

## **Policies of the Global Financial Crisis Impact on the Export of Iranian Pistachios**

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### **ABSTRACT**

The purpose of this study is to identify the effects of the global financial crisis on the export of pistachio. The impact of financial crisis on the export of pistachio nuts based on changes in variables such as exchange rates, interest rates and income importing countries has been evaluated. The data used include time series for the variables mentioned is that of Pistachio database FAO, United Nations, Iranian Customs Organization and the Central Bank is obtained. Countries surveyed, including 11 in Pakistan, Japan, Germany, Spain, UAE, or Italy, Singapore, Switzerland, France, Kuwait and India have been the largest export product under investigation in the above-stated core learning have been accounted for. The ARDL method of collective demand function for Pistachio years 1386-1364 with the use of information obtained. Generally we can say that the results of the global financial crisis effect on exports of the product has no reviews. Appears to reduce the price of the product solution is not to increase their export revenues. It should seek ways to improve the quality of such products, better products, packaging, advertising and ... Was to increase exports.

**KEYWORDS:** financial crisis, exports, pistachio, Iran.

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### **1. INTRODUCTION**

Effects of financial crisis on export agriculture based on the change of variable exchange rates, interest rates and income importing countries has been evaluated. Experienced a financial crisis in Southeast Asia showed that the crisis will lead to a reduction in gross income. Crisis in Southeast Asia will increase interest rates and reduced investment. This increase in agricultural investment and production costs were also reduced (Lyfir et al, 2000). Iran is also looking to get rid of the high dependence on oil exports, which is always fluctuate a lot of it has tried to expand exports, especially exports of agricultural products should be addressed to deal with this volatile situation. Saffron, pistachios, raisins and dates, including important crops in the non-oil exports. Iran's economy is the most important agricultural export commodities exports, the financial crisis in the global economy can have a great effect on the consequences of this crisis and need to be examined. This study analyzed the effects of the global financial crisis on pistachio exports will take place. Effects of financial crises in different researches have been done. This research examines the issue from different directions to have the financial crises in the economies of scale that would be affected by many variables. In this section we will describe some of the studies.

Kaminsky et al (1998) Fifteen indices as indicators of financial crisis, as has been indicated. However, analysis of the effect of economic crisis indicators related to agricultural exports is limited. These indicators include the gross income production or importing countries, Iran and the products are fluctuating exchange rates. In many studies the effect of income on demand for exports has been studied and the emphasis is always on its positive effect on export demand. The analysis of these studies can be exported to Ireland, England (Fontas and et al, 1998), demand for exports, India, South Korea and Malaysia (Dorodyan, 1999), Thailand's chicken export demand (Langley et al, 2000) noted. Iran has been mostly export supply and demand for exports has been less attention. Findings Mukherjee (1997) also showed that Indian exports are sensitive to changes in global GDP. Unlike the variable income or GDP, the effect of exchange rate fluctuations on export demand, there is a great challenge. This challenge can be used in two general indicators of how the impact of exchange rate fluctuations on exports. Many studies of simple indicators such as deviations of exchange rate fluctuations in the exchange rate is used as an index indicating. In some studies, the conditional heteroscedasticity is used as the criterion of exchange rate fluctuations ( Cheong et

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al, 2005; Langley, 2000). Cho et al,(2002). Peak in 1990, the effect of fluctuating exchange rates on exports is negative. However, the study of Langley (2000) has also seen positive effects. Kasprsn (2010) The transmission of world market prices of agricultural goods to markets in Uganda examined. The results of this study using a (VAR) model shows that the Ugandan market with food and oil prices in world markets are not integrated into the international transfer prices is crucial.

## 2. MATERIALS AND METHODS

Effects of financial crises in many economic indicators are visible. Peng, and Bajona (2008), these indices to the three financial sectors (including the coefficient of M2, the ratio of domestic credit to GDP, real interest rates, deposit rates than loan rates, M1 surplus. M2 relative to reserves, bank deposits and Price of capital.), the external sector (including exports, real exchange rates, import, trade, stocks, real exchange rate differences) and actual (production) were divided.

