The Determination of Competitive Advantage in the Agricultural Sector of Iran Based on TM Index

Hossein Ostadi, Amir Hortamani, Shahrouz Mojoudi

The Determination of Competitive Advantage in the Agricultural Sector of Iran Based on TM Index

Dr. Hossein Ostadi[1], Dr. Amir Hortamani[2], Shahrouz Mojoudi[3]

[1, 2]Faculty member of Azad University, Iran, Dehaghan Branch, [3]MA Graduated of economics, Iran, Azad University, Dehaghan Branch

Abstract

One of the important sectors, which have a significant role in the development of export of a country's industry, is the agricultural sector. With the development of this sector in global markets we can substitute oil revenues with agricultural products, and increase the role of this sector in the economic development of the country. Some factors which are of great importance in the development of the export of agricultural products are economic knowledge on the potential production capacity, competitive advantage, efficient marketing, and awareness of the tariff laws.

The goal of this study was to identify the potential export capacity of Iran based on the competitive advantage of the trade map (TM) in agricultural sector. In this study, the potential export capacities of selected agricultural products (wheat, lentil, potato, onion, soya, cotton, peas, and corn) were investigated using competitive advantage indices. It can be concluded from the findings of this research that although Iran has, to some extent, lost its competitive advantage, it has still has competitive advantage in most of its agricultural products.

Keywords: Competitive advantage, Agricultural sector, Trade map, Economy of Iran

Introduction

Today, economic development is in the new circumstances of globalization and governments have tried to eliminate the trade limits. This necessitates the identification of competitive advantage, potential national economic capacity, and global market structure, and planning comprehensive programs to increase competitiveness level of markets and products, and strategic and goal-oriented support in order to develop the competitive capacity of the selected products. It is expected that Iran be able to participate more actively and efficiently, through these actions. In any economic system, countries have come to believe that if they want large-scale export they must comply with some rules and regulations. Foreign export is challenging;

---

[1] - Faculty member of Azad University, Iran, Dehaghan Branch
[2] - Faculty member of Azad University, Iran, Dehaghan Branch
[3] - MA Graduated of economics, Iran, Azad University, Dehaghan Branch

therefore, ithas an important role in the agricultural economy of every country.Different views, opinions, and experiences have shown that without preparation of national resources and facilities we cannot identify economic capacities.

Previous studies have found that the economic growth of countries is directly associated to their export growth. This is due to the direct effect of export on domestic production.This in turn has caused an increase in investment and transferring of resources to productive sectorsand finally to competitive sectors, and has causedthe competitive stressorspresent in the global market. Therefore, countries have considered export development strategy in their programs. Therefore, considering the existing evidence, negligence of relative advantage, competitive advantage, and the potential facilities of Iran has directed the country toward a situation in which despite having numerous production and export advantages, we lack appropriate policies to adapt and introduce Iranian products to the world. Many economists have argued on the meaning of advantages.Joseph Schumpeterbelieves the basis of competitive advantage to be in innovation; however, in his final studies he has identified big companies as the main source of innovation, as the most important factor in creating competitive advantage. Moreover, in the analysis of this advantage Porterhas presented a tetragonal basis with the two basic factors of the role of chance and governmental policies in the success of countries in specific industries. In all countries worldwide exporters of products and services, and producers of products that can be exported to global markets receive assistance from the government and public organization. Export is recognized as the driving force behind economic development of countries. Therefore, in order to use potential production capacities we can generate foreign exchange for the import requirements of the country, or performing economic development programs, improve product quality, and reduce production costs. Therefore, by studying a product's market its profitability and exchange generation can be increased, and identifying itsadvantages will be effective in increasing global market competition. The goal of this study was to identify the potential export capacities of selected agricultural products and to study factors effective in the competitive advantage of these products, by considering the economic and political circumstances of Iran.

