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Effect of SMEs Expansion on Handmade Carpet Comparative Advantage. The Case of Isfahan City

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Abstract

Carpet industry in Iran is one of the most popular industries in non-oil sector that has a potential capacity to absorb the foreign exchange and in addition to promote employment, and more job opportunities. This industry is also capable to compete in international arena and has very important role in maintaining and enhancing competitive ability of industry, introduction of the Iran economy to world economy and expanding of small and medium enterprises. This paper aim to investigate the comparative advantages of Isfahan carpet industry which its silk carpets with beautiful designs is quite popular in international markets. In this regard, Domestic Resource Cost (DRC) Index has been used to measure the comparative advantage and then this index is calculated for SMEs based production to identify whether promotion of SMEs effect carpet industry comparative advantages. Findings show that Isfahan carpet industry generally has comparative advantage. Furthermore, breakdown of this industry in Isfahan city to small and medium enterprises and also individual outputs and calculating DRC index for both of them, is concluded that small and medium enterprises have more comparative advantage than individual outputs, while expanding of these enterprises should lead to improvement of this industry comparative advantage.

Keywords: Comparative Advantages, Small and Medium Enterprises, Domestic Resource Cost, Handmade Carpet

Introduction

Economic globalization phenomenon is growing strongly and countries are barely able to pull themselves out of the stream in the near future and just to be on the sidelines watching the development in trade between the countries. Therefore, due to this recently emerged phenomenon and growing trend of globalization, it is important to understand that a country in which sectors have competitive advantages in the trend of the international division of labor and it leads the country to appear more powerful by further investments and correction of the activities structure in these sectors. Carpet industry in Iran is one of the most popular industries in non-oil sector which has a potential capacity to absorb the foreign exchange and in addition to promote employment, and more job opportunities. This industry is also capable to compete in international arena and has very important role in maintaining and enhancing

competitive ability of industry, introduction of the Iran economy to world economy and expanding of small and medium enterprises.

If a country wish to maintain or increase its comparative advantage in the manufacturing industries specially carpet industry, it have to prepare some infrastructures in this regards.

One of the main factors can help the industry to overcome the barriers is development of small and medium enterprises (SMEs). The SMEs have very important role to create comparative advantage in trading world Due to following features:

- They are flexible against the Changes of market and environment.
- The firm's primary capital requirements are limited.
- Activities and initiatives of these firms rapidly concluded.

In This paper intends to examine the comparative advantage of the Isfahan city handmade carpet. Handmade carpet weavers in this city are divided into two categories: personal weavers and SMEs Weavers. The index of domestic resource cost (DRC) for the handmade carpet industry of Isfahan city is used to measure the comparative advantages. Market prices are not able to reflect the scarcity of resources in an economy with price distorted. Therefore, this paper tries to close the analysis to real condition using a shadow price.

Small and Medium Enterprises

Western theorists in development economics from the mid-1960s, In order to achieve an optimal solution to deal with the unemployment crisis in less developed countries, considered the small and medium enterprises as an important factor for employment. The proponents of small and medium enterprise employment indicate that SMEs are developed in the less developed countries due to following factors:

1. *Low capital*: because the capital ratio of small and medium enterprise is low, construction of these units need little capital and can be established by absorbing small capitals of community (Fernandez, 2006).

2. *Not require high expertise*: These units do not require human resources with high expertise. Therefore, small and medium enterprises can attract semi-skilled and even unskilled labor and raise the level of employment in a society (Ming, 1996).

3. *The simple market for sales*: the productions of these firms are usually brittle and rapidly sold in the market due to low prices.

Comparative Advantage. Concept and Measurement

International trade is based on comparative advantages and according to comparative theories countries will be able to product and export their productions by obtaining or developing comparative advantages. According to the theory of international trade, several factors are involved in creating a comparative advantage. In some of these theories having production factors such as labor, capital, and natural resources are known as a comparative advantage. Therefore these countries have comparative advantage to product and export the commodities (Moenius, 2006). Lack of comparative advantage in the production of goods has devastating effects on the economy. For example, may be faced with the lack of foreign markets and foreign competition from similar imported goods and production process is severely depressed and lead to unemployment of production factors due to the immobility of them in developing countries.

