the variables were found to confirm prior expectations from chapter 3. Those are Eswatini production, Eswatini sugar beans domestic price, Annual exchange rate, and GDP. Eswatini population, Import price and Consumption did not confirm prior expectations. An increase in the positive variables will cause an increase in the quantity of sugar beans import and an increase in the negative variables will cause a decrease in the quantity of imports.

Table 6: Results of the long-run relationship amongst the variables

log import	**COEFFICIENT**	**STD. ERROR**	**t-STATISTIC**	**p-value**
log_Consumption	1.4736	0.1256	11.7358	0.000
log_Domestic Price	-0.1586	0.2078	-0.7632	0.4672
log_GDP	0.2282	0.2844	0.8022	0.4456
log_Population	-5.4390	3.6476	-1.4911	0.1743
log_Import Price	0.4240	0.0954	4.4461	0.0022
Log_Production	-0.4889	0.0910	-5.3707	0.0007
log_Annual ER	0.7085	0.3467	2.0435	0.0753

Results of the short-run relationship

Table 7: Results of the short-run relationship amongst the variables

Log import	COEFFICIENT	STD. ERROR	t-STATISTIC	p-value
log_Consumption	1.5851	0.0331	47.7791	0.000
log_Domestic Price	0.0249	0.0806	0.3095	0.765
log_GDP	0.8489	0.3641	2.3314	0.048
log_Population	-69.112	17.5227	-3.9441	0.004
log_Import Price	-0.0090	0.0333	-0.2685	0.795
log_Production	-0.5189	0.0974	-5.3263	0.0007
log_ Annual ER	1.0780	0.3905	2.7607	0.025

The results (Table: 7) show that in the short run, the quantity of sugar beans imports is dependent on Eswatini sugar beans consumption, Eswatini Population, Eswatini Production and Annual exchange rate. Eswatini Population was negative and statistically significant at 1%. A 1% increase in Eswatini Population will cause the quantity of sugar beans imports to decrease by 69%. This means that when the country`s income increases, it will have high potential of production hence reduce importing.

SUMMARY AND CONCLUSION:

The general objective of the study is to analyse the key determinants of sugar beans import demand in Eswatini with the quantity of sugar beans import being the dependent variable and the independent variables were sugar beans consumption, sugar beans production, import price, domestic price, GDP, population, and annual exchange rate. The main objective of the study is to estimate the significant relationship between the determinants (the dependent variable and independent variables) of sugar beans import demand function in Eswatini. The null hypothesis was that there is no significant relationship between the determinants of import demand function in Eswatini and the alternative hypothesis was that there is a significant relationship between the determinants of import demand function in Eswatini. The specific objective of the study also includes analysing the sugar beans import trends over a period of 30 years. To achieve the study`s objectives, secondary time series data was collected for the past years from 1988 – 2020. The autoregressive distributed lag (ARDL) and error correction model (ECM) were used to analyse the data and to test the hypothesis of the study. The conclusion drawn based from the observed findings and analysis of the study clearly explained that Eswatini sugar beans imports have been fluctuating for the past 32 years. The upward trend shows that the quantity of sugar beans imports will continue to increase. The results revealed that consumption, production,

import price and annual exchange rate are statistically significant in influencing the quantity of sugar beans import demand in the long run. In the short-run results also revealed that consumption, production, population and the annual exchange rate are statistically significant relationship in influencing the quantity of sugar beans import demand.

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