Literature and Previous Research
Competitive Advantage
In the second half of the twentieth century, especially in the later decades, we observed changes in economic, trade, and communication circumstance, which caused the some industrialization activities of countries to change (most successful: Japan, Korea, etcetera) according to patterns other than the expected relative advantage patterns. These countries have achieved progress and development. This is because the goals of these countries moved toward industries in which no clear advantage could be seen in the beginning. The view of these countries was to gain industries that have very high income demand efforts and high labor productivity, and rapid technological progress. Competitive advantage is a situation which makes a corporation capable of producing higher quality products through better methods with higher productivity, and to gain more profit for the corporation in competing with rivals. An economic unit is said to have competitive advantage when it can, for certain reasons (due to the characteristics of the unit such as location, technology, employees, and etcetera), constantly produce with lower cost and higher quality in comparison to their rivals. (Hosseini and Ehtiyati,1385:7) Competitiveness is a

fact which shows the capability of each section of economic activity in its market. Therefore, competitive advantage is an important subject which has been stressed upon in strategic marketing during recent years. This advantage causes the maintaining of market share, and growth and survival of the country in the long term; and on the other hand, it means better performance than rivals, which will cause profitability in the short term. In competitive advantage, a situation is studied in which a country can supply higher quality products to international markets through a high-performance method that can have a higher profit for that country in the export sector. The economic goal of countries is to reduce production costs in order to convert relative advantages to competitive advantage.

The globalization of production has rendered raw material, machinery, and many related services available internationally. In addition, the mobility of labor and capital has solved their shortage in many countries. Today, the knowledge of factor application, and not just access to them, has given them a pivotal role in the competitive position. Multinational companies are the relative advantage of profitable countries, because they have planned their activities based on the relative advantage of countries in the world. Difference in national economic structures, culture and values, institutions, and history of countries are effective in the competitiveness of enterprises. Thus, the creation, maintenance, and development of competitive advantages at the level of enterprises, sectors, and national economy have become an approach to economic development. Moreover, competitive capacity (competitiveness) has been proposed as the main challenge of international trade and economic development programs.

Many economists, such as Adam Smith, David Ricardo, and Robert Torenz have introduced the concept of trade advantage in comparison to lack of trade. Economists, such as Balassa, Valrass, Heckscher, and Ohlin clearly expressed their views on absolute advantage, natural advantage, and relative advantage. Identification actual and potential advantages of national economy, and understanding the global product market helps the planning of comprehensive programs to increase the competitiveness of markets and products, and the development of competitive capacity in the agricultural sector. Therefore, considering the importance of export of agricultural products in the economy of countries, the importance of the role of sales and marketing in the different stages of exporting of products, and studying the concept of competitive advantage and factors effective on this advantage in this sector have been explained. Competitiveness can be defined as a set of institutions, policies, and factors which determine the level of profitability of a country. Today, trade has been affected by competitiveness of countries and technological changes du to the constant increase in competitiveness, diversity of needs, and transformation of local markets to global markets. In order to gain competitive advantage and success countries must be able to be more attentive to the demands and needs of markets (consumers).

COMPETITIVE ADVANTAGE

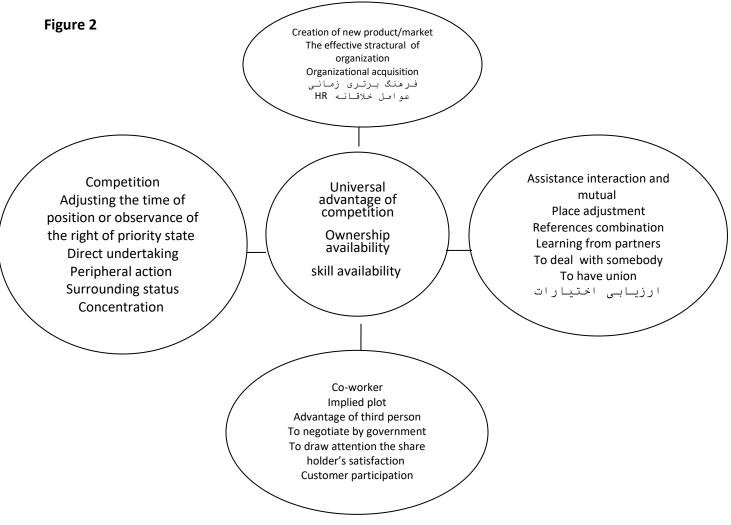| COMPETITIVE SCOPE	Lower Cost	Differentiation
Broad Target	1. Cost Leadership	2. Differentiation
Narrow Target	3A. Cost Focus	3B. Differentiation Focus

