Abstract OF THE THESIS

Under the Title:

Globalization and Its Effects on Iran’s Agriculture

Submitted to

Department of Economics,
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1. Introduction
Globalization is an inevitable phenomenon which is advancing at a high pace and affecting the economics of all countries.

The process of Globalization sends the world economical, political, social, and cultural alterations. In a very simple language, Globalization of economy may be defined as the further integration of national economy into global economy in which attention is given to all aspects of the problems related to the economy. Further integration has had many effects on the production structure of national economies, the role of multinational corporations, Foreign Direct Investment, Interdependence between all Nations of this world etc.

Iran’s economy has been shaped by oil export, so that industry and service sectors are basically dependent on oil incomes. We cannot say that the agricultural sector is independent of oil incomes but the volume of this dependency is limited as compared to the others sectors. This situation shows that agriculture sector, being the smallest sector has an effective role in shaping Iran’s economy.

The importance of the agricultural sector in Iran’s economy is widely accepted. Its production capacity is enormous and capable of being supplied into international markets. This sector shares 13.7 percent of Iran’s GDP about 25 and 20 percent of occupation and Iran’s non-oil export respectively, in 2004.

2. Objectives of the study
The main object of this research is to examine the economic effects of Globalization and the trade openness on Iran's agricultural sector. The researcher could reach the following objectives during the research.
• To review the agricultural exports and imports policies in Iran during the period from 1980 to 2004.

• To survey the impact of economic liberalization and privatization policy on the performance of agricultural export and import during 1980-2004.

• To study the future prospects of agricultural products, exports and imports.

3. Hypotheses / Questions of the study
   i. There is a meaningful difference between the quantity of agricultural product after and before 1995.
   ii. There is a meaningful difference between the quantity of agricultural exports after and before 1995.
   iii. Does the trade openness affect the growth of Iran’s agricultural products during 1980-2004?
   iv. Is Globalization of Economy effective on growth of Iran’s agricultural exports during 1980-2004?

4. Scope of the Study

   In this study, we have investigated the impacts of globalization and the trade openness on Iran’s Agricultural sector during 1980 to 2004.

5. Methodology of the Study

   This study is basically conducted through the analysis of all the available secondary data related to the agriculture sector. In this study, the researcher has used the time series annual data for the period 1980 to 2004 and also used the simple average methods, analysis of variance, F-test for overall significance of a multiple regression, student’s t test for comparison of means, simple and multi
coefficient of determination, ratio, graphs and simple Growth Rate to analyze the
data and the results. Data will be processed with the help of the SPSS16 and
Eviows5.1 programs of personal computers. P-values will be two-tailed, the value
lesser than 0.05 will be considered significant. In addition to, the researcher has
used the soft-wares like Microsoft Excel 2007 and Microsoft Word 2007 for a
better presentation of Hypotheses/questions, Bar Charts, Curves and Tables at
different occasions.

5.1. Data collection:

The secondary data were collected from various statistics and information
published by Ministry of Agricultural sector, Iranian Agricultural Magazine,
Iranian News Papers, Books about agricultural sector. However, the main source
of data, which is used in this study comprises:

i. Documents from the Ministry of Economic and Finance Affairs of Iran.

ii. Social and Economic Indicators for Iran.

iii. World Bank Statistics – Iran.

iv. Four, five – year Economic Development Plans.

v. Central bank of the Islamic Republic of Iran, and its Annual report.


6. Limitations of the Study

i. Quantification of impact was not always possible. Thus, quantitative analysis has
   been done to a great extent in the study.

ii. There was a lack of information and data in Iran.

7. Chapter Scheme
The study is divided into six chapters as follows:

The first chapter is devoted to the declaration of the definition of Globalization, the Objective, Methodology, Hypotheses or Questions and Limitations.

The second chapter is devoted to literature review of globalization of economy and its relevance to this research.

Chapter three studies the Theoretical Discussion on Globalization of Economy (the Basis of International Trade), Measuring of the Globalization of economy, T-Test and F-test.

