World Applied Sciences Journal 7 (5): 661-665, 2009
ISSN 1818-4952

The Study of Effective Factors on Iran Share in World Carpet Market

[1]Shahriar Nessabian, [2]Reza moghaddasi and [3]Elham Memarian

[1]Department of Agricultural Economics, Faculty of Economic and Accounting,
The Islamic Azad University, Centeral Tehran Branch, Iran
[2]Department of Agricultural Economics, Faculty of Agricultural and Natural Resources,
The Islamic Azad University, Science and Research Tehran Branch, Iran
[2]M.A. of Economics Sciences, Faculty of Economic and Accounting,
The Islamic Azad University, Centeral Tehran Branch , Iran

Abstract: One of the major economic issues in Iran is non-oil exports and its increased share in Iran economic development plans. Among these of great priority is hand woven carpet (taking into consideration serious fluctuation of oil revenues and the vast share of crude oil in the Iranian budgetary revenue). This study identifies the significant factors in increasing or at least retaining the share of Iran in the world carpet market. Using Panel Date and the Seemingly Unrelated Regression Model (compared to major competitors) this paper inspects the key parameters influencing the share of Iran in the world carpet market and infers from the results that there exists a reverse relation between the export price of the Iranian carpet and those of rival countries (India and Pakistan), instability of comparative export prices variable, foreign exchange rate and its volatility (except for India) and the Iranian share of hand-women carpet market.

Key words: Carpet Market · Share · Export · Panel data · Seemingly Unrelated Regression
JEL:C33,C87,F31,P22

INTRODUCTION

Among major economic issues in Iran, is non-oil export intended to free the national economy from single-commodity export. National economic development plans increasingly aim at increased non-oil export share as their main priority. Extreme dependence of Iranian economy on oil from, one hand and the instable and exogenous characteristic of oil prices in world market coupled with a monopolized market governing such prices, on the other hand, brings about many anomalies at the national level resulting in precarious economy prompted by decreased foreign currency reserves. Therefore, this source can not by itself trigger the national economy as dependence on so exhaustible, shall represent a blurred future for the Iranian economy. Due to low production cost and its ranking second to oil in terms of export volume, hand-women carpet has a significant role in the Iranian non-oil export. As the total national export is influenced by oil export non-oil, export is regulated by, hand-women carpet export and this further signifies the importance of studying the matter.

Controlling 50% of hand-women carpet export, Iran ranked first among the countries of the world both in terms of volume and value before the 1970's. During the past 3 decades, however, Iran has lost about 33% of its world market share (WTO 2006 Report) and other countries like India, Pakistan, China, Nepal and Turkey have managed to gain a considerable part of world hand-women carpet market [1]; in 2004 paper, "Estimation of Export Function for Pakistan Carpet Industry" during the period between 1970-2003 Khair-uz-zaman and Cameron maintained that as the dominating rival producers Iran has prompted US to ration the fixed and variable trade size. The results indicate that problems Iranian exporters have encountered have had a meaningfully positive effect on Pakistani carpet export function. In a research entitled, "A Study Of The Status Of Hand-Women Carpet In The National Economic Development and The Causes Of The Reduced Iranian Carpet World Export" Javad Harati Khalilabadi weighed up the factors contributing to the decrease of Iranian world export and identified as major factors, the advent of fresh competitors coupled with replicating Iranian designs and patterns, as far as supply

Corresponding Author: Dr. Shahriar Nessabian, Department of Agricultural Economics, Faculty of Economic and Accounting, The Islamic Azad University, Centeral Tehran Branch, Iran E-mail: nessabian@gmail.com

is concerned and the Iranian targeting only on a specific market that is European countries, as far as demand is concerned. Furthermore, frequent amendment of laws and regulations, dispersion of production centers, lack of expert control over production process and use of poor materials have made this industry vulnerable.

Since competition in the world carpet market is undergoing daily increase it essential to preserve and promote the world market of this commodity. Thus studying the export conditions of this product can enable better and more accurate planning to increase both carpet export and the share of Iran in the world market.