Graph (1) Strategy Porter

One of the most modern achievements isthe strategic trade theory that has strived to reach new economic circumstances including advances in technology, exclusive competition, and raising efficiency through the effective use of trade policies and its tools. This is because global trade can create a substitute for the mobility of production factors, can drive income and profit of factors within the country toward equality, and illuminate unfair relationships in trade. The goal of each country is to transform the created relative advantages to competitive advantages by decreasing production costs and increasing the quality of its products.

Sustainable Competitive Advantage
This advantage was proposed for the first time in 1984 by Dei to explain competitive advantage maintenance strategies. The term SCA was introduced by Porter in 1985 forgaining long term advantage, and gained an important place in managerial discussions.

Figure 2

Graph (2) competitive advantage

Competitive advantage enables an enterprise to provide high quality products and gain more profit through high performance and benefiting from better methods. Moreover, science, technology, and application of factors have a major role in this advantage.

Factors Important in the Creation of Competitive Advantage

One of the important factors in the creation of competitive advantage is political stability, which necessitates governmental financial management, limiting the government in the economy, and the openness of each country's economy in international markets. Gaining a high standard of living depends on the impeccable quality in the efficiency of products that enterprises compete on. This is because increasing efficiency causes an increase in national development and income, creates the circumstances to take part in foreign markets, and increases competitiveness. On the other hand, previous studies have shown that in order to gain efficiency the price value of products of a country and the efficiency of each economic unit must be evaluated. Therefore, we can conclude that the effect of the host country (governments, enterprises, and etcetera) in

pursuing competitive advantageis in the manufacturing of foreign products. Moreover, the wealth of a country, such as labor force, capital, and natural resources, must be taken into consideration in this regard. In Porter's theory, international competitive advantage is measured through basic and sustainable exports, or the extent of foreign investment on the available skills and assets of a country. Furthermore, another factor, which is of great importance, associated with national competitive advantage is local demand circumstances (such as local demand growth rate, basic structure of local markets, and flexibility of local customers) and its relation to large local markets.

Previous Studies

Of the studies in this respect we can name the "Measurement of the competitiveness of Philippines' industries" by Devis andEranica, and "understanding trade patterns in the industry of automobile and its parts in members of NAESA in the first half of the 1990s" by Enass and OsouyekH. In addition, Daloum, in a study titled "Specialization patterns of export in countries of the European Union", has studied the relative advantage by the BalassaRCA method, and has then made it symmetrical and used the Galton regression model.Skamastemeko, in a study titled "The competitive advantage of Ukrainian products", has studied competitive advantage by the revealed relative index. The results of this study showed that in 2004 beverages had the highest competitive advantage. However, in previous years, Iron and steel had the highest competitive advantage. In this study, the Galton regression model has been used to evaluate dynamism, competitive advantage, and trade patterns from 1992 to 2005. Furthermore, the results of this study show that competitive advantage trend of Ukrainian products has been negative and small. Of studies on market-orientationwe can name the study by Sink and Renchehrd. This research has studied the relationships between market-orientation and business performance in the machine tool industry of Britain. The results of this study showed that costumer-orientation and rival-orientation have an important ad positive effect on business performance. Moreover, customer satisfaction has an important effect on this performance. Zhou et al. have studied the effect of costumer value on a market-oriented company, competitive advantage, and performance of the company.This study was performed in the global hotel services industry.558 of the hotels which were members of the global hotel club were randomly chosen and a questionnaire was sent to their managers. 148 questionnaires were completed. The results showed that costumer value is divided into the two dimensions of services and emphasis on price. In addition, competitive advantage is divided into the two dimensions of innovation differentiation and market differentiation. They also found that costumer value affects company orientation and emphasis on service results in higher costumer orientation and rival orientation. Hironenhas studied the relationship between organizational performance, costumer focus strategies, performance evaluation, and information technology. He has stated that costumer focus strategy is consistent with Porter's product differentiation strategy. Finally, we can cite a study titled "The effect of Vietnam's accession to the World Trade Organization" in 2003. In this study product competitiveness is measured by the RCA index. In another study the "Effects of China's accession to the World Trade Organization" is studied using this index. This study shows that China is oriented toward manufacturing high technological products, and its neighbouring