Chapter Four analyzes the Place of Agricultural Sector in the Economy of Iran. In brief, we can mention the importance of agriculture in the economic development of countries as under:

1. Supplier of substantial food and raw materials.
2. In addition to supplying food, it provides large amount of the raw materials for industrial sector.
3. To import of capital goods, it produces and exports surpluses in order to earn the foreign exchange.

Finally, it is a supplier of production factors such as capital, labor and land for industrial sector.

Chapter five analyzes and investigates the effects of globalization of economy on Iran's agricultural sector. This chapter attempts to analyze Statistical data and test hypotheses/questions. The statistical data shows the quantity of Production, Export and Import in Iran’s agricultural sector during 1980 to 2004 period (as shown Table 1)
Table 1: Exports & Imports of Agricultural Sector, LIT, IIT and Agricultural Products

<table>
<thead>
<tr>
<th>Year</th>
<th>Import*</th>
<th>Export*</th>
<th>LIT**</th>
<th>IIT**</th>
<th>Agri-Production***</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>2774.9</td>
<td>159</td>
<td>0.03</td>
<td>0.108</td>
<td>20730</td>
</tr>
<tr>
<td>1982</td>
<td>2492.4</td>
<td>137.2</td>
<td>0.036</td>
<td>0.104</td>
<td>22206</td>
</tr>
<tr>
<td>1983</td>
<td>2816.3</td>
<td>156.7</td>
<td>0.051</td>
<td>0.105</td>
<td>23217</td>
</tr>
<tr>
<td>1984</td>
<td>2689.1</td>
<td>177</td>
<td>0.056</td>
<td>0.124</td>
<td>24922</td>
</tr>
<tr>
<td>1985</td>
<td>2090</td>
<td>228.4</td>
<td>0.051</td>
<td>0.197</td>
<td>26890</td>
</tr>
<tr>
<td>1986</td>
<td>1460.8</td>
<td>393.9</td>
<td>0.048</td>
<td>0.425</td>
<td>28168</td>
</tr>
<tr>
<td>1987</td>
<td>1672.6</td>
<td>448.6</td>
<td>0.07</td>
<td>0.423</td>
<td>28868</td>
</tr>
<tr>
<td>1988</td>
<td>1586.8</td>
<td>394.2</td>
<td>0.066</td>
<td>0.398</td>
<td>28683</td>
</tr>
<tr>
<td>1989</td>
<td>3179.1</td>
<td>483.9</td>
<td>0.133</td>
<td>0.264</td>
<td>29926</td>
</tr>
<tr>
<td>1990</td>
<td>2676.1</td>
<td>455.8</td>
<td>0.122</td>
<td>0.291</td>
<td>33227</td>
</tr>
<tr>
<td>1991</td>
<td>2666.8</td>
<td>636.7</td>
<td>0.124</td>
<td>0.385</td>
<td>35094</td>
</tr>
<tr>
<td>1992</td>
<td>2586.1</td>
<td>690.7</td>
<td>0.118</td>
<td>0.422</td>
<td>38704</td>
</tr>
<tr>
<td>1993</td>
<td>2664.2</td>
<td>833.3</td>
<td>0.149</td>
<td>0.477</td>
<td>39077</td>
</tr>
<tr>
<td>1994</td>
<td>1957.1</td>
<td>1085</td>
<td>0.192</td>
<td>0.713</td>
<td>39902</td>
</tr>
<tr>
<td>1995</td>
<td>3522.8</td>
<td>1067.4</td>
<td>0.364</td>
<td>0.465</td>
<td>41381</td>
</tr>
<tr>
<td>1996</td>
<td>2960.7</td>
<td>951.6</td>
<td>0.336</td>
<td>0.486</td>
<td>42742</td>
</tr>
<tr>
<td>1997</td>
<td>2989.5</td>
<td>813.1</td>
<td>0.34</td>
<td>0.428</td>
<td>43162</td>
</tr>
<tr>
<td>1998</td>
<td>2508.7</td>
<td>898.3</td>
<td>0.379</td>
<td>0.527</td>
<td>47722</td>
</tr>
<tr>
<td>1999</td>
<td>2755.2</td>
<td>876.2</td>
<td>0.518</td>
<td>0.483</td>
<td>44238</td>
</tr>
<tr>
<td>2000</td>
<td>2803.6</td>
<td>829.3</td>
<td>0.48</td>
<td>0.457</td>
<td>45774</td>
</tr>
<tr>
<td>2001</td>
<td>3020.5</td>
<td>863.6</td>
<td>0.502</td>
<td>0.445</td>
<td>44738</td>
</tr>
<tr>
<td>2002</td>
<td>1972</td>
<td>1002.4</td>
<td>0.414</td>
<td>0.674</td>
<td>49818</td>
</tr>
<tr>
<td>2003</td>
<td>2615.9</td>
<td>1355</td>
<td>0.518</td>
<td>0.682</td>
<td>53362</td>
</tr>
<tr>
<td>2004</td>
<td>2820.6</td>
<td>1158</td>
<td>0.504</td>
<td>0.582</td>
<td>54521</td>
</tr>
</tbody>
</table>