Impressibility of Comparative Advantage from Developing SMEs

Underdeveloped countries suffer the lacks of technology and capital. But in these countries, factors such as human resources and natural resources and raw materials are abundant. It is obvious that whatever factor is more abundant and cheaper, production cost will be lower and it meaning comparative advantage. One of the main SMEs features is their ability to attract the necessary and limited capital in economy. So this feature can effectively overcome the shortage of capital and creates comparative advantage in developing countries.

Methodology of Research

Measuring the DRC

In this paper a comparative advantage in the production is calculated based on common criteria domestic resource cost (DRC). In This method, the opportunity cost can be compared with the lowest achieving cost of per unit of foreign currency. DRC index is calculated as follows:

$$D = \frac{C_T - eC_E}{\left(eP_W - eC_E\right)} \tag{1}$$

Where:

DRC: Domestic Resource Cost;
C_T: The total Shadow cost of producing one unit of product;
C_E: Shadow cost of external inputs to produce a unit of product;
E: shadow exchange rate;
P_W: Border price USD.

If DRC<1, the earned net foreign exchange is more than the shadow cost of domestic inputs in the production of goods.

If DRC>1, the earned net foreign exchange is less than the shadow cost of domestic inputs in the production of goods.

If DRC=1, the earned net foreign exchange is equal to the shadow cost of domestic inputs in the production of goods.

Determination the Shadow Prices

In order to calculating of the DRC, we need to calculate the shadow price of three major groups for each unit. These three groups are: Non-tradable inputs, tradable inputs and exchange rates. Shadow prices represent the real social cost of resources and raw materials used in the manufacture of a product (Yercan, 2009).

Shadow price of non-traded inputs

Non-traded inputs Refer to the inputs which cannot be exported and cannot be obtained through imports. Regarding to production of handmade carpet, labor, plans, equipment and tools of carpet weaving, overhead cost (including rent, electricity and water), and the process of carpet accomplishment (paid, straightforward, washing, binding) are considered as the domestic factors of carpet production.

A. Calculating the shadow price of labor

Shadow price of labor in the handmade carpet industry, is the highest price given if they are employed in other industries. Because this information was not available, three scenarios are considered:

▪ **First scenario**: It is assumed that the highest salary of workers who are working in other industry is 10% higher than the workers who are working in carpet industry.

▪ **Second scenario**: It is assumed that the highest salary of workers who are working in other industry is 20% higher than the workers who are working in carpet industry.

▪ **Third scenario**: It is assumed that the highest salary of workers who are working in other industry is 30% higher than the workers who are working in carpet industry.

B. The shadow price of non-traded capital inputs

In order to calculating the Shadow price of capital used in a unit Product, when inflation is higher than the nominal rate of interest on bank deposits, PK is a proxy that here 24% seems reasonable.

PK= the shadow price rate of non-traded capital inputs=24%

Shadow Price of Tradable Inputs

Tradable inputs are the inputs which produce within the country and are exportable if they do not used and be surplus. Thus, the shadow price will be the FOB price.

Shadow Price of Exchange Rate

In order to calculating the index DRC, two shadow exchange rates are considered because the exchange rate of the Central Bank of Republic Islamic of Iran cannot reflect the real opportunity cost of foreign exchange spent on imported inputs. These scenarios are the exchange rate of free market and the transactional exchange rate.

Data Sources

In this paper, data has been extracted from the questionnaires which received from two deferent sources: 20 SMEs and 250 personal weavers that both of them are engaged in Isfahan city.

Experimental Results

Table 1 indicates calculated DRC index of small and medium enterprises under various scenarios of labor and exchange rates.

Table 1. Index of comparative advantage for small and medium enterprise

Different scenarios Shadow price of labor and exchange rate	DRC index
The first scenario of the shadow price of labor and transactional exchange rate	0.676374866
The first scenario of the shadow price of labor and free market exchange rate	0.695466092
The second scenario of the shadow price of labor and transactional exchange rate	0.718011586
The second scenario of the shadow price of labor and free market exchange rate	0.738278043
The third scenario of the shadow price of labor and transactional exchange rate	0.759648307
The third scenario of the shadow price of labor and free market exchange rate	0.759648307

After collecting data from identified small and medium enterprises in the Isfahan city, the DRC index is calculated. The results show that calculated indexes based on different scenarios of labor and exchange rates are smaller than one and as a result, there is a comparative advantage in the production of handmade carpets of small and medium firms.