countries such as South Korea, Taiwan, and Singapore are oriented toward heavy industry products and capital goods.

Research Pattern

Trade Map (TM)

The UNCTAD international trade centre uses trade map to analyse the export performance of commodity groups. It compares a trade map of export growth with global demand growth. The fundamental basis of these maps is the sustainable market share (CMS) which was studied. In other words, here the export of product i by country j (δ_{ij}) has been compared with the global import growth of the same product (r_i), and total global import growth (r). A trade map can be divided into four quadrants, according to which export products, are categorized in the winner and loser parts based on whether they perform in growing markets or declining markets. The characteristics of each quadrant aregive in the following table:

Table 1. Four Quadrants of a Trade Map

$\delta_{ij} > r_i > r$	The first quarter : the winners in advanced markets
$\delta_{ij} < r_i, r_i > r$	The second quarter : the losers in advanced markets
$\delta_{ij} < r_i < r$	The third quarter : the loser in declined markets
$\delta_{ij} > r_i, r_i < r$	The fourth quarter : the winners in declined markets

Reference : Vali beigi , hossein or Hasan and the others,(1383)

Estimation of Pattern by Trade Map (TM) Method

In order to study trade map the three variables of total global import growth rate, global product import growth rate, and growth rate of product export from Iran for different products are as follows:

Table 1. Trade map of onion and potato in Iran

The rate of growth export by products in Iran	The rate of universal import's growth of product	The rate of total universal import's growth	
0		0.009002779	1380
0	5.79245084	0.031756297	1381
1.548657684	1.213446647	0.059087504	1382
-0.10817854	0.808656444	0.114487441	1383
-0.000906434	-0.089166069	0.080171308	1384
-0.000907256	0.667978833	0.093711438	1385
-0.00090808	0.241604784	0.072989522	1386
-0.000908905	0.219182481	0.028737283	1387
0.119369861	1.317448292	-0.10104595	1388
-0.635070291	-0.238880572	-0.055575762	1389
23.30079079	-0.902966665	0.198961723	1390
		0.009002779	1380
-0.93180001	50.92627585	0.031756297	1381
2.091805073	0.308643959	0.059087504	1382
4.07295743	-0.772628264	0.114487441	1383
-0.208217939	3.915066277	0.080171308	1384
0.580832127	0.428845121	0.093711438	1385
-0.514202862	0.107712339	0.072989522	1386
1.080172707	-0.409843613	0.028737283	1387
-0.488649117	0.621348312	-0.10104595	1388
2.797205381	-0.256955406	-0.055575762	1389
-0.737046211	0.102737562	0.198961723	1390

Reference : the findings of research.

As the table of trade map of onion and potato in Iran shows, for these two products the export growth rate of Iran in most cases is higher than the total global import growth rate, and different agricultural products' global import. This means that these products have competitive advantage.