Sources:  *FAO Trade Yearbooks (Thousand US Dollar) & Central Bank of Iran
          ** Calculations of the Research
          ***Added value of Agriculture at basic prices_1997(billion Rials)
7.1-Agricultural Productions, Exports and Imports:

According to table 1, despite fluctuations in Agricultural Productions, Exports and Imports, their trends have a general increasing trend during 1980 to 2004 period.

After having discussed the explanation of Production, Exports and Imports in brief, we are now in a position to analyze the globalization of economy process and its effects on Iran’s agricultural sector through the using of the two indicators, (i.e. Level of International Trade (LIT) and Integration of International Trade (IIT)) shortly. Finally, the researcher will answer to the questions or hypotheses of the study.

7.2- Studying Globalization Process in Iran’s Agriculture and Measuring Globalization of Agriculture

One of the valid indexes which have been employed as the criterion of the globalization of economics in most studies is the inter-industry trade index (IIT), which is also called the Integration of International Trade.

Makhija, Kim and Williamson (1997), in a study on chemical industries have used this index together with Level of International Trade index (LIT) as the criteria of globalization. This index has been used in Iran by Mehrara and Rustemian (2003), Kalbasie and Majidi (1998) and Komijani and Nouri (1999) in order to evaluate the globalization of economy.

The first criterion is named as the Level of International Trade (LIT) which shows the expansion of international communication in a certain industry or field. The mentioned parameter is thus calculated:
\[
\text{LIT} = \frac{X_t + M_t}{P_t + M_t - X_t}
\]  
\[\text{(1)}\]

In the above formula, the LIT stands for the Level of International Communication, \(X_t\) for Exports, \(M_t\) for Imports, and \(P_t\) for Products of industry or field. The smaller value of the LIT implies that the import/export mode is not an important aspect of the industry or field; that is, regarding its production volume it does not participate much in trade. Although the LIT is an essential parameter, it is not sufficient for measuring the globalization of economy.

The second criterion called as the Integration of International Trade (IIT) is employed in measuring the global integration of industry. This criterion which in fact is Grubel and Loyd’s standard parameter is thus formulated:

\[
\text{IIT} = 1 - \frac{|X_t - M_t|}{X_t + M_t}
\]  
\[\text{(2)}\]

In this formula, IIT ranges between zero and one. Zero indicates the absence of trade within the industry or field; that is, trade is only confined, in this case, to import or export. And “1” indicates a complete trade within the industry; that is, import equals export.

The present research uses the two IIT and LIT criteria as the index for the evaluation of the level of Iran agricultural globalization and the trade integration of Iran’s economy into universal economy as well. In addition to, we have used the econometric models to determine the relationship between globalization and Iran’s agricultural products and exports.
As mentioned earlier, many of the key factors of the process of globalization economy does not affect Iran’s agricultural sector. That is because Foreign Direct Investment which almost do not exist. Therefore, in Iran’s agricultural sector, globalization can only be analyzed from the trade (Import & Export) aspect. In which case, the two indices (LIT & IIT) which cover this aspect of the globalization of economy will be further focused on. In order to calculate the Level of International Trade (LIT) index according to the equation 1 we need to have the values of imports, exports and the agricultural production at our formula. Thus for calculating the Level of International Trade (LIT) index, we can analyze the extent of the international communication of the sector. The LIT index was calculated in the unofficial exchange rate throughout the 1980-2004 periods and is provided in figure 1.

