The Study of the Effects of the Increasing Exchange Rate on Country Industries Export

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Abstract: In today's world that globalization is one of the most developments in process each country needs to commercial strategy to stay in global markets and gain more market share or at least to keep present situation and this is demands that country would have exact knowledge about the structure of market and the development in any part of time. Otherwise, it's going out from competition circulation in new world convergence movement. In the free economy, exchange rate have a key role in keeping or eliminating on important part of home industries as non-optimal exchange rate shows welfare negative effects through eliminating home industries competition power and waste of capital and unemployment. So, beneficent of exporters, importers and exchange rate are 3 sides of a triangle that has become one of the most controversial of economic issues. So in this study, we first by examining the concentration index between large industries of Iran, examine the quality of market distribution between present organizations in the industry and after knowing their effects and separate industries in to competition levels and monopoly, we will examine the effects of increasing exchange rate on export at each group of separated industries. For this reason, we specified export supply function to them and in next level will proceed to evaluate this effects with use of panel data procedure. In this study, statistical sociology is 2 digit subgroups of industry in last international classification emending of occupation (ISIC) and examined in period of 2000-2008. Observed results indicates that export exchange rate do as a incentive export and has meaningful effect in exchange income and tension export in comparison with increasing exchange rate that is more than industries with high concentration rate in competitive industries.

Key words: ISIC, competition levels, globalization, commerical, exchange rate, circulation

INTRODUCTION

One of the most important, Iran economy subject had been non-oil exports and to be done considerable studies in field of non-oil exports position in country economy and in aspects of increasing produced capacity, creating job and also creating exchange income. Despite of all these issues, we still cannot reach to concrete movement in expanding it and this is in conditions that the income of non-oil export is not to be comparable with the income of crud oil export.

On the other hand in country export basket, the most share of exchange income of country non-oil exports is related to exports of traditional and agricultural products and in industry sector not only the amount of exchange gross income is in consequence of industry export is not considerable but also obtained exchange has not considerable to supply the cost of the import of industries mediator row materials. Such situation certainly confront us with predictable challenges in near future because in today's world that globalization is one of the most

important process, each country needs to commercial strategy to stay in global markets and gain more market share or at least to keep present situation and this is demands that country would have exact knowledge from the structure of market and development in any part of time, otherwise it go out from competition circulation in new world convergence movement. With examining the economy of developed and industrial countries, we found that one of the major and common features of these economies is their size and extensive scale. Another character of countries is their confidence to competition and fight with monopoly. Life history is always observing special classes effort for obtaining exclusive position in different and in economic aspect which it is accompanied by the reactions of people and government. By the emergence of classical school and views publication and Adam Smith's views to be criticized by government's meddling in economic affairs.

He thinks that best government is the smallest one and if confidence to market social welfare be maximum but there is a question that to what extend the market is able

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to recognize scarce reasons for satisfying the needs effectively. Numbers of economists believes that market system has not suitable function under certain circumstance. It means that is cannot recognize resources well therefore, social welfare become in lowest level of ideal border. Competitive performance of acceptable measure and criterion from of economists is for evaluating economic performance. Otherwise, the extend of market reaction be far from competitive performance inefficiency is to exist in same extend.

In recent years in Iran especially during economic, social and cultural programs emphasized on increasing efficiency and developing competition in economic. Also, the concept of deregulation and privatization are with expanding the competition has been regarded so, much but investigation shows that despite of plans for shrink government and weakness monopolies of a significant situation has not resulted necessary preparation prediction. On the other hands, peak and down of economical conditions depends on various factors that only paying attention to all aspects and providing them and can set the country in terms of economic development. Beneficent of exporters, importers and exchange rate are 3 sides of a triangle that has become one of the most controversial of economic issues. However, the exchange rate is stabilized about 10 years in the country and in all these years rate of inflation was higher than world rate of inflation and the pressure of this situation on cost priced goods cause to decreasing purchasing power and increasing cost of living.