Table 2 indicates calculated DRC of personal weavers under various scenarios of labor and exchange rates.

Table 2. Index of comparative advantage for personal weavers

Different scenarios Shadow price of labor and exchange rate	DRC index
The first scenario of the shadow price of labor and transactional exchange rate	0.765416221
The first scenario of the shadow price of labor and free market exchange rate	0.787020711
The second scenario of the shadow price of labor and transactional exchange rate	0.813972371
The second scenario of the shadow price of labor and free market exchange rate	0.836947397
The third scenario of the shadow price of labor and transactional exchange rate	0.86252852
The third scenario of the shadow price of labor and free market exchange rate	0.886874084

The DRC index is calculated for personal weavers based on the gathered data from identified personal weavers of the Isfahan city. Findings show that calculated indexes based on different scenarios of labor and exchange rates for personal weavers are smaller than one and it refers that the productions of handmade carpets of personal weavers have also comparative advantages.

The findings based on the DRC index of SMEs and personal weavers point out there is comparative advantage in both productions of small and medium enterprises and personal weavers.
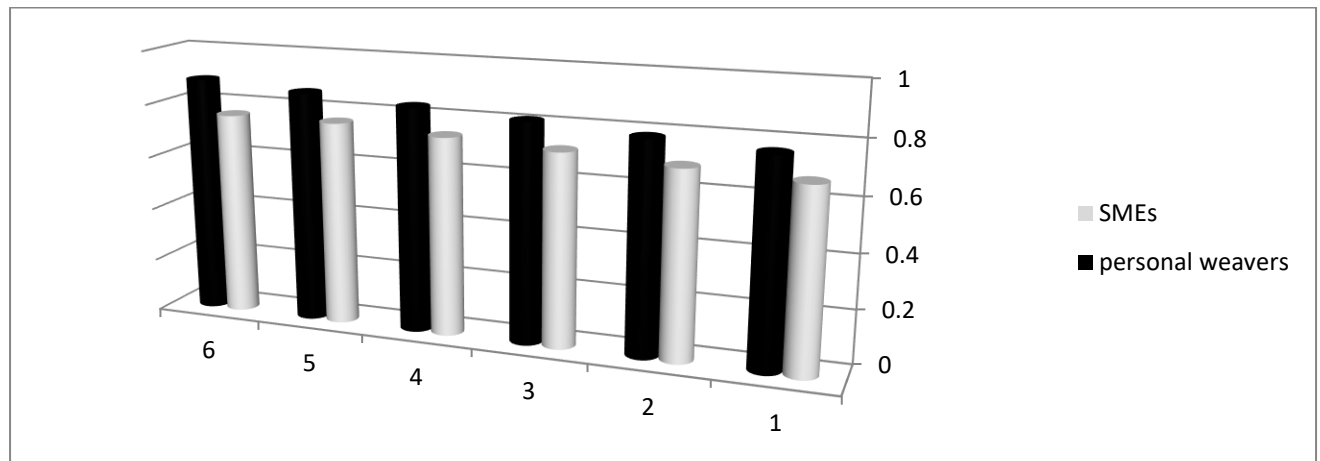
Figure 1. Index calculated for small and medium enterprises and individual production

Furthermore comparison the DRC index of small and medium enterprises and personal weaver productions shows that comparative advantage index of small and medium enterprises is smaller than the personal weavers for all scenarios and it mentions that comparative advantage of productions become better by developing the small and medium enterprises.

Conclusions

Findings show that Isfahan carpet industry generally has comparative advantage. Furthermore, breaking down of this industry to small and medium enterprises and also personal weavers and calculating DRC index for both of them indicates that small and medium enterprises have more comparative advantage than personal weavers, and expanding of these enterprises can lead to improvement of comparative advantage in this industry.

As was observed in the handmade carpet industry is an advantage, Therefore the Officials Can be focus on the handmade Carpet Industry for the Employment creation and Manufacturing industries with comparative advantage.

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