It could be summarized that, because of the significant growth in the agricultural production and decrease or at least non-growth in its commercialization, this index indicates Iran’s agriculture’s distancing from the commercialization process.

After 1995, with the enforcement of the liberalization policies, the agricultural exports enjoyed a significant growth, and the agricultural imports nearly reduced. Therefore, the value of LIT index increased insubstantially and that is on account of the amount of the agricultural trade in comparison with its domestic production has been trivial, which indicates that, Iran’s agricultural sector has developed less towards convergence with the global economy. Nevertheless fluctuations in LIT index, the trend-line LIT index has a general increasing trend and the small growth came into light since 1995 relates to the small increase in the exports of the agricultural products.
The integration of international trade (IIT), being the second criterion, is calculated in the equation 2 and provided in figure 1.

This equation is only based on trade (import/export) and the production of the sector is ineffective in it. The value of this index is rather poor in the period of years 1981-1985 indicating that the imports and exports of agriculture, as shown in table 1, is not consistent in balance and the imports of agriculture is more than exports of agriculture during 1981-1985 period.
From 1986 to the end of 1994, the trade balance of the agricultural products partly became better and Integration of International Trade (IIT) index began to increase due to the increase in exports (resulted from the encouragement of non-oil exports) and decrease in imports (resulted from the critical situation of the foreign exchange income) and the Integration of International Trade (IIT) index has continuously been increasing, which is shown in figure 1 and table 1. Therefore, the globalization process index has begun to accelerate. After 1995, the more imbalanced imports and exports got, the more did the globalization parameter declined again. The fall-off process of globalization of economy lasted until 2001, and then the trade balance of the agricultural products became better and this parameter (IIT) began to increase due to the increment in exports and the decrease in imports during 2002 to 2003. Thus, the globalization process parameter began to climb. Despite some fluctuations in the Integration of International Trade (IIT) index, the trend-line IIT index also has a general increasing trend especially after 1995 (fig. 1). Imports / Exports values of the sector are shown in table 1 along with LIT and IIT indices.

7.3- Hypothesis Testing:

The t-test is probably the most commonly used Statistical Data Analysis procedure for hypothesis testing. If there is a less than 5% chance of getting the observed differences by chance, we reject the null hypothesis and say we found a statistically significant difference between the two groups.

Testing of The first hypothesis/question of research:

The first hypothesis/question of research is as follow:
Is there a meaningful difference between the quantity of agricultural products after and before 1995?

Null Hypothesis Testing, $H_0$, is calculated by the t-test using *SPSS* and its results are shown by table 2.

Here, we want to test $H_0: \mu_A = \mu_B$ against $H_1: \mu_A \neq \mu_B$ at level of significance 5%
contains of all the values of statistic for which $|t| > t_{22; 0.025}$.

Where,

$\mu_A = \text{The Mean of agricultural products after 1995}$ and $\mu_B = \text{The Average of the agricultural products before 1995}$.

$|t_{22}| = 7.941$ [Calculated value]

$t_{22, 0.025} = 2.0739$ [Table value]

$\alpha = 0.05 \rightarrow \alpha/2=0.025$ \hspace{1cm} $p \ (3231150 \leq \mu_D \leq 5515390) = 95\%$

Here, $|t_{22}| = 7.941$ (calculated value) $> t_{22, 0.025} = 2.0739$ [Table value]

We reject $H_0$ at 5% level of significance we conclude that There is a meaningful difference between the average of agricultural products after and before 1995. Also, the positive sign of $T$ -calculated value shows that there is not only a meaningful difference between $\mu_A$ and $\mu_B$ but also $\mu_A$ is more than $\mu_B$.

