Estimates of Import Demand Function of Agricultural Products in Iran During the Years (2002-2011) Using Correct the Error Model

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ABSTRACT
Currently, adhering to the business world and become one of the major issues in developing countries is considered. Therefore attention to exports and imports as important variables affecting the development process is essential. The estimated import demand function as an important part of the agricultural sector plays an important role in the selection of optimal economic policy. The purpose of this study was to estimate the demand function of imports of agricultural products during Iran (2002-2011) using an error correction model. The population of the market supply and demand of agricultural products in Iran for the time is series (2002-2011). In this research as a case study, impact on economic growth, Exchange rate and domestic prices for agricultural products on the import demand for agricultural products, Investigated. For this purpose, information on these variables for the period 2002-2011Library collection methods and Using econometric, especially, Johansen co-integration test, Vector error correction model to examine the relationship between these variables has been paid. Johansen co-integration test result’s has shown that between these variables, there is a long run equilibrium relationship. Also, The results of the test vector error correction model, Estimate the import demand for agricultural products. Suggests Positively related to economic growth and meaningful and currency. Negative relationship and meaningful (in the long term) and significant positive (in the short time) are Imports of agricultural products. The relationship between agricultural prices and agricultural product imports is not statistically significant.

INTRODUCTION
Making the most of the current global economic, Imports of agricultural products plays an important role in economic development strategies. The growing importance of foreign trade in agriculture, the close relationship between growth and economic development of the country’s foreign trade in these products, Need to review. Long term foreign exchange management policies in the agricultural sector, based on the relationships between factors of production More will appear. Imports of agricultural products and the production have a major impact on GDP. With the sustainable development of agricultural infrastructure, create productive employment. However, since Forecasts for Imported have been done in these areas in order to efficiency try to market Agriculture the main source of basic needs of communities is developing. Therefore, it is of utmost importance in the country’s development programs. Nowadays, with the growing population on the one hand the more productive the resource constraints food security needs of the people as the most important factor in the success of economic independence is in question [2].

The discussions on the economy, especially in agriculture, Trade and its role in growth and economic development with other countries and production based on comparative advantage. The agricultural sector has the potential, the remarkable capacity of this sector is important, and its role in the food supply and raw materials are some industries, it is noteworthy. Thus, identifying variables Evaluation of the impact of imports to set a desired level and also knowing the speed of response to changes in the import of agricultural products important variables And the impact is very important [5].

Most agricultural activities, Dependent on climatic conditions, So that each product under certain conditions of higher environmental performance. As a result, some countries have excelled in certain products and the specific products known, Such as Mexico, which has excelled in the production of corn [1].
Over the past five years, instead of increasing production strategy and Self-sufficient in basic agricultural products Strategy to increase imports of agricultural products always has been emphasized. In the past three or four decades, Agricultural production has quadrupled, while the population has doubled but just below 84 to 88 years, this trend has reversed. The main reason is the investment process for importing. It noted, following the increase in the import tariff policy has emerged. Of course, tariff policies, not favor domestic producers and led to reduced agricultural products [7]. Study, the researcher intends, Effects of macroeconomic variables, including economic growth, Rate of exchange and are domestic prices for agricultural products Imports of agricultural products to review this research seeks to answer the question.

2 – Methodology:

This study aimed to assess the estimated import demand function for agricultural products in Iran; Years (2002-2011) performed using an error correction model. For the experimental data from an irregular set off a series of systematic and organized. It is necessary to summarize the data using certain techniques, regulation and classification, and statistical tables to show us. In this study, the Statistical Society of market supply and demand of agricultural products in Iran for the time series is 2002 2011. The method of gathering the required information for this study, to assess the impact of economic growth Exchange rate and the price index of agricultural products, is agricultural products import demand function as a library. Data on these variables from 2002 until 2011 and has been collected seasonally. These data are in the form of time series data. Data on economic growth Exchange rate and the price index of agricultural products Imports of as well as by referring to information sites (National Accounts of the Central Bank, Ministry of Agriculture and the official website of the Iranian Statistics) and refer to publications Statistical Yearbook of the trustee and institutions like Iran’s Customs Statistics (Yearbook of Trade Statistics), Department of Commerce, Ministry of Agriculture Central Bank of the Islamic Republic of Iran, An office of Statistics and the Ministry of Economic Affairs and Finance of Iran, which has been taken. Domestic currency price of agricultural products are using on Imports of agricultural products.

