

**Free Trade and Economic Growth Resources  
Of Iran Agriculture**

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# Free Trade and Economic Growth Resources of Iran Agriculture

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## **Abstract:**

Free trading is considered as index of global economy and factor of economic growth in many countries. In this study along with recognition of growth resources, those factors such as surplus value, Labour, capital, energy, government planning and expenditure which playing the main role in economic growth has been identified and analyzed. Also, international trade index impact along with other effective factors on surplus value are considered and estimated. The results show that Labour and energy are the most effective inputs on surplus value respectively. Then supposing that the sector experienced a productive agronomic year and supposing that Iran country was committed to a free trading framework, the relation ships between various related variables were analyzed through the econometric & quantitative method to recommend an acceptable situation for joining free trade in global economy process.

With respect to significant of international trade coefficient, the result indicates that in study period (1971-2000) the free trading trend had positive impact on surplus value and growth of agricultural sector and moving toward global economy will surplus its sum. But, prevailing difficulties in the agriculture sector's structure and organization may retarded the economic growth, although investment on training programs can improves the growth of agricultural sector and government investment in various part of the this section would be of huge significance. In this research related data are analyzed and after obtaining the results based on discussion some recommendations are presented.

**Keywords:** Free trading, agriculture, investment, Labour, energy.

## **Introduction:**

Value added function about agricultural sector give information to us, so we can define production ability of this sector by value added function, this study has made possibility to specify function and important of each effective factors about value added. With due attention to important of value added about different economic sector particularly agricultural sector and its effective factors, in recent years, some study has been done in this manner and regards which few of them are briefly mentioned here.

In the case of global economy different studying has been done; Seager's studying about Organization for Economic Cooperation and development (OECD) countries, has proponed to changeable as worldwide indicator. Circulation of industrial trade between North and South as compared with GDP as changeable which has showed surplus south integration in world trade is proponed as the first indicator and changing the proportional prices as other indicator. Garrit and Rodrick have been considered, total exports and imports concerning to GDP as global indicator in world markers unit effects on public consumption behavior.

Abedi (1998) estimated production of Iran's industrial sections as energy saved. He used production function of Cobb-Douglas and Leontief in this research. Abbasnejad and Vafi (1996) has been estimated production function of various economic sectors by external Cobb-Douglas function during 1968-1993 years. They have defined value added of agricultural sector as function of labor force, capital and energy. Hejabr Kiani and Varedi (2000) have considered energy important coefficient for surplus value of economical different section during 1966 to 1996 years. Their estimate results have showed that job force in agricultural section, has biggest coefficient among efficient factors of surplus value about agricultural section. They also considered long-range relation among energy, job, and capital saved in agricultural section. So, the important effective factors about surplus value of agricultural section are job force, which has allocated highest coefficient to itself during 1966-1998. Safari and shoraka has considered exports

effective on added value of economical sectors such as agricultural sector during 1958-1992 and they have found value added of agricultural sector by trading.

Worth mentioning that by Nouri (2000) two indicator has been entered for Iran study, first the level of international trade and the second integration of international trade into his function. Also he has showed that economic worldwide during 1974-1997 has less effect on Iran agricultural. Because agricultural trade is small section of its production and only small section of trade is related to agricultural exports. Index of international trade in this studying for considering of international trade effect on surplus value function of agricultural section with other factors has been entered into model. So, major purpose of this argument is considering integration of international trade coefficient as one of the effective factors on surplus value of agricultural sector with other factors.

### **Materials & Methods:**

For estimation of global trading impact on surplus value of agricultural section through use of measuring economic, Ordinary Least Square is embark on added value of function estimate about agricultural section by carrying index of international trade(IIT) along with other related factors. Function, which has been used, is as follows:

$$Y= F (K, N, P, G, IIT)$$

Which K, N, P, G, IIT are arrange capital, Labour, energy and government expenses in agricultural section and index of international trade as well as dependent variables in added value of agricultural section. Capital units, expenses government and surplus value are milliard Rials (fixed price at 1988). Unit of job force is personal energy unit and barrel unit is equal to petroleum.

For final recognition of variables, Diki-Folerd which is in E-views software has been used. In this process, among three equators each one with greater significant will be selected, so we have:

- a) With fixed coefficient?  $Y_t = B_1 + SY_{t-1} + U_t$
- b) With fixed coefficient and process?  $Y_t = B_1 + B_2t + SY_{t-1} + U_t$
- c) Without fixed coefficient and without process?  $Y_t = SY_{t-1} + U_t$

In this studying integration of international trade has entered into the model as global index. This criterion is calculated as follows:

$$IIT = 1 - [(X_t - M_t) / (X_t + M_t)]$$

Which, IIT shows industrial inner trade and its section:

$$X_t = \text{exports} \quad M_t = \text{imports}$$

According to definition, we can use IIT indicator, which is, locate between zero and one. Quantity of zero has showed there is no trade into industrial. It means trade in this case include only exports or imports, but if quantity of indicator is equal to one, it means trade into industrial are complete i.e., exports is equal to imports. Time limiting which has been considered in this argument during 1971 to 2000 and utilize data has been collected from PDS information Bank, Energy balance sheet from ministry of Energy, National Accounting of Central Bank, Statistical center of Iran and Statistical year books.