**Testing of The second hypothesis/question of research:**

The second hypothesis/question of research is as follow:

There is a meaningful difference between the quantity of agricultural exports after and before 1995.
Table 5.2: Independent Samples Test

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig. t df Sig. (2-tailed)</td>
</tr>
<tr>
<td>productions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>2.111 .160 7.941 .000</td>
<td>4.37327E6 5.50720E5</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>8.450 21.990 .000</td>
<td>4.37327E6 5.17554E5</td>
</tr>
<tr>
<td>exports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.744 .200 5.284 .000</td>
<td>532.89000 100.85372</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>5.730 21.545 .000</td>
<td>532.89000 92.99584</td>
</tr>
<tr>
<td>imports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>2.680 .116 2.102 .047</td>
<td>417.50000 198.62801</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td>2.203 21.880 .038</td>
<td>417.50000 189.48474</td>
</tr>
</tbody>
</table>

Also, in this case methodology is the same which is explained about hypothesis one.

Where,

\[|t_{22}| = 5.284\]  \([\text{Calculated value}]\)  \((\text{as shown in table 5.2})\)
\[ t_{22,0.025} = 2.0739 \]  
[Table value]

\[ \alpha = 0.05 \rightarrow \alpha/2 = 0.025 \quad \text{p (323.73} \leq \mu_d \leq 742.04) = 95\% \]

We reject \( H_0 \) at 5\% level of significance we conclude that There is a meaningful difference between the average of agricultural exports after and before 1995.

**Testing of the third hypothesis/question of research:**

Does the trade openness affect the growth of Iran’s agricultural products during 1980-2004?

To answer to this question, we have estimated the following model by using of Eviews5.1.

\[ \text{Ly}_t = 0.481 + 0.048 \text{Ltot}_t + 0.165 \text{LTO}_t + 0.018 \text{Lex}_t + 0.960 \text{Ly}_{t-1} \quad \text{(A)} \]

\[ \text{S.E} = 1.1743 \quad 0.0246 \quad 0.0660 \quad 0.0353 \quad 0.1357 \]

\[ t = (0.4099) \quad (1.9657) \quad (2.5075) \quad (0.5170) \quad (7.0742) \]

\[ \text{Prob} = (0.687)^* \quad (0.066)^* \quad (0.023)^* \quad (0.612)^* \quad (0.000)^* \]

\[ R^2 = 0.98, \quad \text{F-statistic} = 163.047, \quad \text{prob.(F-statistic)} = 0.0000 \]

Due to, our model is a five-variable model. Thus Degree of freedom is: Degree of freedom (d.f.) = N - 5 = 24 - 5 = 19 and \( \alpha = 0.05 \rightarrow \alpha/2 = 0.025 \)

Where

\[ \text{Ly}_{t-1} = \log (y_{t-1}) = \text{(log of) Previous Value of Production of Agriculture sector in Iran} \]

\[ \text{Ly}_t = \log (y_t) = \text{(log of) Production of Agriculture sector in Iran} \]

\[ \text{Ltot} = \log \left( \frac{\text{CPI}}{p_x} \right) \approx \log \left( \frac{p_m}{p_x} \right), \quad \text{CPI = Consumer price index}^2 \]

\(^1\) We deleted Foreign Direct Investment from our model because F.D.I. in Iran’s agricultural sector is zero during 1980-2004.

\(^2\) Note: There is a positive and close relationship between CPI and Import price index (\( P_m \))
\( P_s = \) Export price index, \( P_m = \) Import price index \(^3\)

\( \text{Lex} = \log (\text{ex}) = (\log \text{ of}) \text{ Exchange Rate} \)

\( \text{LTO} = \log (\text{TO}) = (\log \text{ of}) \text{ Trade Openness in Iran} \)

We want to test:

\( H_0: \) The trade openness does not affect the growth of Iran’s agricultural products during 1980-2004.

Against,

\( H_1: \) The trade openness affects the growth of Iran’s agricultural products during 1980-2004.

The value of \( T \)-table and \( T \)-calculated are as under:

\[ |t_{19}| = 2.5075 \ [\text{Calculated value}] \]

\[ T_{19, 0.025} = 2.093 \ [\text{Table value}] \]

Here \( |t_{19}| = 2.5075 \) (calculated value) > \( t_{19, 0.025} = 2.093 \) (table value)

We reject \( H_0 \) at the 5\% level of significance. We say that the trade openness affects the growth of Iran’s agricultural products during 1980-2004. In addition, the positive sign of \( t \)-calculated value shows that the trade openness has positive effects on Iran’s agricultural products during 1980-2004.