MATERIALS AND METHODS

The required data have been collected through library study and by referring to such accredited authorities as Central Bank of Iran, Iranian Center of Statistics, Iranian Carpet Centers Reports, Ministry of Agricultural & jahad and Islamic Republic of Iran Customs Commercial Statistics Almanac as well as the relevant databanks of the UN and The US Department of Agriculture. The related variable, Iranian carpet market share in Germany, Italy and the USA (The highest export volume of Iran is to the said three countries as the major target market which can be interpreted in terms of "*Export Volume*" and "*Export Value*" into two types i.e. meter-based and price-based.); Iranian hand-women carpet export prices compared to those of India and Pakistan, the relative instability of the export prices of hand-women carpet, the value of Iranian Rial compared to Indian and Pakistani Rupee in the target markets and the relative instability of true value of the intended foreign currency have been considered to represent independent (descriptive) variables. This study was conducted during the time period of 1980-2005 relying systemically upon "Panel Data" using Seemingly Unrelated Regression (SUR) Model.

Among particular characteristics of "Panel Data" is its high capacity to combine sequential with sporadic data while it allows for the inconsistencies occurring in different years and in view of higher adjustability, lower correspondence, higher degree of autonomy coupled with more efficiency, "Panel Data" enables improved estimation [2]. The model used in this research involves the following:

$$X_{it} = \alpha_o + \beta_1.P_{pt} + \beta_2.P_{nt} + \beta_3.V(P_P)_t + \beta_4.V(P_n)_t + \beta_5.r_{pit} + \beta_6.r_{nit} + \beta_7 V(r_p)_{it} + \beta_8.V(r_n)_{it} + \varepsilon_{it}$$

In the above function X shown as: the share of Iran in the market of the importing target countries; P_p and P_n represent the proportion of the export prices of Iranian hand-women carpet to those of Pakistan and India accordingly; r_p and r_n shown as the value of Iranian Rial in comparison to those of Pakistani and Indian Rupees in the target markets; V shown as the volatility of export prices of hand-women carpet and the relative volatility of true value of the foreign exchange[1]; "i" shown as the sporadic units index (importing countries: Germany, Italy and the USA), t is the indicator is the time sequence during 1980 and 2005, ε is distortion particle, α_o and β_i are the parameters.

It is expected that the increased price of Iranian hand-women carpet shall result in decreased demand for this commodity leading in turn to a reduced market share; so expected signs are negative while if the value of Iranian Rial should increase, given that the values of the currency of rival countries (India and Pakistan) are fixed, then the price of commodities exported from Iran will increase which will lead to decreased demand for Iranian hand-women compared to rival countries; the reverse is also true; if the value of the currencies of rival countries were to increase while the value of Iranian Rial would remain unchanged then demand for Iranian hand-women should increase. So signals anticipated for the coefficients of the comparative values of foreign exchange rates must be negative.

RESULTS AND DISCUSSION

As explained above under Research Method, variable influencing the Iranian share of the world carpet market include: Dependent Variable: Iranian share of the hand-women carpet market in Germany, the USA and Italy i.e. X_{it}, the prices of Iranian hand-women carpet vis-à-vis those of India and Pakistan, $V(P_n)$ and $V(P_p)$, the rate of Iranian Rial vis-à-vis those of Pakistani and Indian Rupees r_p and r_n and the relative instability of intended foreign exchange $V(r_p)$ and V (r_n) have been assumed to b represent descriptive variables.

[1]The variance (instability) of hand-women carpet prices and foreign exchange rates shall be calculated using the moving standard deviation of the variations. The degree of instability is calculated using the formula:

$$V_t = \sqrt{K^{-1}\sum_{i=1}^{k}(R_{t+i-1} - R_{t+i-2})^2}$$

in which V_t is the degree of variance; K is the moving average. In this study K has been assumed to be 1.