In this study, descriptive statistics and econometric methods, to analyze the effect of macroeconomic variables, including economic growth, the domestic currency price of agricultural products used on Imports of agricultural products. To investigate the effect of collective Johansen test was using. Since most economic variables are not viable in terms of time-series. Parasite test - traditional Granger led to the regression error is false. For this reason, the following data reliability test should be doing collectively. Here are two possible modes if it is confirming that the co-integration vector Error Correction test used to determine the causal relationship. Otherwise, it should return from his ways or be distributed delays.

3 – Finding:

In the present study, Impact on GDP Exchange rate and domestic prices for agricultural products on the import demand for agricultural products is reviewing. Information about the changing seasons collected in the period 2002-2011. Using econometric methods to investigate the relationship between these variables is discussing.

3-1. deyki Unit root test results – Fuller:

To test the reliability of ill Unit root test – Fuller, It is assume that the time series discussed and one hypothesis to explain the order first and then the test based on the assumption. In this study, the reliability of the variables constant price GDP in 1376. Exchange rate, index of prices of agricultural commodities and imports of agricultural products are analyzing.

3-2 The final Evaluation research data:

The reliabilities ranged GDP, Price of agricultural commodities, Exchange rates and imports of agricultural products used in the models; we will investigate the following hypotheses:

To evaluate the reliability of the above variables, the following hypothesis is defining as:

H0 - There is a single root values in the data for the four variables GDP, exchange, Price, Import

H1 - absence data for four different values of the unit root level GDP, exchange, Price, Import

GDP at constant price GDP in 1997, The official exchange rate of exchange,

Imports of agricultural products and Agricultural prices, Agricultural commodity prices are fixing prices in 1997. Test results showed that the absolute value of the statistic Dickey - Fuller above variables, Even a 1 percent error level is greater than the absolute critical values. The variables even in the 10% error level will be unsteady. The presence of a unit root for the variables GDP, exchange, Price and Import is level. Thus, the variables are not reliable and are not I0. Now in terms of the variables we tested the reliability of the difference of the first order. Results also showed Absolute value of the statistic Dickey - Fuller Absolute error of 1% critical values of the variables in first difference are larger. According to Table, These variables will be valid
even in the 10% error level are also statistically significant. The hypothesis $H_0$ is rejecting. This indicates the absence of a unit root. The first difference is the same for all variables studied. Therefore, all variables in the first difference of the plateau and are 11. In other words, I have accumulated a difference.

3-3 Johansen co-integration test results:

In order to determine the long-term equilibrium relations or in other words, Meaning of the relationship between GDP and Prices of agricultural commodities Exchange rate and the level of imports of agricultural products Johansen method is presenting.

In order to evaluate the mass of vector variables, the hypothesis is defining:

$H_0$: There is also a group of four variable vectors.

GDP - exchange - Price - Import

GDP - exchange - Price - Import

The results show that the Trace statistic was greater than the critical value at 5% level. Thus, according to the results of the Johansen co-integration test thus, according to the results of the Johansen co-integration test the hypothesis that there is at most one vector together (Hypothesis $H_0$) is rejected, the results show that at least one co-integration vector between the variables exists and 5% level of convergence is three. According to Johansen co-integration test results as well as the critical level of 5%, the long-term equilibrium relationship confirmed. 2-3-3. The estimated long-run coefficients of the VECM model is estimating using the test

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<th>Table 1: The results of the estimation model VECM2.</th>
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Based on the results of the Johansen co-integration test, the equilibrium relationship between the variables of the model underlines the existence of vector equilibrium. In this section, the long-run equilibrium relationship among the variables crops, Agricultural commodity price index rates Currency and will GDP in 1997 prices. In this regard, the test VECM error correction will be using to estimate this relationship.

After the above steps, the gained Long-term coefficients model could be estimated as the part of model estimation. Variable exchange rates, The price index of agricultural products, GDP in constant 1997 prices 1997 also imports agricultural products have a long-term relationship with each other. Long-term model is estimating as follows.