**Testing of the forth hypothesis/question of research:**

Is Globalization of Economy effective on growth of Iran’s agricultural exports during 1980-2004?

Similarly, in other to answer to this question, we estimated another model as under:

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\(^3\) There is no data available for the index that is why we used CPI instead of \( P_m \).
\[ LX_t = -5.387 + (-0.138)LEX_t + 0.419LIIT_t + 0.30LTOT_t + 0.492LX_{t-1} + 0.967Lap_t \]

<table>
<thead>
<tr>
<th>S.E</th>
<th>t-value</th>
<th>prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2.624)</td>
<td>(-2.052)</td>
<td>(0.058)**</td>
</tr>
<tr>
<td>(0.056)</td>
<td>(-2.466)</td>
<td>(0.026)*</td>
</tr>
<tr>
<td>(0.086)</td>
<td>(4.858)</td>
<td>(0.000)*</td>
</tr>
<tr>
<td>(0.051)</td>
<td>(0.592)</td>
<td>(0.562)**</td>
</tr>
<tr>
<td>(0.076)</td>
<td>(6.402)</td>
<td>(0.000)*</td>
</tr>
<tr>
<td>(0.291)</td>
<td>(3.318)</td>
<td>(0.004)*</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.9813 \quad \text{Adjusted } R^2 = 0.9739 \quad \text{Durbin-Watson Stat} = 2.06 \]

\[ F\text{-statistic} = 131.744 \quad \text{Prob}(F\text{-statistic}) = 0.0000 \]

Where,

- CPI = Consumer price index
- \( P_x \) = Export price index
- LTOT = \( \log\left(\frac{CPI}{P_x}\right) \) = (Log of) relative prices
- LEX = \( \log(\text{Ex}) \) = (log of) Exchange Rate
- LX\(_t\) = \( \log(\text{X}_t) \) = (log of) Exports of Iran
- LX\(_{t-1}\) = \( \log(\text{X}_{t-1}) \) = (log of) past value of agricultural export
- LAP\(_t\) = \( \log(\text{AP}_t) \) = (log of) Production of Agriculture sector in Iran
- LIIT\(_t\) = \( \log (\text{IIT}) \) = (log of) Integration of International Trade (IIT) Index

We want to test the following hypothesis

\( H_0: \) Globalization of Economy is not effective on growth of Iran’s agricultural exports during 1980-2004.

Versus,

\( H_1: \) Globalization of Economy is effective on growth of Iran’s agricultural exports during 1980-2004.

\(^4\) there is a positive and close relationship between CPI and Import price index (P\(_m\))
Whereas, this model is a six-variable model, thus Degree of freedom is:

d.f. = N-6 = 24-6=18 and \( \alpha = 0.05 \rightarrow \alpha/2=0.025 \)

If the \( t \) variable computed exceeds the critical \( t \) value at the designated level of
significance for given df, that we can reject the null hypothesis; otherwise, we do not
reject it.

\[ |t_{18}| = 4.858 \text{ [Calculated value]} \]

\[ t_{19,0.025} = 2.1009 \text{ [Table value]} \]

The observed \( t \) value exceeds the critical \( t \) value at the 0.025 (\( \alpha = 0.05 \rightarrow \alpha/2=0.025 \))
level of significance (two-tail-test). Hence, we can reject the hypothesis that
Globalization of Economy is not effective on growth of Iran’s agricultural exports during
1980-2004. Thus, we conclude Globalization affects the growth of Iran’s agricultural
exports over the period study.