MATERIALS AND METHODS

Theories of industrial concentration index: Up to now different and even opposed ideas presented from different researchers for measuring and investigation concentration. Marxist researchers have been attention to concentration matter in their analysis about the economic law of society motion. Marx is attribute the capital concentration to technology changes in his writing. production is possible in large scale with improved and developed technology and larger organization decrease prices and to give out smaller and costly competitors. The researchers believes that Marx helps to emerge stock companies and reliable financial markets in concentration capital process with a limited number of organization so, from the point of number followers of Marxist school view increasing of concentration is unavoidable result of technological factors and crisis that is because of the companies competition. Galbraith (1956) has believed that modem technologies has been longer the period of investment and moreover these technologies claim more

flexible production methods, strong and cohesive organization and too much capital. Therefore, using modem technology needs strong management and company and the companies that intend to use it should become dominant to the market and it's result is activity in large-scale that finally lead to market concentration (Galbraith, 1956).

Williamson (1963) has believed with emphasize on the role of organization and management that management innovations and use of multi-sector organizations reduce their management problems and to give a possibility to large organizations increase their size without decreasing efficiency. In his opinion a large organization can have similar function of a small capital market for producing various production because it is possible that transfer capitals from unprofitable to profitable activities quickly concept of concentration.

On experimental studies often used the concept of concentration in the structure of industries and markets to judge about competition degree and monopoly in every market, so with study of concentration concept may can obtain market distribution dependent organizations. Market concentration is market distribution manner between different organization or in the other word market concentration shows that how much of the total marker products from a particular product is in hands of the limited number of a large organization. Therefore, may can say that the concentration market is a market that controlled with a limited number of organization and devoted the most shares.

Introducing of concentration indexes: Now will introduce the concentration indexes after knowing those items. Concentration indexes should present the information about the number of organization and the way of market distribution between them and in fact show the complete picture of market structure in the form of specified number. Different criteria have been identified that may can determined organization distribution and dispersion point with them. Researchers can refer to the most important indicators such as inverted index of organization number, concentration ratio index, Shannon first phase of entropy index, N organization index, Herfindal-Hirshman and Hannah. k index that we introduce Herfindhal-Hirshman index between them.

Herfindhal-Hirshman index: This index is the sum of squared from selling share of production organization in one industry in sale multiple exclusive market (Herfindhal, 1950; Hirshman, 1964). We assume that organizations produce homogeneous goods and sale them in same price in market so, the price of goods is ineffective in

concentration factor. We consider I organization that sell Qi amount in same price so, selling share become $S_i = Q_i/Q$ that Q is industry supply on it. Now, because the goods product of organizations are same so, it will have same price and therefore selling value share become $M_i = Pq_i/PQ$ and it is equal to Si value share. For i organization squared selling share is S2i and based on it Herfindal index is defined as:

$$H = \sum_1^n S_i^2$$

Considering that in index structure, organization selling market to obtain the cube of a number may can result that large organizations have more effect on this index or in other hand get more importance to large organizations in index structure. This index have to be used a lot in policy making against monopoly and in creating competition process. One of the form of this index can be demonstrated as follow:

$$H = \frac{c^2 + 1}{n}$$

That c indicates distribution variation coefficient (employment or added value) between industry organization and will have this relation for being familiar with how to extract. We know:

$$H = \frac{\sum X_i^2}{X^2}$$

from the definition of H index. In the other hand, coefficient of sale distribution variation between industry organization is defined as follow:

$$C = \frac{\sigma_x}{\overline{X}}$$

that σx is sale standard deviation and X is the average selling organization and σ_x^2 is variance;

$$\sigma_x^2 = \frac{\sum X_i^2}{n} - \overline{X}^2$$

then we have:

$$C^2 = \frac{\sigma_x^2}{\overline{X}^2}$$

By using above relation, we write relation as follows:

$$C^2 = \frac{\left(\frac{\sum X_i^2}{n}\right) - \overline{X}^2}{\overline{X}^2} \Rightarrow C^2 = \frac{\sum X_i^2}{n\overline{X}^2} - 1$$

Now with considering:

$$\overline{X} = \frac{\sum X_i}{n}$$

we will have:

$$C^2 = \frac{\sum X_i^2}{n(\sum X_i^2)/n^2} - 1 \Rightarrow C^2 = nH - 1$$

$$H = \frac{c^2 + 1}{n}$$

By considering this relation to be observed that H index is function of unequal market distribution between organizations and the number of them.

RESULTS AND DISCUSSION

In this study, standard classifications are used for determining market borders and can determined it with considering 2 digit subdivisions. Whereas we measure concentration in every industries and will use variables such as production value, added value and employment. To mention that in current review will use HH index. In the amount of concentration has been inserted in a 2 digit industries scale in terms of HH index.

