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# Evaluation of the Performance and Effects of the WTO on Iran's Agricultural Production (Case Study Wheat)

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**ABSTRACT**

**In recent years, with the formation of institutions such as the International Monetary Fund, the World Bank and the World Trade Organization, the world has faced new horizons; horizons that in many cases are based on policies and plans Has been affecting countries and has led to new challenges and opportunities for them to escape. Today Iran's accession to the World Trade Organization (WTO) is one of the most important issues facing the Iranian economy. Considering the necessity of studying the issues of the agricultural sector of Iran, it seems that the study of the situation of this sector of the country's economy in terms of accession to the said organization is indispensable. In this thesis, it has been tried to use the available literature in this field and using econometric models to study the effects of the removal of government support in the event of the accession to the World Trade Organization of wheat, which in two different scenarios has been studied. In one scenario, using the government's nominal support rate for wheat, and in the second scenario, by eliminating the nominal support for wheat and using real prices, it examines the effects of removing these support in the event of its accession to the organization and its effects on The production rate of this product has been investigated. The results of the surveys indicate a stronger relationship between the level of wheat production in the conditions of real prices and the lack of government support. In other words, this issue reflects the positive effects of the removal of government support from wheat as a representative of the agricultural sector of Iran in terms of WTO accession. And of course, the meaningful relationship between the nominal government support rates for wheat also suggests the need for the agricultural sector to be in the agricultural sector even within the framework of the standard of globalization, which is a prerequisite for the government.**

**Keywords:** World trade organisation, Nominal support rate, ERP, Effective NRP support rate.

## INTRODUCTION

Recent developments in the field of economics have led to a variety of products, one of which is the formation of new international institutions, including the formation of a trade organization in which the results of the (WTO) performance for the countries of the world are controversial among the experts. But what is clear is that the organization is a commercial entity and its purpose is to expand trade among the countries of the world, and in this organization, countries can negotiate access to the bargaining market. Therefore, the goal of underdeveloped countries is that their trade negotiations at best provide them with the appropriate business opportunities. Given that the organization, by removing barriers and restrictions, will try to provide competitive conditions for the countries of the world, conditions can be considered appropriate for the improvement of the economic sectors of the present countries. At the same time, these countries may face many barriers at the factory level, the business environment, and the physical and technical infrastructure, which makes them unpowerable,and these problems undermine the potential relative benefits of certain commodities.

Therefore, it is possible that under these competitive conditions of the (WTO) ruling these countries would not be able to exploit their potential opportunities. Therefore, consideration of various issues of the country's economic sectors in terms of joining the (WTO) can be important and decisive. The agricultural sector is one of the key and key sectors of the Iranian economy, which, along with other sectors such As the industrial sector, service sector and constitute the main structure and structure of Iran's economy, which has a long history and history in Iran.

There are many barriers that, despite the emphases that have been made in previous years in the development program laws, are still having major problems, and it seems that despite the policy makers' follow-up, this sector of the boom Not enough. Perhaps it is not necessary to explain that this is one of the supply of food and the supply of human resources and from the outset of the one:

- Issuing of agricultural goods and then consumption of foreign exchange income in the industry, services and
- Establishing an unequal trade-off relationship between agriculture and industry and services on the other.

It is noted that the export of agricultural goods is one of the ways of economic outflow from the agricultural sector. On the other hand, considering the need for foreign exchange, when dealing with issues facing the agricultural sector, it can be seen that the type of dealing with this sector needs a slight difference in the look at other economic sectors; for example, the need for government support from this sector (Under any circumstances) more and more. That is, even under the conditions of globalization of the economy, it is possible that the government will not give up its support for this sector.

Considering the mentioned issues of the agricultural sector and the need for the support of the government from this sector, given that the Iranian economy is on the verge of joining the World Trade Organization (WTO),the study of the issues of the agricultural sector in the conditions of globalization of the economy is essential It seems that given the role of the government in the globalization of the economy, it becomes less important, addressing the issues of this sector and the challenges and solutions ahead.

