Strategic Analysis of the Industry's Competitiveness by Using a Two-Factor Advantaging Input and Time in Iran

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ABSTRACT

Today domestic industries in competition area in the presence of foreign industries are seen further more because of world trade process and moving toward free trade. The achieved status both create an opportunity to enter in to new global markets and also it is a kind threat to weaken or to waste the domestic industries.
In this article we mention to industry competition's key factors in the world. Then, we evaluate the potential advantage by using two factors: advantaging inputs and time.
Finally, we classified thirty industries in to nine groups according to time and the Advantaging inputs in Iran
The strategic analysis was determined according to these 9 groups.
KEYWORDS: Strategic analysis, Comparative Advantage, competitiveness, Iran industries

1. INTRODUCTION

Today, globalization offers many new management challenges and the world moves towards free trade would have been more competition between domestic and foreign industries. (Harrison & Caron, 2006)The most important factor in the success of the domestic industries compared with foreign competitors, is to achieve a competitive advantage over its rivals. The purpose of this theory is to emphasis the critical role of competitive market, reducing the costs of production and diversification in the products in order to create advantage in economic competitions(Stonehouse, 2007) .

The concept of comparative advantage indicates the ability of a country to produce and export a product with less cost compared with other competitors (Bidabad & Tabari, 1996). This definition further shows the actual comparative advantage if we have not yet reached this stage, we will face with the potential comparative advantage(Porter,1990).

Potential comparative advantage indicates the ability of a country to produce and export a product with less cost compared with other competitors. However, the domestic industries due to factors such as research and development, technology, skills and human resources, economies of scale, Advantage consumers, market conditions and management cannot achieve this goal (Fathi, 2005).

In this situation, the responsibility for policy-makers is to develop a strategic plan regardless of the internal pressure and lobbying(Levy,1999) .The purpose is to identify the industries with potential comparative advantage and to support the industry in order to reach the point of actual and to convert comparative advantage into competitive advantage(hana,2013).

Strategic factors of the potential comparative advantage in the global arena
1. Advantaging inputs
Formerly, advantaging inputs was *known according to frequency* of labor and capital (Salvatore, 2008)

But today, it consists of natural Ricardo-Ohlin theory of comparative advantage and Comparative advantage created by Porter and Krugman; that traditional forms of production (labor, capital) will tend to be more expertise(Tavasoli,2001).

So, the industries in terms of advantaging inputs, need knowledge, research and development, capital, human capital, labor and nature. Due to the nature of each industry, the requirements for each of these factors is different (smith, 2010).

For example, the industries that are active in the field of computer While they need all of the above factors, they are more dependent on research & development and knowledge and in the industries that produce the machinery, the capital has more crucial role And to do so, in the electronics industry, the human capital is important. The labor factor has the most important role in Textiles and clothing production and the nature has the same role inAgricultural products such as wheat and rice (Zare, 2014).

Due to the increasing complexity of the industry, the need for knowledge and research & development, capital and human capital increases. Industries are classified according to the Harmonized System (HS). This situation can be seen well.

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2. The time factor

Time factor, is the period that an industry (products) take the infant steps. In this period, it is desired to reach economies of scale, increase learning and human skills (which will lead to cost reduction) (kuriyama, 2013).

This time due to the nature and type of industry is different; so in the industries that are more natural and less complex (Such as agricultural and animal productions) an infant period is less While in the large and complex industries (such as the aerospace industry and automotive) an infant period is more.

The time factor represents the period required to convert the potential advantage to the actual that is mainly shows how to achieve economies of scale production (miravete, 1998) To set the time factor, the amount of time needed for converting potential into actual advantage is according to the nature of that industry; Which are derived based on the experience of other countries.

Case studies in Iran
Industries classification

The surveyed industries in Iran are classified in to thirty industries according to Harmonized Tariff System (HS) codes. Choosing the industries is according to the twenty-one districts of the most favored nations which are arranged In accordance with Harmonized system of tariff codes (HS).

In order to further specialization in industrial products, this classification is done in thirty industries:

Figure 1: Industries classification

1	Live animals and their products	16	Precious stones, etc.
2	Agricultural products	17	basic metals
3	Fats and oils	18	Machinery
4	Food products	19	Home Appliances
5	Mineral products	20	Electronic products
6	Petroleum industry and Refinery	21	Automotive Industry
7	Chemical products	22	pieces Industry
8	Pharmaceutical products	23	Aviation industry (aerospace)
9	Plastic and rubber	24	Maritime industry and related industries
10	Leather	25	Railway industry and related industries
11	Wood and their derivatives	26	Instrumentation
12	Pulp, paper etc.	27	Military Industries (weapons and ammunition)
13	Textiles andtheir artifacts	28	Entertainment and sporting goods and toys
14	Shoes and scarves and ...	29	Various industry (Chapter 96)
15	Stone artifacts	30	Works of Art

Strategic assessment of industries using two-factor

In this study, advantaging inputs and time factors, are used to choose the industries for potential advantage evaluation.

Time factor

The time factor represents the period required to convert the potential advantage to the actual that is mainly shows how to achieve economies of scale production.