Of the aforementioned variables between the agricultural sector through the financial crisis and variable exchange rates, interest rates and consumer income will create . Langley et al (2000) in their study in the Thai agricultural exports, exchange rate fluctuations of the variables used for this purpose . On the basis of the export demand function was used as follows:

$$\ln X_t = \alpha_0 + \alpha_1 \ln P_t + \alpha_2 \ln Y_t + \alpha_3 V_t + \varepsilon_t \quad (1)$$

Pistachio exports in terms of value where X , P the price index in the two countries exchanged, Y weighted average income of importing countries, V, or the risk of exchange rate fluctuations and  $\varepsilon$  Sentences is a waste. The above model will be used in this study. The pattern in other studies as Doroodian (1999), Byrne et al (2008) and Cheong (2005) has also been used. In this research, statistics, exports to 11 countries with the highest percentage of exports of these products have been used to. Despite fluctuations in exchange rates in some studies using models containing conditions of heteroscedasticity or ARCH condition has been studied (Doroodian, 1999; Cheong et al, 2005). In other studies, such as Byrne et al (2008) of a standard deviation of exchange rate fluctuations in the exchange rate is used as an indicator. Cho et al (2002) to study the effect of fluctuating exchange rates of the two indices were used as follows:

$$V_t = \sqrt{\frac{\sum_{t=1}^n (x_t - \bar{x})^2}{n}} \quad (2)$$

Where V index fluctuations or exchange rate risk, , E the exchange rate and n is the number of periods. Given the global financial crisis has been a particular time and in track and their appearance is not known exactly .Several indicators of financial crises is that exchange rate fluctuations and low-income countries are more important than other indicators. In this study came from exchange rate fluctuations and a reduction in the importing countries will be used as indicators of financial crisis.. If the index is positive exchange rate fluctuations also indicate that the financial crisis effect on exports of agricultural products, and vice versa .Thus the equation of demand for exports (1) in the ARDL dynamic product for saffron in Equation 3 will be:

$$\begin{aligned} LEXPORTZ = & \alpha_0 + \sum_{j=1}^p \alpha_j LEXPORTZ_{t-j} + \sum_{j=0}^{q_1} \beta_{1j} LINCOMEZ_{t-j} + \sum_{j=0}^{q_2} \beta_{2j} LPRICEZ_{t-j} + \sum_{j=0}^{q_3} \beta_{3j} V_{t-j} \\ & + W_t + E_t \end{aligned} \quad (3)$$

In which:

LEXPORZ = logarithm of the value export products in terms of

LINCOMEZ = logarithm of the average weight of national income countries (including the weight of each country's share in total exports pistachios)

LPRICEZ = logarithm of the price index in Iran (the weight of each country's share in total exports include pistachio) (100 = 1384

V = the index of non-official market exchange rate fluctuations (USD) according to formula (2)

Wt = vector of uncertain variables (including intercept, process variables, variables related to the oil shocks of the virtual 1956 (D56) and structural changes in 1986 (D86) are.

Et = Disorders are included. And j represents the number of interrupts and p, q2, q3, q1 respectively, Indicate the optimal number of variables were stop-log exports, product range, the logarithm of the average national income countries surveyed, the average weighted price index of the logarithm of the price index and exchange rate fluctuations are studied. Thus, their model explains the wide interval of 3 to ( p, q1, q2, q3 ) ARDL will be considered .The third method OLS for all possible combinations of values m = 1, ..., k, p = 0, 1, ..., 5, qi, k = 1, 2, ..., i . The number  $(m + 1)^{k + 1}$  times will be estimated. . The estimates of the standard (SBC) and the model coefficients and standard deviation of long-term effects related to the coefficients based on ARDL model selected, are calculated. Variables explain the long-term coefficients is calculated based on the following equation:

$$\hat{\theta}_i = \frac{\hat{\beta}_0 + \hat{\beta}_1 + 0.000 + \hat{\beta}_i \hat{q}_i}{1 - \hat{\alpha}_1 - \hat{\alpha}_2 - \dots - \hat{\alpha}_p} \quad , \quad i = 1, 2, \dots, k$$

In which  $\hat{q}_i, \hat{p}$  For  $i = 1, 2, \dots, k$  The selected values Based on criteria  $q_i, p$  is (SBC).