In Table 1-3, the concentration index is in terms of employment, added value and sale value. To mention that in this study, industries have been inserted in high level of in excess that means it is in a 2 digit scale codes. Therefore, it is expected that concentration size is much >3 or 4 digit industries. Because, the size of

Table 1: Herfindal index based on added value, sales value and employment in 2008

Employment	Sales value	Added value	Industries
167.77	164.73	163.45	Nutritive
245.28	258.65	261.87	Textile
235.51	284.85	261.51	Clothing
1173.08	1198.05	1225.97	Wood
1061.41	1079.06	1054.37	Paper
242.56	356.20	343.95	Distribution
1029.91	1028.26	1105.35	Chemical
367.80	379.05	370.06	Elastic
1090.95	1132.20	1019.03	Mineral
1101.81	1281.37	1258.92	Basic
340.79	308.32	315.11	Fabric
1094.25	1010.45	1008.93	Machinery
1076.64	1130.21	1124.29	Electricity
1037.49	1082.36	1149.86	Transport

Table 2: The estimated results for industries with Loose oligopoly degree

Variables	A	PV	EXC	EL/SI		
Index	-1002.200	0.241	0.424	0.45		
t-student statistic	3.185	5.21	3.924	2.52		
Sub sector of industry	Nutritive	Textile	Elastic	Distribution	Clothing	Fabric
Random effects	2190	-1877	-2525	1021	2982	-1907
D-W = 1.85; $R^2 = 0.94$						

Table 3: Estimated model results for industries with tight Oligopoly degree

Variables	a	PV		EXC			EL/SI
Index	-2.1121	0.331		0.124			0.745
t-student statistic	421.2000	5.242		3.125			2.952
Sub sector of industry	Wood	Paper	Chemical	Mineral	Basic	Machinery	Electricity	Transport
Random effects	2106	2088	1274	1794	2928	1021	2982	1907

D-W = 1.85; R^2 = 0.94

concentration is decreasing function from the number of companies and is non decreasing function from the distribution of market share between different companies.

So, since the number of companies in industries by far is >3 or 4 digit, industries to be expected that concentration size is small in 2 digit industries. Effect of exchange rates on the country's export industries (with emphasis on industrial concentration index size). By examining, these (Table 1-3) can be noted the following:

- Herfindral indexes show roughly similar picture in term of employment, variations, sales and added value
- Industries of motor vehicles production, production of basic metals and study productions in terms of sales and added value are more concentration than other industries. However, the food production industry has lowest concentration or in the other word is the most competitive industry between different industries
- Electric generation production industries have a special feature among different industries that the concentration decrease in terms of two variables, added value and sales value and are more competitive in 1382 in comparison with 1375

Considering the number of factories and businesses in each of these industries can be found that the number of factories in concentrated industries is much less than the number of factories in decentralized industry. As has been said the easiest and most practical way to judge the competition and monopoly is concentration size. Accordingly, the markets can be divided in to different types that the monopoly and competition are 2 extreme modes and other modes are between these 2 groups. These groups can be divided to dominant organization, hard multiple exclusive, weak multiple exclusive and competitive exclusive based on market segmentation (Shepherd, 1972).

Also it's better to be careful for judgment about the importance of monopoly and competition in the markets because the monopoly and competition to various factors such as the difference of goods, prevent entry or benefits dependent scale. As the competition size and being monopoly to determine the results of mentioned effects. On this base to express in market matter is not so, exacting

with total considering on concentration size. However, in the most experimental researchers has been used concentration size as easiest and most suitable function to judge of markets for being competition or monopoly.

Now after determining concentration size of industry will divide Iran industry based on Shepherd suggestive pattern. Based on this pattern markets is divided to 3 groups: competitive, loose oligopoly and tight oligopoly. Based on this division industries with a Herfindal index are set on competitive market category that is <100. If this index is sited between 100 and 1000, industries with oligopoly nature will be named loose oligopoly and the markets with concentration >1000 are set on tight oligopoly or monopoly.

Based on this division we see that the most of Iran industries are set in industry category with oligopoly nature. It's necessary to say that tight oligopoly is the market that are 4 large organizations that are totally 40% of whole market and however, it's impossible association and combination over determining the price.