Conducted studies on descriptive variables suggest the average dependent variable of Iranian share of carpet market, *x*, in this period (1980 – 2005) to be 0.4 which implies that Iranian share of the carpet market in Germany, Italy and the USA is 40% on the average and the medium of which index is 0.42 and since the two indices are virtually equal the distribution of this variable seems symmetrical, the mean descriptive variable of P_p, i.e. the ratio of the price of the Iranian hand-women carpet to that of the Pakistani hand-women carpet is 0.58 and the average relative price fluctuation P_p, is 0.077 which accordingly indicate that the price of the Iranian hand-women carpet is on the average 0.58 of that of Pakistani hand-women carpet suggesting that during these years Iran has improved its advantage to Pakistan; in addition that mean descriptive variable of P_n, representing the ratio of the price of the Iranian hand-women carpet to that of the Indian hand-women carpet is 1.23 and the average relative price fluctuation P_n, is 0.98. The average of variables r_p and r_n are accordingly 0.11 and.0.097 which indicate that the value of the Iranian Rial against Indian and Pakistani Rupees has been low in the three target countries during these years and the mean relative currency exchange rate variation of Iran against Pakistan and India has not been significant.

After due review of the variables and before estimation of the intended model, OLS, GLS and SUR (Seemingly Unrelated Regression) were used to estimate the parameters and upon such estimation it was found that using SUR method can bring about better results.

The said model was evaluated in three linear, semi-logarithmic and logarithmic models; in the linear mode viewing that statistic D.W is 0.11 there exists positive auto correlation which was dealt with by incorporating AR (1). [3,4].

In the semi-logarithmic mode there also exists self-compatibility in view of statistic D.W and to deal with this problem AR (1) Variable was incorporated and LM test verified that the problem had been solved. In logarithmic model no coefficient of the model variables was significant expect intercept; Besides R^2 is low and self-compatibility problem is also there. Since the semi-logarithmic form brings about more favorable results, the findings of this model were analyzed; there table below indicates that model coefficients after estimation:

Variables	Coefficients
α_o	-1.44
P_p	-1.16
P_n	-0.03
$V(P_p)$	-0.09
$V(P_n)$	-0.01
r_p	-2.99
r_n	-2.95
$V(r_p)$	-3.90
$V(r_n)$	3.38

Source: Research findings

Using the semi-logarithmic forms, the moderated statistic R^2 indicates that the variables presented in the model have effectively explained about 83% of the variation of Iranian share of the target markets.

As the above table indicates, as expected, the price-related variables are of negative value which means that a single-unit increase in the ratio of the Iranian export price to that of Pakistan leads to a 1.16%-decrease of the share of Iran in the target markets (Germany, US and Italy).

Correspondingly a single-unit increase of in the ratio of the Iranian export price to that of India leads to a 0.035%-decrease of the share of Iran in the target market countries which in turn suggests that the increase of Iranian export prices against its rivals will cause Iranian share of the importing countries markets to decrease. Moreover, since Pakistan is considered a more serious rival for the Iranian export carpets in the target markets, the market shows more sensitivity toward variation of this variable and the results of similar studies further corroborate this statement [5-8]. The share of Iranian export in the world markets is significantly influenced by the relative prices and the value of the relative instability of the Iranian hand-women carpet export price against those of Pakistan and India is, as anticipated, negative. In other words, importing countries are more interested to establish trade with a more stably-priced country. Thesevariables are statically of less credibility; this, however, does not mean that relative price variation has no influence on the Iranian share of the market; and it was actually the adoption or changes of policies by rival countries that affected the process of studying the data covered by this research. As regards variables of currency exchange rates it must be pointed out that the ratio of Iranian currency rate against those of Pakistan and India and its correlation with the Iranian share of the target markets is a negative one and statistically insignificant; that is to say, a single-unit increase of this ration will result in the Iranian share decreasing

accordingly about 2.99% and 2.95%. This suggests that the increase of the Iranian currency rate represents a negative effect on the share of this country of the target markets as the increase of the Iranian currency rate against those its rivals will cause the Iranian export commodities to grow more costly and will correspondingly result in the decrease of export to target countries; while the increase of the currency rate of the rival countries will favorably affect the Iranian share of the market.

The variable of the volatility of the ratio of Iranian currency rate against that of Pakistan is of the expected value, but the variable of the volatility of the ratio of Iranian currency rate against that of India is unexpectedly of positive value which is suggestive of the enormous fluctuations of the Indian currency rate against that of Iran, leading in turn to increase of the Iranian share of the target country markets. This is a consequence of the foreign exchange policies adopted by the Indian government during the recent years, yet some studies prove that the volatility of currency rate has no significant effect on trade volume; although import and export prices seem to have been affected [9-11] other studies further confirm negative impact on a commodity share of the market [7,12,13]. Interestingly enough, less statistically reliable variables are not necessarily insignificant factors of the Iranian share of the market; such factors just fail to function as meaningfully as expected.