### **Discussion and Conclusion:**

Table (1) has showed changes in index of international trade during 1971 to 2000. This indicator for 1971-1973 is Maximum and it shows approximate equilibrium between export and import. After that until 1979 due to income growth of petroleum and rapid surplus of imports, this indicator has decrease. Beginning imposed war of Iraq on Iran (1980-1988) and decreased exports causes that unbalance between exports and imports surplus and global indicator decreased. After end of the ware and improvement of agricultural exports, this indicator added vale had many fluctuations, see table.

**Table 1: Index of international trade level (1971-2000)**

| Year |          |          |          |          |          |
|------|----------|----------|----------|----------|----------|
| 1956 |          |          |          | NA       | NA       |
| 1961 | NA       | NA       | NA       | NA       | NA       |
| 1966 | NA       | NA       | NA       | NA       | NA       |
| 1971 | 0.773200 | 0.799200 | 0.871200 | 0.317000 | 0.260500 |
| 1976 | 0.311300 | 0.287400 | 0.357100 | 0.285100 | 0.121200 |
| 1981 | 0.108300 | 0.104300 | 0.105400 | 0.123500 | 0.197000 |
| 1986 | 0.424700 | 0.422900 | 0.397900 | 0.264200 | 0.291000 |
| 1991 | 0.385400 | 0.421500 | 0.476500 | 0.711300 | 0.465000 |
| 1996 | 0.486400 | 0.427600 | 0.458500 | 0.490900 | 0.524700 |

**Source: Research Findings**

Because, in this research time series had been used for estimation of surplus value function about agricultural section, so, at first half of these series have been considered. Table 2 shows results of variable test half on the basis of Diki-Folerd test unit root as it can be observed from above mentioned table. Logarithm variables of surplus value, Government expenses, labor force, energy and index of international trade at the level and investment logarithm at first-degree differential are stationary.

According to the research data, the best form of function for surplus value of agricultural section is Cobb-Douglas form which integration of international figurative also was allowed. Estimation of this function is as follows:

$$\begin{aligned}
 & \text{LNA} = -25.38 + 0.48 \text{LNG} + 2.08 \text{lnN} + 0.54 \text{lnP} \\
 & \quad \text{T} \quad (-2.4)^{**} \quad (2.34)^{**} \quad (2.99)^{**} \quad (7.6)^{***} \\
 & + 0.76 \text{ln}(\text{IIT}) + 0.17 \text{D}_1 \\
 & \quad (4.59)^{***} \quad (4.05)^{***} \\
 & \text{R}^2 = 0.99 \quad \text{R}^2 = 0.98 \quad \text{D.W} = 2.22 \quad \text{F} = 460 \quad \text{n} = 28
 \end{aligned}$$

In below table function, attention to obtain results quantity shows that description variables could have been describe %99 of changes of variations dependent variables. Complete significance of regression has derived from F lost at %1 level. Statistic, Watson glass, which is equal to 2.22, showed there is no correlation between deranging components. It has been observed that in comely function labor force has highest coefficient (2108) with positive mark which has derived from its efficient and it shows more dependent of agricultural section to labor force than other effective factors.

**Table 2 : Estimated results of stationary variables.**

| Use model                     | Critical surface of ADF |              |           | ADF degree | Stationary | Variable name                    | No |
|-------------------------------|-------------------------|--------------|-----------|------------|------------|----------------------------------|----|
|                               | %10                     | %5           | %1        |            |            |                                  |    |
| With process and intercept    | -3.22                   | -<br>3.57    | -4.3      | -3.88*     | 0          | Surplus value logarithm          | 1  |
| Without process and intercept | -1.62                   | -<br>1.95    | -<br>2.64 | 2.53**     | 0          | Government expenditure logarithm | 2  |
| Without process and intercept | -1.62                   | -<br>1.95    | -<br>2.64 | -1.62*     | 0          | Labor force logarithm            | 3  |
| Without process and intercept | -2.62                   | -<br>2.97    | -<br>3.68 | -4.23***   | 0          | Energy logarithm                 | 4  |
| With process and intercept    | -3.22                   | -<br>3.58    | -<br>4.33 | -3.28*     | 0          | IIT logarithm                    | 5  |
| With process and intercept    | -3.22                   | -3.5<br>4.33 | -<br>4.33 | -4.71***   | 1          | Investment logarithm             | 6  |

**Source: Research Findings**

Energy coefficient is %54 and it has positive mark, which shows increase value as direct relation with energy consumption of agricultural section and increase of one percent consumption of energy causes that average increase value quantity of %54 has increased. Coefficient Government expenses in agricultural section has positive mark and if is equal to %48 which shows its least effective on added value of this section. Its reason about least of coefficient is nonpolitical and proper allocation of Government expenses between subsections of agricultural sector. Revolution figurative variables is include positive mark and it shows that outbreak of revolution has been positive and meaningfully effect on increase value of agricultural section.

### **Recommendation:**

At the end it can be concluded that global coefficient is equal to %7 and significant, which shows globalization during studying has been meaningfully effect on added value of agricultural sector and at future, by policy adopting of developing agricultural exports, we can improve this effect. So, we can claim that added value of agricultural sector will be increased in the process of global economy and movement in this direction with international trade will have positive and noticeable effect on added value and output of agricultural section.

Therefore, attempt and moving toward free trading may be recommended for more utilization of added value from agricultural sector, as the main source of economic growth in Iran and most of the developing countries, off course with more productivity and greater gain.



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