The relationship between market structure and industrial concentration index with product export: Generally, export supply function depends on factors such as exporting price of product, internal price and internal products.

$$X_t^s = f\left(PX_t / P_t, Y_t\right)$$

where:
X^s = The amounts of export supply
PX = The price of goods export
P = The goods internal price
Y = The amount of goods product in country

So, the factor of the export supply is in form of following:

$$\ln X_t^s = \beta_0 + \beta_1 \ln(PX/P)_t + \beta_2 \ln Y_t + U_{4t}$$
$$\beta_1 \succ 0 \qquad \beta_2 \succ 0$$

where:
PX = Index of goods export price
P = index of goods internal price
U_4 = Error term

Its supposed that when the export price increases in comparison with internal prices, production becomes more profitable in exportation and the exporters supply more

productions so, both factors of β1 and β2 variables are positive. In this study, we first evaluate the variable effect on the concentration index in the form of common equation of the whole industry export supply on earned incomes from exportation and we identify how the market rates influence on it.

At the next step, in order to analysis the effects of increasing exchange rate on exclusive and competitive exports to aboard. We specify the function of the export supply for them as follow:

$$EV = f\left(\frac{EI}{SI}, EXC, PV\right)$$

$$\log EV = \beta_1 \log\left[\frac{EI}{SI}\right] + \beta_2 \log EXC + \beta_4 \log PV$$

That in this model:
EV = Realistic value of industry exports
EI = Export price index
SI = Ware housing price index
EXC = Exchange rate
PV = Realistic value of industries products

Therefore, this model is processed logarithmically thus the resulting factors are indicates tension. Also, this model will be estimated separately for different systems of markets.

Process model results: According obtained results from Hausman test, the most suitable model for all kinds of industry is the model that is based on random effects pattern. This pattern processing results shows that 1% increasing in industrial production led to 0.24% increasing in industry export value.

Also, in this equation than prices ratio (exchange relation) is completely meaningful so, related coefficient to exchange relation that actually shows the ratio of exchange relation changes, indicates that 1% increasing in exchange relation lead to 0.45% increasing of exchange incomes from industries exports. Also, as we seen exchange rates export is as encouragement of export and have meaningful effects in exchange incomes that 1% increase in the exchange rate makes 0.424% increase in exchange incomes from industry exports.

Reviewing the model process observed that the model is lacking self correlation (D-W = 1.85) and have high R^2 and is equal to 0.94%. The amount of random effects of industry various sub divisions shows that all of them are very different from the amount of latitude of origin. So, there are a number of omitted variables that are different between various industry subdivisions. From the

common latitude of origin is related to clothing product sector and most of the negative random deviations from the common latitude of origin is related to elastic product sector. Also, estimated function shows the production tension that is positive in industries and the increasing of industrial production cause to increase the value of exports.

In other words, 1% increasing in industrial production caws to 0.33% increasing industry export values. Also in this equation, prices ratio (exchange relation) is completely meaningful and related coefficient with exchange relation that in fact shows export tension to exchange relation changes ratio and indicate percent increasing in exchange relation cause to 0.745% increasing in exchange incomes from industrial exports. As observed the export exchange rate do as encouragement of export such as other industries and have meaningful effects on exchange in come and it means that 1% increasing in come from industrial exports. As we seen export tension comparison to in creasing of exchange rate in more competitive industry is more than industries with high concentration. This could be that exchange rate liberalization is against imports and motivation in parallel of encourage exports such as a barrier.

On the other hand, concentration industries often are not attractive in foreign markets and it is because of that these industries with monopolizing internal market have less attention to marketing, advertising principles and research and development. Therefore, they are further back from other competitors in international competition. So, with considering of import decreasing and internal demand increasing also being unattractive of export for them and this group of industries are acting more powerless and slower in comparison to competition industry in export field.

By surveying model process can observed that model is lacking of auto correlation [D-W = (1.87)] and have high R^2 and is equal to 96%. In estimated model common latitude origin is -1121.2 and is equal to all latitude origin $(\alpha_i - \alpha + u_i)$ and shows indeterminate deflection error u_i in latitude of origin from this average. The amount of random effect of various sub division of industry that all of them have a lot of common differences in latitude of origin so, a number of omitted variations are different between different sub divisions of industry.

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