Table 2. Trade map of Soya and cotton in Iran

The rate of growth export by products in Iran	The rate of universal import's growth of product	The rate of total universal import's growth	
		0.009002779	1380
-0.999971348	4.162964805	0.031756297	1381
-0.64003334	0.126528576	0.059087504	1382
88.31351773	0.322031285	0.114487441	1383
-0.825129389	-0.233907084	0.080171308	1384
-0.165638431	0.252235217	0.093711438	1385
-0.717515115	0.583459775	0.072989522	1386
1.859357271	0.004950651	0.028737283	1387
-0.376577761	0.012131961	-0.10104595	1388
0.140379581	0.546690289	-0.055575762	1389
0.212247341	-0.069558767	0.198961723	1390
		0.009002779	1380
51.9186559	9.227059226	0.031756297	1381
60.704095	0.363879037	0.059087504	1382
-0.232471181	1.265541986	0.114487441	1383
-0.644322501	-0.087040963	0.080171308	1384
0.681036957	0.224439252	0.093711438	1385
-0.259908262	0.427967186	0.072989522	1386
-0.756649703	0.048113486	0.028737283	1387
0.740661299	-0.11762944	-0.10104595	1388
-0.59135847	0.225967748	-0.055575762	1389
0.537267561	0.196081185	0.198961723	1390

Reference : the findings of research.

The table of trade map of soya and cotton in Iran showsthat for these two products the export growth rate of Iran in most cases is lower than the total global import growth rate, and different agricultural products' global import. This means that these products do not have competitive advantage.

Table 3. Trade map of pea and corn in Iran

The rate of growth export by products in Iran	The rate of universal import's growth of product	The rate of total universal import's growth	
		0.009002779	1380
0.296507794	-0.964579336	0.031756297	1381
2.472056208	137.8539728	0.059087504	1382
-0.497345578	0.341071595	0.114487441	1383
-0.200322646	7.707331857	0.080171308	1384
-0.182894744	9.602303361	0.093711438	1385
-0.411749363	0.691695576	0.072989522	1386
-0.961326843	0.164446544	0.028737283	1387
0.358984009	-0.332979793	-0.10104595	1388
2.009920855	1.403024571	-0.055575762	1389
-0.715423136	0.13508795	0.198961723	1390
		0.009002779	1380
-0.997148686	2.946133683	0.031756297	1381
8.029718656	0.870062665	0.059087504	1382
-0.23239276	0.067300504	0.114487441	1383
-0.360594435	-0.011328672	0.080171308	1384
3.872015402	0.505442006	0.093711438	1385
-0.840095634	0.294254924	0.072989522	1386
11.75438771	0.685428298	0.028737283	1387
0.299280377	-0.12794108	-0.10104595	1388
0.446972947	0.241879603	-0.055575762	1389
-0.943658383	0.24428959	0.198961723	1390

Reference: the findings of research.

The table of trade map of pea and corn in Iran showsthat for these two products the export growth rate of Iran, in most cases, is higher than the total global import growth rate, and global import of different agricultural products. This means that these products have competitive advantage.

Table 4. Trade map of lentil and wheat in Iran

The rate of growth export by products in Iran	The rate of universal import's growth of product	The rate of total universal import's growth	
		0.009002779	1380
0.257575381	1.025146938	0.031756297	1381
27.6157963	0.965324817	0.059087504	1382
-0.709007259	0.867999476	0.114487441	1383
2.694377033	-0.207656112	0.080171308	1384
1.111141864	1.07264693	0.093711438	1385
0.441848352	-0.372993432	0.072989522	1386
2.253951	0.692326327	0.028737283	1387
2.421102731	0.269736819	-0.10104595	1388
-0.370164147	-0.056376108	-0.055575762	1389
-0.90266418	0.256639035	0.198961723	1390
		0.009002779	1380
-0.999929161	0.574377195	0.031756297	1381
-0.968609169	-0.628342205	0.059087504	1382
8.607629513	-0.770178736	0.114487441	1383
3.086004188	0.464370849	0.080171308	1384
1.849592774	5.056318296	0.093711438	1385
-0.86975958	-0.757095861	0.072989522	1386
9171.980275	43.17911568	0.028737283	1387
-0.989786497	-0.389275328	-0.10104595	1388
0.181611425	-0.829675788	-0.055575762	1389
297.3224624	-0.418012214	0.198961723	1390

Reference: the findings of research.