7.4- the Outlook of Iran’s Agricultural sector:

We have analyzed the outlook of Iran’s agricultural sector under the following heads
briefly:

- Percentage Agriculture Imports to Total National Imports and Percentage
  Agriculture Exports to Total National Exports.
- Growth Rate of the Agricultural Sector-Percent
- Share of Agricultural Sector in Gross National Production (G.N.P.) - Percent
- Capital Formation in Agriculture
- Percentage of Foreign Direct Investment in agricultural sector
Now is time to answer to this question. “Is the future outlook and Perspective of Iran’s agricultural sector satisfaction?” it is difficult to answer “yes” or “No”. By the way, according to the percentage of Agriculture Exports to Total National Exports, percentage of the Growth Rate of the Agricultural Sector, percentage of the Share of Agricultural Sector in Gross National Production (G.N.P.), percentage of Capital Formation in Agriculture and percentage of Foreign Direct Investment in Iran's agricultural sector, which is shown in the table 2 briefly. We will conclude that the outlook and perspective of agriculture in Iran is not much hopeful and bright. In other words, this is a reflection of the inclination towards reduction of share of agriculture in Iran’s economy and Iran’s Exports.

<table>
<thead>
<tr>
<th>Table 2: Title of Indexes</th>
<th>1995</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- The share of Agriculture in GDP</td>
<td>15.4%</td>
<td>13.5%</td>
</tr>
<tr>
<td>2- The share of Agriculture in G.F.C.</td>
<td>4.9%</td>
<td>4.6%</td>
</tr>
<tr>
<td>3- The share of Agriculture in F.D.I.</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>4- Percentage of Agricultural imports to total imports</td>
<td>0.008%</td>
<td>0.003%</td>
</tr>
<tr>
<td>5- Percentage of Agricultural exports to total exports</td>
<td>0.04%</td>
<td>0.008%</td>
</tr>
<tr>
<td>6- Average Growth rate of Agricultural sector</td>
<td>4.83%</td>
<td>3.93%</td>
</tr>
</tbody>
</table>

Source: Calculation of Researcher

8. Chapter Six:

This part of the research describes the findings, conclusions, suggestion and recommendations of the study.

8.1- The main Findings of the Research
The important findings of the research bring up the list as follows:

- The share of agriculture in Foreign Investments Promotion and Protection Act (F.I.P.P.A.) is about Zero while the share of services and Industries (including mining etc.) in F.I.P.P.A. are approximately 55% and 45% respectively during the period between 1993 and 2008. Therefore, it can be seen that the role of Foreign Direct Investment in the growth of Iran's agricultural sector was ineffective during the above-mentioned period and Globalization of economy has not increased the amount of F.D.I in this sector at all.

- The elasticity of agricultural products with respect to relative price changes is 0.0484 and significant at the 10 percent level. Nevertheless, it is inelastic (as shown in model A). That means if we hold other factors constant, a 1 percent increase in the relative price index conduced the average to about a 0.05 percent increase in the agricultural products. Therefore, it can be said that agricultural output reacts trivially to a change in relative prices during 1980-2004.

- According to model A, the rate of change of trade openness causes statistically significantly agricultural growth in Iran. The elasticity of agricultural output with respect to the trade openness is 0.165 and inelastic. I.e. holding the other factors constant, a 1 percent increase in the trade openness index led on the average to about a 0.165 percent increase in the agricultural products. It is significant at the 5 percent of level and its sign is expected. Therefore, indicating that there is a significant relationship between the trade openness and agricultural growth for Iran during 1980 to 2004.
• The coefficient of exchange rate is not significant even at the 10 percent of level. It presents that the changes in exchange rate does not affect on the Iran’s agricultural output during the studding period (as shown in Model A).

• Based on model A, the coefficient of the lagged dependent variable (agricultural output) affects the Iran’s agricultural products greater than other factors in the econometric model. It is statistically significant even at the 1 percent of level, we can say, one of the factors that plays an important role in Iran’s agricultural products is the amount of the lagged of agricultural output. By the way, the elasticity of the \( (L_y_t) \) with respect to \( (L_y_{t-1}) \) is 0.96 and inelastic. Nevertheless, it is very and very close to unity and an important factor influencing the supply response of farmers as well.

• From equation (B) we saw that in the Iran’s agricultural sector for the period 1980-2004, the elasticity of agricultural exports \( (L_x_t) \) with respect to exchange rate \( (Lex_t) \), Integration of International Trade \( (LIIT_t) \) and agricultural products \( (Lp_t) \) were \(-.138\), 0.419 and 0.967, respectively. In other words, over the period of study, holding the other factors constant, a 1 percent increase in the agricultural products led on the average to about a 0.967 percent increase in the agricultural exports. Similarly, if other variables remain constant, a 1 percent increase in the exchange rate variable led on the average to about a \(-0.138\) percent decrease in the agricultural exports and so on.