**Exchange10-85 Price - 3.64 GDP + 41050-12 + 55-0 = IMPORT**

(7-18) (1-15) (-7-4)

According to the equation of exchange rates significantly, conversely, the level of imports of agricultural products is effective. So that for example, the exchange rate of one unit reduces the amount of imports of agricultural products are 10.85 units. The results show that the t price index of agricultural products in Iran in 1997 to the base price range is not concerned. His price index of agricultural products in Iran range is 1997 to the base price. Therefore, there is no significant relation with the level of imports of agricultural products. Increase the country’s GDP by 1997 due to rising import prices of agricultural products and it is with lower rates. So that for example, GDP increase of one unit will increase imports of agricultural products amounted to 0.55 units. Thus, GDP is positively, and significant and negative relationship between the exchange rate and import of agricultural products is significant and the relationship between agricultural prices and agricultural product imports is not statistically significant. There is a long-term relationship between GDP, exchange rate and the price index of agricultural products; imports of these products approved.
4 - Results of the VECM model:

The estimated error correction model in which there is a balance, relating show that, Coefficient adjustment or error correction factor estimated 0.66. Represents 66 percent of the existing imbalances in the course of the relationship, the period is adjusting. Therefore, the balance of long-term equilibrium with a slight acceleration increases. In other words, if the average level of imports of agricultural products, the trend is away from their long-run equilibrium. After two seasons, 1/51 = 0.66 gradually corrected and the equilibrium will be reached in the long term. As the results, indicate the significance of the error correction coefficient GDP with a lag of one period has a significant negative effect. In other words, economic growth has impact on import demand for agricultural products; consequently, the first hypothesis confirmed by research. However, the price index of agricultural products is a significant correlation between the levels of imports of agricultural products. Thus, the second hypothesis is rejecting. The domestic prices of agricultural products have no effect on the amount of imports. The exchange rate has an impact on the level of imports of agricultural products and delayed period. Significant and positive relationship between the two periods. Thus, the third hypothesis confirmed. However, the relationship between exchange rates and imports is inversely, therefore reject this hypothesis in the short term and in the long term will be confirmed. To examine the autocorrelation LM TEST, Anisotropy of variance used to examine the NORMALITY TEST. Model autocorrelation and heteroskedasticity Variance, the test has never been any difficulty about that.

5 – Conclusion:

According to the results of vector error, correction model (VECM) has been determined. The significant inverse exchange rates in the end, the level of imports of agricultural products is effective. The price index of agricultural products, imports of agricultural products of the country's GDP in 1376 due to substantial increase in import prices of agricultural products, the rate will be lower. Positive relationship between GDP and the exchange rate is negative and significant imports of agricultural products. There is also a long-term relationship between GDP and Exchange rate and the price index of agricultural products, imports of these products are approved. The trend is away from its long-run equilibrium after 2 seasons gradually corrected and the equilibrium realized. In the long term. In addition, the mean coefficient of error correction, GDP with a lag of one period has a significant negative effect. The first research hypothesis is confirmed, However, the price index of agricultural products it has no effect on imports. Thus, the second hypothesis is rejected. The exchange rate has an impact on the level of imports of agricultural products and a delay of one period and two periods has a positive and significant relationship. Thus, the third hypothesis approved. However, the exchange rate with respect to import, the relationship reversed. Therefore, the hypothesis rejected in the short term and in the long term confirmed. Accordingly, fluctuations in economic growth, economic fluctuations and exchange rate fluctuations due to the level of imports of agricultural products are concerned. The results of this study, the investigators because theoretically Khalilian and Farhadi [4], Bahman oskuie and Goosvavi, Taskini and Bastani [3], Tank [13], Kalionko [4], Roogrez [12], Khan and Side [11]. In the literature regarding the effect of macroeconomic indicators on the demand for imports of agricultural products expressed is logic. The theory is that it is dependent on imports of agricultural products (disabled), the exchange rate and economic growth of the country and the experimental work done by outside Such Rogers [12] in similar research for Fiji. To examine the effect on imports, and has been result. Real GDP and the real effective exchange rate in Fiji has had the greatest influence on the import process is similar. Based on research Sameti, Jalali, Sadegi [6] and Khalilian and Farhadi Tashkini and Bastani Imports of agricultural crops is a function of the domestic price. Unlike the present study, Abbott and Seddighi [8] Subject estimated import demand function England, Believe, a significant and negative relative prices, import the UK are affected. States that the relative prices of agricultural imports has no meaningful relationship.

REFERENCES