### 3. RESULTS AND DISCUSSION

The results of the test corrected Dicke Fuller (ADF) for variables in model 2 are shown in Table A and the test statistics based on the highest (AIC) and (SBC) has been identified. The results of the test (ADF) showed that the core values of all variables except the informal market exchange rate fluctuations are nonstationary. However, the results of this test indicated that the difference between first-order variables in the model without trend and with all of them are reliable .The All I(1) have the same mass and the same degree. The unit mass of the degree of confidence between the variables, using the ARDL approach and consider the maximum delay of two (m=2) is estimated coefficients of models 1 to 3. Tables 2 to 4, respectively, the results of the estimated coefficients of models 1 to 3 based on (0, 0, 0, 0) ARDL, (0, 0, 0, 0) ARDL, (2, 2, 2, 1) ARDL the number of interruptions optimize the use of statistics (SBC) obtained, show. Statistics And The statistics relating to diagnostic tests, ANOVA showed no differences, no correlation between disorder and form sentences for H-pattern design is planned.

**Table 3: Results of the pistachio export demand equation coefficients with standard SBC (0, 0, 0, 0) ARDL**

Variables	Coefficients	T statistic
Intercept	-28.23	(0.015) -2.75
LINP	2.92	(0.003) 3.39
LPP	0.05	(0.62) 0.505
STDEX	0.61	(0.02) -2.71
TREND	0.02	(0.012) 1.62
D56	0.4	(0.013) 2.81
$R^2 = 0.67$ $F(5,15) = 6.03$ (0.003)	Diagnostic tests	
	Solidarity statements disturbance	F(1,14) = 0.89 (0.36)
	Function of form	F(1,14) = 0.47 (0.5)
	Variance anisotropy	F(1,19) = 6.14 (0.02)

Pistachio export demand equation coefficients for the variables change suggests that the weighted average of national income, selected countries and exchange rate fluctuations do not impact on the informal market has exported products. So that a weighted average percentage increase in national income, selected countries, exporting products to the 2.92 percent increase. This means that the products are for foreign luxury goods in the basket. The one percent increase in exports to exchange rate fluctuations of 0.61 Percent decrease. It is expected that the global crisis on the export of this product may be effected , Although the exchange rate fluctuations have a significant effect on the export of pistachios .Domestic price level relative to the external variable coefficients indicate that relative prices have a significant effect on pistachio exports.

#### 4. Conclusion

Equation coefficients indicate that the demand for export products:

1 -change variables weighted average national income, selected countries and exchange rate fluctuations do not impact on the informal market has exported products. Weighted average variable rates of national income, selected Countries, indicate that products for foreign luxury goods are placed in the basket. The one percent increase in exports to exchange rate fluctuations of 0.61 Percent decrease. It is expected that the global crisis on the export of this product may be affected, although the exchange rate fluctuations have a significant effect on the export of pistachios.

2 -Coefficient of relative price levels external to the internal variable that represents the relative price of export products has no significant effect.

Generally we can say that the results of significant effects of the global financial crisis on the export front, despite the impact of exchange rate fluctuations and not on Pistachio Pistachio of this effect is not noticeable. The changes in average national income, selected countries can affect exports of pistachios. The relative price changes have no significant effect on export products, it appears that prices for this product is the perfect solution is not to increase their export revenues. So we look for solutions such as improved quality, better packaging and products in order to increase the exports.

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