It is clear that the export growth rate of Iran, in most cases, is higher than the total global import growth rate, and global import of different agricultural products.In conclusion, it can be said that although Iran has to some extent lost its competitive advantage, it still has competitive advantage in most of its agricultural products.

Conclusion and Suggestions

According to the total results of TM it can be said that although Iran has to some extent lost its competitive advantage, it still has competitive advantage in most of its agricultural products. In order to increase competitive capacity and competitive advantage of selected agricultural productsof Iran the following suggestions have been given:

Reduction of production costs is one of the most important strategies of competitive advantage growth of selected agricultural products of Iran. It is necessary to reduce production risk and reduction of factors' price, and total production price.

Increase in of exchange rate, increase in export to import ratio of these products, is another important factor in the competitive advantage growth of selected agricultural products of Iran. Therefore, it is suggested that the government and relevant authorities act to increase exchange rate in accordance with the inflation rate, by considering other circumstances, in order to increase competitive advantage.

Considering the positive efficacy of import tariffs of the competitive capacity of selected agricultural products of Iran, tariff supportmust be temporary, and on the rout to joining WTO Iran must try to limit tariff policies.

The price of agricultural products has a reverse effect on import competitive advantage of selected agricultural products of Iran. Therefore, it is suggested that the government act toward decreasing final price, and thus, the price of agricultural products in the country through their effective and efficient support. They can also help farmers by the reduction of the final price through importing capital goods, and enhancing production technology.

As was stated in Porter's view of competitive advantage, a country can, considering its specific characteristics, create an environment which encourages the creation of competitive advantage by domestic enterprises. Therefore, this country can produce and export products which will ensure that country's constant growth. In this view, the sustainability of a country in the global competitive scene is emphasised. Therefore, considering globalization and presence in the competitive scenes, if countries do not consider advantage and efficacy of their products and goods during their production process, they will incur many costs and will not be able to compete in the international scenes.

References

Barney, I. (1992), "Firm Resources and Sustanined Competetive advantage ",Vol17,No1,PP.99-120.

Hillman, A. L. (1980), Observations The relation between Revealed Comparative advantage and Competetive advantages as indicated by pre-trade relative prices weltwirtschaftliches Archive, Vol 16, PP315-321.

Balassa B.1995.Trade liberalization and revealed Comparative advantage.The Manchester school of Economic and Social Studies,Vol33,PP 99-123.

Porter, M. (2003) Global Competitiveness Report.world economic Frume : New York : Oxford university Press.

Linneman, H. (1998). Measures of Export-Import Similarity and the Linter Hypothesis once again.American Economic Review,Vol3, No2,pp 445.

Arie, A. (1996). The Potential for trade between Israel,The Palestinians and Jordan.The world Economy,Vol19,No1,PP113-133.

Balassa,B,(1961),The Theory of Economic Integration.Manchester school,Vol30,PP27-42.

Chow, P. (1996), The Revealed Comparative advantage of the East asian NIC the International Trade Journal,Vol 5,No2,PP235-262.

Sologa, I., Winters, L. A. (1999), "Regional in 1990s : What Effect on Trade?",Development Research Group of World Bank.

Khalilian and Farhadi. (1381). The investigation of effective factors on Iran's agricultural exportation sector, agricultural economy and development, No 39.

Mahdavi and Malekshahian. (1383). The investigation of comparative advantage of exportable products of Iran's Petrochemistry's industry. The periodical of Iran's economical researchers. No 21, PP 91-113.

Mehri, A. (1382), To glance forward the (subject/topic of)constant competetive advantage.Tadbir magazine.PP140.

Mirahsani, Monir-al-sadat. (1381), Iran's competable index of universal association of economyNo 5,Vol 6,PP 123-148.

Valibegi, H. (1385). To categorize the markets which have exportation's goals and the barriers of their attendance. The commercial research. N, 41.