To set the time factor, the amount of time needed for converting potential into actual advantage is according to the nature of that industry; which are derived based on the experience of other countries.

Then, the experts should confirm the number of groups and they should represent the proper classification for time factor. The experts have divided Iran industries into three groups:

1-short time
2-average time
3-long time

The Classification according to the required time interval is as follows:

Figure 2: The Classification according to time interval

Classification according to time factor	interval
Short	1-4 years
Average	2-8 years
Long	More 8 years

The industries classification according to the time factor by using two-factor identification in selected industries is as follows:

Figure 3: The Classification according to time factor

industries	timeinterval	Classification according to time factor
Live animals and their products	2-5 years	short
Agricultural products	1-7 years	short
Fats and oils	1-4 years	short
Food products	2-6 years	average
Mineral products	3-10years	average
Petroleum industry and Refinery	4-20 years	long
Chemical products	4-8 years	average
Pharmaceutical products	3-8 years	average

Plastic and rubber	3-8 years	average
Leather	1-4 years	short
Wood and their derivatives	2-5 years	short
Pulp, paper etc.	2-5 years	short
Textiles andtheir artifacts	2-8 years	average
Shoes and scarves and ...	2-5 years	short
Stone artifacts	3-8 years	average
Precious stones, etc.	3-8 years	average
basic metals	4-10 years	average
Machinery	2-15 years	average
Home Appliances	3-10 years	average
Electronic products	2-6 years	average
Automotive Industry	6-20 years	long
pieces Industry	2-6 years	short
Aviation industry (aerospace)	6-30 years	long
Maritime industry and related industries	5-20 years	long
Railway industry and related industries	5-15 years	long
Instrumentation	5-15 years	long
Military Industries (weapons and ammunition)	4-15 years	long
Entertainment and sporting goods and toys	1-4 years	short
Various industry (Chapter 96)	1-4 years	short
Works of Art	1-4 years	short

Advantaging inputs

To identify the potential advantage of each domestic industry, we should determine the advantaging inputs.

Then, the experts should confirm the number of groups and they should represent the proper classification for advantaging inputs factor.

The experts have divided Iran industries into three groups:

1- Low Advantaging inputs

2- Average Advantaging inputs

3- High Advantaging inputs

The Advantaging inputs Classification is determined by comparing the frequency of the most important production factor (factors) in each countries' industry with the others.

The industries classification according to the Advantaging inputs factor by using two-factor identification in selected industries is as follows:

Figure 4: The Classification according to advantaging inputs factor

industries	Most important Advantaging inputs	Classification according to Advantaging inputs
Live animals and their products	the nature	Average
Agricultural products	the nature	High
Fats and oils	the nature	Average
Food products	Capital	Average
Mineral products	the nature- labor	High
Petroleum industry and Refinery	Capital -the nature	High
Chemical products	R&D - knowledge	Average
Pharmaceutical products	R&D - knowledge	Average
Plastic and rubber	Capital	Average
Leather	labor	High
Wood and their derivatives	Nature- labor	Average
Pulp, paper etc.	Capital	Low
Textiles andtheir artifacts	labor	High
Shoes and scarves and ...	labor	High
Stone artifacts	Capital- labor	High
Precious stones, etc.	human capital	Average
basic metals	labor- Capital	High
Machinery	Capital	Low
Home Appliances	Capital	Low
Electronic products	human capital	Average
Automotive Industry	Capital- labor	Low
pieces Industry	Capital- labor	Average
Aviation industry (aerospace)	R&D - knowledge	Low
Maritime industry and related industries	Capital	Low
Railway industry and related industries	Capital	Low
Instrumentation	R&D - knowledge	Low
Military Industries (weapons and ammunition)	R&D - knowledge	Low
Entertainment and sporting goods and toys	human capital- labor	Average
Various industry (Chapter 96)	Capital	Average
Works of Art	human capital	High

Industries classification in a two-factor method

Finally, we expect nine situations for domestic industries according to the triple states of time and the Advantaging inputs, The Government negotiate to support or not support the industry according to the group of that industry.

How the industry located in each nine groups:

Figure 5: Industry position in each nine groups

The 1st group High Advantaging inputs short time	the 2nd group High Advantaging inputs average time	the 3th group High Advantaging inputs long time
Agricultural products Leather Shoes and scarves and ... Works of Art	Mineral products Textiles andtheir artifacts Stone artifacts basic metals	Petroleum industry and Refinery
the 4th group Average Advantaging inputs short time	the 5th group Average Advantaging inputs average time	The 6th group Average Advantaging inputs long time
Live animals and their productsFats and oils Wood and their derivatives pieces Industry Entertainment and sporting goods and toys Various industry (Chapter 96)	Food products Chemical products Pharmaceutical products Plastic and rubber Precious stones, etc. Electronic products	
The 7th group Low Advantaging inputs short time	the 8th group Low Advantaging inputs average time	the 9th group Low Advantaging inputs long time
Pulp, paper etc.	Machinery Home Appliances	Automotive Industry Aviation industry (aerospace) Maritime industry and related industries Railway industry and related industries Military Industries (weapons and ammunition)Instrumentation

The first group

This group includes industries (goods) which have high advantaging inputs and short time.

