

## The Survey of Apple's Domestic Resources Cost Under the Different Foreign Currency Scenarios (During 1388 for Khorasan Province's Chosen Cities)

<sup>1</sup>S. Homayooni, <sup>2</sup>F. Karimzadeh and <sup>3</sup>H. Arabshahi

<sup>1</sup>Department of Economics, University of Esfahan, Esfahan, Iran

<sup>2</sup>Department of Economics, Allame Tabatabaee University of Tehran, Tehran, Iran

<sup>3</sup>Department of Physics, Ferdowsi University of Mashhad, Mashhad, Iran

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**Abstract:** The relationship of DRC (Domestic Resource Cost) can indicate the relative benefits among activities. If the product having DRC is equal to one this means for gaining a dollar in the international level must be consumed the 1 dollar equivalent of Domestic Resources. The ratio of  $DRC < 1$  indicates activities in which the country has an international advantage since the activities which their DRC is  $> 1$  is interpreted as lack of the relative advantage. Since, Iran's statistics of foreign commerce indicating the apple export in figure of export products pertaining to the garden surplus to domestic requirement and its import in figure of both the changeable and unchangeable products. Therefore in this study, researchers proceed the analysis of the product's shade prices within the framework of the different scenarios. For calculating apple's shade price from universal prices of this product is used as the import CIF price consider every tone of the product and with adding charging cost and transportation as well as from border to consumption centers, the shade price gains in consumption centers. In sum, resaeachers can proceed to appoint competitive advantage chosen countries in exporting apple in this figure with considering the shade price of exporting apple's exchange product and with considering direct export shade price, researchers can attain Iran's competitive position and specially Razavi Khorasan's chosen countries in relation to direct export of apple. So, the shade price of farm is determinant of chosen countries' competitive position in allocation and without allocation resources. The shade price of apple direct import is explanatory of its replacing power with domestic production and then importing exchange products.

**Key words:** Magic scenes, general circulation model, hadCM2, ECHAMA, climate change

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### INTRODUCTION

The new phenomenon of Universalizing Economy and losing commerce borders of countries is expanding alot and in future the countries will be able to recede themselves from the course and only become spectator trade transition among countries. So, Iran also wants to accompany oneself with trade transition in the world as well as to become ready for competition and entering in the international commerce scene. Perhaps, one of the necessary backgrounds before joining to universal trade organization is consolidating and expanding trade in the framework of the background in which country has unique benefits.

Iran in production of 15 products from 25 garden products has the 1st-10th position and from product's production variety point of view in the world level, after China with 17 products and US and Turkey 16 products anyone is in the 3rd position. On the other hand, Iran in the world with producing 8.5 million ton of the main

garden products from 25 chosen products has the 1st position. So, the gardening part has been exchanged for one of the important subparts of agriculture part as 33% of added value, 47.8 and 78.4% export value of agriculture have been belonged to this part. From export point of view, Iran's garden products has allocated the 15th position to oneself and from garden products variety point of view with 6 products is placed on after South Africa with 8 products and America with 7 products. From export products position point of view in which Iran has the 1st-10th position it can call pistachio, almond, walnut, raisins, date and apple. So, knowing products in which Iran has relation advantage is important.

On the other hand, extending non-petroleum products as an example agricultural products may be one of the main goal of Iran's economy programs, therefore emphasis on relative advantage of different activities in order to access to these goals is one of planning's important aspects. Considering to the priority of agriculture part in Iran economy and importance of garden

products in agriculture part and export possibilities that this part can prepare for Iran, awareness from the existing relative advantages and consolidating these advantages in this very important part and knowing efficient factors on expanding and creating it also is necessary to consider. In spite of the fact that Iran is a vast country and having the various weather to prepare the many of products' cultivation possibility in the various areas, agriculture part still could not answer to augments request for agricultural products and foodstuffs even in the domestic dimension and then Khorasan province and in order to have the special weather conditions is being one of the important agriculture poles in the country that it can act as one of the production centers with the suitable investment and exporting the agricultural products specially the garden products as an example apple.

Apple is of Iran's export products that it has allocated the considerable share from the neighboring countries markets to oneself in the last years and researchers can profit via development and encouragement of cultivating this product and its by products as the important export commodity in addition to creating occupation and revenue as a ensuring resource of foreign currency. Apple with exporting the rate of 3178,90 ton after date, raisins and grapes have the 4th position. Considering to this which apple is one of the most important of Khorasan province's permanent products, this main question exists: Does the province in producing this product have the competitive advantage or not?

**Analytical frame and research background:** Neoclassic economists believed that every country should produce commodities with which in the universal level from the viewpoint of its production cost would have relative advantage. They have given the various methods for measuring encouragement politics of export instead of import and its general influence on the national economy. So, Ricardo model and in the survey of the relative advantage theory and causes and profits gained from trade on the basis of unadorned hypothesis as an example study value theory were constant that many economists criticized it.