At present compatibility has developed to be a central issue worldwide which is commonly regarded as a tool to secure sustainably favorable economic growth. Therefore, all countries, no matter high-level or low-level developing, strive to create and maintain relative advantage and increase competitiveness of their products in the world markets. In the Iranian market, too, carpet industry has traditionally enjoyed relative advantage and world markets have long recognized Iranian carpet in such a manner that Iran is identified with carpet. For long Iranian hand-women carpet has been of high profitability and desirability for the European consumer [14]. A review of the export trend of this commodity and the share of Iran of its export over the past years indicates that the competitiveness trend of this commodity has undergone a decrease and Iranian rivals have been feeding the international markets. The emergence of new rivals and their remarkable success in increasing their shares of the international carpet markets and the decrease of the share of Iran are the most important issues calling for increased attention.

Now that India and Pakistan are considered main rivals of Iran in production, supply and export of world carpet and since they are all in the same world region (Asia), which together with, Iran represent about 62% of the world export, Iran with its long prosperous background in carpet industry, needs to make serious efforts to improve production know-how, pricing policies and promotion of market research.

CONCLUSION

With due regard to what was discussed above it can be inferred from the findings of this research that the Iranian export market share is enormously influenced by relative prices which the volatility of the Iranian currency rate against those of Indian and Pakistan also influence Iranian share of the world market which further signifies stability of the currency exchange rate of an exporting country which is also corroborated by the results of this study.

REFERECES

1. Safaeipour, M., 2004. The Study of Iran Carpet Export Trend on 1992-2002 in World Trade, vol 2,Paper Collection The 1st National Seminar Carpet Research,Ministry of trade,Iran Carpet Research Center,Tehran,Iran.
2. Levin, A. and C.F. Lin, 1992. Unit Root Test in Panel Data: Asymptotic and Finite Sample Properties. Discussion Paper No. 92-93, University of California at San Diego.
3. Gojeraty, D., 2005. Econometrics Essential, Abrishami Translator, Vol 2 Edited 3rd, Tehran University Press.
4. MacDonald, R., 1996 Panel unit root tests and real exchange rates, Economics Letters, 50: 7- 11.
5. Monsef, A., 1989. The Effect of Decreasing Rial Value Using by Calculate Price Elasticity For Carpet Export & Import Demand, Thesis M.A. Beheshti Faculty, Tehran, Iran.
6. Gotur, P., 1985. Effects of Exchange Rate Volatility on Trade: Some Further Evidence. IMF Staff Papers, 32: 475-512.
7. Koray, F. and W.D. Lastrapes., 1989. Real Exchange Rate Volatility and U.S. Bilateral Trade: A VAR Approach. The Review of Economics and Statistics, 71: 708-12.

8. Langley, S.V., M. Giugale, W.H. Meyers and C. Hallahan, 2000. International Financial Volatility and Agricultural Commodity Trade: A Primer. American Journal of Agricultural Economics, 82: 695-700.
9. Hooper, P. and Teven W. kohlhagen., 1978. The Effect of Exchange Rate Uncertainty on the Price and Volume of international Trade. Journal of International Economics 8 (November).
10. Asseery, A. and D. A. Peel, 1991. The Effect of Exchange Rate Volatility on Exports. Economics Letters, 37: 173-77.
11. Pozo, S., 1992. Conditional Exchange-Rate Volatility and the Volume of International Trade: Evidence from the Early 1900s. The Review of Economics and Statistics, 74-2: 325-29.
12. Chowdhury, A.R., 1993. Does Exchange Rate Volatility Depress Trade Flows? Evidence From Error-correction Models. Review of Economics and Statistics. **000-000**
13. Cushman, D.O., 1983. The Effects of Real Exchange Rate Risk on International Trade." Journal of International Economics, 15: 45-63.
14. Doniadideh, A., 2001. The Study of Fall Reasons of Iran Carpet Economics Value in Europe Market, Research Report of Ministry of Jahad e Sazandeghy, Carpet Research Center,Tehran, Iran.