As well as, these industries (goods) face with short time and high production factors for competitiveness. They are the most likely option to award the tariff protection.

The government should negotiate with the industry to identify barriers in order to develop the industry and give them the needed Resources.

It is also necessary to ensure the protection of these resources for industrialists and investors who wish to enter the industry provided above.

The second group

This group includes industries (goods) which have high advantaging inputs and average time.

These industries (goods) face with average time and high production factors for competitiveness.

These industries are more complex than the first group and Need to use more capital and higher knowledge as, in this industry we need more time to achieve competitiveness; so the created advantage is more stable

The government first option deal with these industries, is to support and also ask them about the barriers and suggested solutions.

The third group

This group includes industries (goods) which have high advantaging inputs and long time.

These industries (goods) face with long time and high production factors for competitiveness.

Governments have a high sensitivity towards industries that require a long time for competitiveness

Because they are generally main industries and they can be a driving force for other industries. They also requires large amount of production factors such as capital, labor power, knowledge and research & development. (Lessard, 2003)

Due to the stable advantage, these industries can cause Superior competitive advantages for their Countries rather than others and they will be significant economically and politically in long run.

The negotiations between the government and the industry should be emphasized on strengthening the industry and lead to a common approach. Government should also assist the industry in attracting capital, Acquired new knowledge and modern technologies and empowered human capital. Instead, the industry must also have a strong determination to develop.

The fourth group

This group includes industries (goods) which have average advantaging inputs and short time.

These industries (goods) face with short time and average production factors for competitiveness.

These industries can be competitive in near future, but it is very difficult to stabilize the competitiveness of these industries. Ability and adaptability of these industries in future is a factor which is important for the above industries.

So the industry should have a flexible structure, investment capacity, knowledge and research & development. Government negotiations with the industry, should review their situation in terms of structure and capabilities listed above.The government also should pay attention to the industries plan for future and needed changes.

If there was a positive vision for the government, it would support the industry (Supporting Industry) otherwise, the government should not support them. (Non-supporting industry)

The fifth group

This group includes industries (goods) which have average advantaging inputs and average time.

These industries (goods) face with average time and average production factors for competitiveness.

This group of industries, in addition to other production factors, need to attract domestic and foreign investment while developing countries such as Iran faces the problem of investment.

Therefore, the government in negotiation with the above industries should consider their potential capacity to attract needed investment and new technologies.

If there was a positive vision for the government, it would support the industry (Supporting Industry) otherwise, the government should not support them. (Non-supporting industry)

The sixth Group

This group includes industries (goods) which have average advantaging inputs and long time.

These industries (goods) face with long time and average production factors for competitiveness.

Governments have a high sensitivity towards industries that require a long time for competitiveness and they can be a driving force for other industries.

Supporting this kind of industry seems to be unlikely due to strong foreign competitors in the international scene (especially for developing countries, including Iran) and lack of access to modern technology and research & development. Unless they can prove their capacity to the government.

The government first option deal with these industries, is to forsake them. If the industries insist to attract the supports they should convince the government with Reasonable evidences except the industries related to national security.

The seventh group

This group includes industries (goods) which have low advantaging inputs and short time.

These industries (goods) face with short time and low production factors for competitiveness.

The industries with above conditions are difficult to maintain competitiveness.

The governments in their negotiations explain why they could not support the industries and ask them to invest in other areas.

The eighth Group

This group includes industries (goods) which have low advantaging inputs and average time.

These industries (goods) face with average time and low production factors for competitiveness.

In this group of industries, the government policy is based on not supporting these industries However, due to the existence of Home Appliances and machinery which include a lot of productions (Items 84 and 85 of the Harmonized System (HS)), the government should consider the specific situations of each industry carefully and adopt proper polices.

The ninth Group

This group includes industries (goods) which have low advantaging inputs and long time.

These industries (goods) face with long time and low production factors for competitiveness.

As well as, these industries (goods) face with long time and low production factors for competitiveness. They are the least likely option to award the tariff protection.

The governments in their negotiations explain why they could not support the industries and ask them to invest in other areas except the industries related to national security.

Conclusions

We analyzed the chosen industries strategically to evaluate the potential advantage by using two factors: advantaging inputs and time.

Classification according to time factor (required time for converting potential advantage to actual) for example Iran industries are divided into three groups: 1-short time 2-average time 3-long time

And also, Classification according to Advantaging inputs factor (frequency of production factor) the for example Iran industries are divided into three groups: 1- Low Advantaging inputs 2- Average Advantaging inputs 3- High Advantaging inputs.

The obtained results include thirty industries which are In accordance with the twenty-one districts of the most favored nations arranged by Harmonized system of tariff codes (HS).

Finally, we classified thirty industries in to nine groups according to time and the Advantaging inputs and strategic analyze was determined after the government negotiation with industries.

The results represent that the industries related to the first to third groups should be supported.

The fourth to sixth groups should be analyzed. If there was a positive vision for the government, it would support the industry (Supporting Industry) otherwise, and the government should not support them. (Non-supporting industry).The Seventh to ninth groups should not be supported.

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