For escape from this model's difficulties and in order to comment the relative advantage theory has been proposed the various ways as an example of Bastable and Marshall instead of using study value of the real cost to explain the relative advantage theory. But in 1936, the most important action was done by Huberlor who he explains the relative advantage theory on the basis of the opportunity cost theory, the relative advantage theory is of correct. According to the theory, the complete

occupation theoretically, the production cost of a commodity is equal to other commodities which researchers should give up its production to be sufficiently set free of the production resource and factors and by this, researches can produce one additional unit of the 1st commodity. Researchers can show the assumptive costs by the production possibilities curvature. In here, supposing that the study force is only the production factor does not exist. According to this theory, the country having the least lost costs in production a commodity in producing that commodity has the relative advantage and in producing the other commodity that its opportunity cost is high, it has not the relative advantage. The domestic resource cost technique also has established on the basis of such reasoning.

The quantitative examination and calculating the relative advantage in the up to date figure was the discussions that from 1960s have entered in the economy literature. In 1963 for the first time, Michael Berno has used the domestic resource cost index for calculating the relative advantage of clothes industry, assigning products, analyzing the social and economical benefit cost of the import replacement politics and encouraging export in Israel. In this research for the purpose of assigning, the potential relative advantage of producing and exporting apple in Khorasan province from the DRC Method is used in this study.

## **MATERIALS AND METHODS**

**Domestic resource cost method:** Using this method, researchers can compare the lost opportunity cost (using the production factors in the production process) with the least cost of gaining every unit of foreign exchange. The idea relating to analyze the domestic resource cost is very simple. In the method, it is struggled to gain the estimate of the used domestic resource value in producing a special product as the entire mediator structure in the universal prices and production factors also on the basis of the real opportunity cost is assessed. On the other hand, the production factors considering the compensation that they can receive if in a field, the other activity is assigned they will assess. So, the domestic resource cost coefficient of a commodity compares the opportunity cost of production factor (work force, ground and capital) used in producing the product with its added value in border prices (Greenaway and Milner, 2003; Herdt and Laesina, 1976; Shabuddin and Dorosh, 2002).

Considering the political advices specially in the economy expanding process of the developing countries specially in the agriculture part in which it lead in adopting the intervention politics relating to the import

replaced function, basically the price distortion in such countries is current. In the economy, addicted to the price distortion, the prices belonging to market are not able to reflect the resource scarcity value. For the reason of knowing the shade prices to reflect this opportunity costs, in the 1st step is necessary. So, in the process of doing this research was attempted using the shade prices, the analysis are more near to the real condition. Then as a result of the DRC relation, the universal value of resource in the best use them compares with 1 efficiently unit gained from the resources in the universal price. The DRC relation for a special activity following is valuable:

$$DRC_o = \frac{\sum b_{ok} P_k^s}{(P_o^s - \sum a_{oj} P_j^s)} = \frac{\sum b_{ok} P_k^s}{(P_o^b - \sum a_{oj} P_j^b) E_o}$$

Where:

- $P_k^s$  = The shadow price of the non-commerce structure k
- $b_{ok}$  = The needed reliable amount K for producing one product unit o (the technical coefficient of producing non-commerce factors)
- $P_o^b$  = The product price o on the basis of the foreign exchange that was equal to the border price and it has regulated on the basis of the costs of replacement, maintenance, distribution and quality difference
- $a_{oj}$  = The reliable amount of the needed tradable structure for producing a product unit o (the technical coefficient of producing the tradable factors)
- $P_o^b$  = The structure border price of k on the basis of is the foreign exchange in the relation
- $DRC_o$  = The explanatory the cost of the commodity domestic production o with the valued factors in their social opportunity costs
- $AVI_o$  = The added value of activity o in the border prices

The high  $DRC_o$  shows that this product has used the more domestic resource as cost. If yield of this relation ( $DRC$ ) is  $<1$ , producing the examined product has the relative advantage. On the other hand, researchers can better use the existent resource in a replacing activity (Goldin and OECD, 1990). Using this method, researchers can compare the saved opportunity cost (specially the used production factors) with the least cost of getting every foreign exchange unit. Since, prices of the foreign exchange continuously is fluctuating, for measuring the domestic resource cost with the prices of foreign exchange must profit the shade prices of the foreign exchange (entity of market disorder in the developing

countries is that with the belonging to the market current price of commodity does not often measure the real opportunity cost) the price of commodity in the market of these countries for evaluating the final partnership and also the factors cost is not believable.

Therefore in the countries, they more profit the shade prices. This standard measures efficiency of the domestic production in relation to the international market. DRC relation also can denote the relative advantage among activities. If a product has DRC equal to one, it means that for gaining a dollar in the international level, researchers should consume the 1 dollar equivalent of the domestic resource for producing the product and finally DRC relation  $<1$  shows the activities that the country has in them a international advantage whereas these activities that they are  $>1$  is commented as non-relative advantage.

The analysis of producing cost of 1 ton apples in every hectare. The required information basically questioner, interview and referring to the agriculture jihad of province and the relevant organizations in the considered counties and also referring to the management and planning organization of province, the support and serving company of agriculture and so on has collected, researched out, rectified and acted.