• If all other factors are held constant, a 1 percent increase in the Integration of International Trade \( (LIIT_t) \) index led on the average to about a 0.42 percent increase in the agricultural exports. Therefore, it can be concluded that there is a
positive relationship between the agricultural exports and globalization index (i.e. the IIT index) during the above-mentioned period. Furthermore, there is a negative relationship between the agricultural exports and unofficial exchange rate during 1980-2004 in Iran (as shown in model B).

- Although the coefficient of relative prices is not statistically significant and the absolute t value of this variable is smaller than unity (that is why, we can omit it from our econometric model in equation B). However, it has a positive sign. By the way, the relative prices changes (Ltot t) did not affect agricultural exports (Lx t) during 1980 to 2004.

8.2- Conclusions:

In this study, we showed that the growth in real agricultural output and agricultural exports grew sluggishly throughout the period 1980-2004. The principal findings of this study present that supply of agricultural output (as indicated in model A) responds positively and significantly to the relative price of commodities, the degree of trade openness and the previous value of agricultural product or lagged output. Lagged output is also an important factor influencing the supply response of farmers. But, the exchange rate changes are not effective on Iran’s agricultural products over the study period. Similarly, we indicated that agricultural exports (as presented in model B) responds statistically positive and significant to the integration of international trade (IIT) index, the past value of agricultural exports (Lx t-1) and agricultural products (Lp t). At the same time and according to model B, the estimation results showed that the effective of exchange rate changes is statistically negative (i.e. it has a
negative effective on agricultural exports) and significant at the 5 percent level. But, the relative price changes are not statistically significant even at the 10 percent level.

On the whole, it can be said that globalization and the trade openness have been effective in growing of Iran’s agricultural sector during 1980 to 2004. But, its effects are not marked changes, only it is trivial. For example, as the results show, the elasticity of agricultural exports with respect to the integration of international trade (IIT) index is about 0.42. Suggesting that if the IIT index goes up by 1 percent (holding other variables constant), on average, the agricultural exports goes up by 0.42 percent. Similarly, if the trade openness index increases by 1 percent, on average, the agricultural outputs go up only 0.165 percent. As a result, it goes without saying Iran’s agricultural sector is sensitive to global changes and globalization. But, the level of sensitivity is not considerable number. Only those countries can enjoy the benefits of globalization which have, firstly, proper economic structures and rules and regulations compatible with the global economy and secondly whose one or more economic fields have the potential to enter international markets. Iran’s field of agriculture possesses much potential and actual capability due to its range and variety of products. Therefore, should it be supported enough on the economic structure aspect, it is expected that by wisely advancing in the course of the globalization of economy this field will notably flourish. Nevertheless, there is a meaningful difference between the quantity of agricultural products and exports before and after 1995. Also, despite
some fluctuations in the integration of international trade (IIT) index it has a
general increasing trend-line over the study period.

8.3- Need for Further Study and Suggestions:

The Suggestions for further studies and Recommendations of the Research can
be discussed under the following heads:

Suggestions for further studies:

✓ The WTO’s Agreement on Agriculture and its effects on Iran's Agriculture.
✓ Impact of Market Access on Iran's Agriculture.
✓ Domestic Support and its effects on Iran's Agricultural Production, Exports
✓ Export Subsidies and its effects on Agricultural productions and exports in Iran.

Recommendations:

✓ To enforce agricultural reform, according to a WTO Secretariat report on the
country's trade policies and practices.
✓ To join to the World Trade Organization (WTO) for increasing agricultural
exports and access to international markets as soon as possible.
✓ To increase the role of Foreign Direct Investment in the growth of Iran's Economy
especially agricultural sector.
✓ To decrease the dependency of Iran’s Economy to oil incomes and increase the
role of agricultural sector in Iran’s economy with enforcement agricultural
reforms like increase investment in this sector.
✓ For boosting the agricultural exports, we must have to improve in infrastructural
facilities like cold storage in producing areas and etc.
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