**The shadow prices of production structures:** The production structures in 2 exchange and non-exchange group are divided. The exchangeable structures are the production resource and factors that are exchanged in the universal markets in wide scale and also the country usually import the above structure, these factors in this study have been divided in 2 groups, chemical fertilizer and poisons of plague rebuff. The non-exchange structures are the domestic structures as work force, ground, water and machinery. In producing the garden product, the share of the non-exchange structures costs (domestic) is usually more than the exchange structures (Srinivasan and Bhagwati, 1978; Masters and Winter-Nelson, 1995).

**Calculating the cost of the domestic trade structures:** The exchangeable structures are including chemical fertilizer and poisons grass killer. The used fertilizers in producing the garden product are containing phosphate, urea, microelements and potash poisons also are including insecticides, mushroom killers, tickicide and vales oil.

**Calculating the cost of the non-commerce structures:** The non-tradable structures or the domestic structure including work force, ground, water and machinery,

specially about the shade prices of the non-exchange structures, work force, water and ground, researchers should say that about work force, its opportunity cost is equal to the added value of the lost product that with being occupied work force in the current activity, their production possibilities has not prepared. So for calculating, the shade price of work force has considered to the highest wage that is paid to work force in the skillful and unskilled group in relation to implant, keeping and pick up.

In the water structure case also has been considered as the shade price that highest the paying cost for the ensuring resource of water including river, aqueduct, spring and well is in the condition that the maximum exploitation of them is done. For estimating the shade price of ground, the ground renting amount has settled on the basis of statistical results. The cost of producing agricultural products in 1388 and then the highest renting cost on the basis of ground opportunity cost (the shade price).

**RESULTS AND DISCUSSION**

**Evaluating DRC standard:** It is necessary to be propounded that the net added value has calculated as in the 1st the dollar cost of chemical fertilizer proportionate to the technical coefficient that has in producing product apple to be deducted from the dollar cost of product and the yield result to be multiplied in the informal dollar price for calculating the Rial equivalent of this product and then the yield result has subtracted from the poisons of plague rebuff cost that it is one of the exchangeable structures in producing this product. The domestic resource cost has gotten from the sum of the non-exchange structure cost, water, ground, work force and renting machinery and finally for calculating the DRC index, the domestic resource cost is divided by the net added value.

In 1384 with taking into consideration the free market efficient price 5141.654, the competitive advantage condition relatively is been better and only the Ghochan county was the lack of advantage and the reminder of the chosen counties and in the whole of province is of the relative advantage in the apple production.

Under the exchange formal price with taking into consideration to the Table 1, researchers have the qualified competitive advantage and in every shade price kind, DRC is <1. In Table 2 also, researchers carefully are witness of the best advantage conditions during the examined years in the different fields of exchangeable price and in the examined counties. In the DRC index, the DRC index nearer to 1, the prosperity mark of Khorasan

Table 1: Estimate of under cultivation level, production and function of the garden product apple in province and chosen counties of Khorasan

The name of county	The scale of production	Function (kg)
Mashhad	171891	15321
Chenaran	644275	31200
Ghochan	83190	11400
Kalat	79302	17362

Table 2: The yield DRC index from the prices kinds and with the formal price

The formal market price	The net added value	The domestic resource cost	DRC index
Mashhad	2680203	1359599	0.507276
Chenaran	2755097	1072718	0.389357
Ghochan	2547698	1896997	0.744592
Kalat	2714654	88400	0.032564

Table 3: The yield DRC index from the prices kinds and the informal price

The informal market price (9042)	The net added value	The domestic resource cost	DRC index
Mashhad	2684272	1359599	0.506506
Chenaran	2759228	1072718	0.388774
Ghochan	2551657	1896997	0.743437
Kalat	2718752	88400	0.032515

Table 4: The yield DRC index from the prices kinds and the free market efficient price

The free market efficient price (5141.654)	The net added value	The domestic resource cost	DRC index
Mashhad	1463481	1359599	0.929017
Chenaran	1519780	1072718	0.705838
Ghochan	1363876	1896997	0.390887
Kalat	1489378	88400	0.059354

from the relative advantage is higher that researchers is witness such a condition in the informal market price. With examining the Domestic Resource Cost (DRC) and DRC index in Table 2-4 clearly is distinguished because with taking into consideration to the yield DRC index that are explanatory of the yield result of the formal and informal exchange regimes and the free market efficient price during 1388 course, the severe competitive advantage has existed.

**CONCLUSION**

In conclusion, resaeachers can proceed to appoint competitive advantage chosen countries in exporting apple in this figure with considering the shade price of exporting apple's exchange product and with considering direct export shade price, researchers can attain Iran's competitive position and specially Razavi Khorasan's chosen countries in relation to direct export of apple . So, the shade price of farm is determinant of chosen countries' competitive position in allocation and without allocation resources. The shade price of apple direct import is explanatory of its replacing power with domestic production and then importing exchange products.

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