## SAMPLING

The method of collecting documentary and library information is gathered from available resources. In this research, instead of sampling the statistics collected by the organizations and institutions of the country such as Iran Statistics Centre, Central Bank of the Islamic Republic of Iran, Ministry of Jihad-e-Agriculture and Customs of Iran is used.

### Research goals and necessities of doing it

The following goals can be drawn for this research:

- Review of Iran's economic situation in the WTO, from the perspective of the agricultural sector (wheat production) and the examination of challenges and perspectives.
- Providing a suitable solution to increase the competitiveness of this sector on the world stage, in terms of government support tasks.

### Research hypothesis

The research hypothesis is as follows:

- The government's nominal support rate for wheat has been positive.

### Statistical community and its characteristics

In this research, we try to work with the library method using statistics and information about Introduction Iran's agricultural products available to us through official sources such as the Central Bank and the Ministry of Agriculture. Products available to us through official sources such as the Central Bank and the Ministry of Agriculture.

Bilateral trade data over the period 1980-2004-11 are gathered from the World Bank's Trade, Production and Protection (TPP) dataset developed by Nicita and Olarreaga (2006)8. This dataset is different from that used in conventional studies examining aggregate merchandise trade using the Direction of Trade

Statistics from the International Monetary Fund (IMF) (see Rose (2004a), SW (2007), TGR (2006) among others). The TPP dataset contains an extensive matrix of trade flows International Standard Industrial Classification (ISIC) industries (ISIC, Revision 2), and (incomplete) data on country productions and protection. This sectorial detail permits a clean delineation of agricultural (including Wheat and Agricultural productions) and non-agricultural trade flows 9. The TPP dataset employs mirrored trade flows where exports and Import statistics reported by the partner country are used if the reporting country's imports are recorded as missing. Reporting and partner countries (with gaps), which ensures a considerable amount of variation in the membership status of country pairs (Appendix Table 1). For example, Changes in the value of Iranian exports of agricultural products in the years 1995-2005 (million dollars) at some point during the 1980-2004 period. Membership is coded based on the GATT/WTO's notifications of members' official dates of accession which are available from the

WTO's website. Production values by ISIC industry are available in the TPP dataset. Thus, we employ Gross Domestic Product (GDP) data (in US dollars) obtained from the World Bank (WB) Development Indicators and the United Nations (UN National Accounts. GDP data are far more complete and are available for almost all countries and time Periods. Data for the standard covariates, and land areas - are taken from the Centre d'Etudes Prospective Information Internationals (CEPII) geo-distance dataset (Mayer and Zignago 2006).

Information regarding membership in currency unions was obtained from Rose (2004a). Twelve regional trade agreements (RTAs) are considered (dates of entry into force in parentheses): Andean Pact (1992), the Association of Southeast Asian Nations (ASEAN, 1992), the Central American Common Market (1960)) Central Iranian Free Trade Agreement (1995), the Closer Economics Relations (CER, 2017), the North European Free Trade Association (EFTA, 2017), the various European Communities expansions from nine. Community (SADC, 1995-2014) and the South Asian Association for Regional Cooperation (SAARC, 1995) .The International Monetary Fund's (IMF) classification of countries are used to define a country's.

## Lessons learned about nominal support rates at home and abroad

Horace believes that despite the same conditions, the liberalization, and the difference in economic growth and the level of trade between the countries more because of the difference in the amount. The presence of other agents, such as supportive and supportive policies, to reduce negative impacts Liberation has been accompanied by the positive effects of liberalization (Winters et al., 2014).

In an article entitled International Competitiveness and Competitive Advantage for Size The concept competitiveness or competitive advantage has been intercepted and interpreted differently (Siggel, 2007).

Contends that although the concept of competitive advantage in undoubtedly the Riccardo business model. At the same time, however, it is generalized beyond the classical model of business theory, especially in the dimension of measurement It makes various interpretations of For the first time, the concept of effective support by Barber was introduced in 1955 in a study of Canadian Tariff Policies. But in the field of empirical studies, the firs research work was carried out by Blasa (1965) and for 36 industries in the United States, the common European market, Sweden, the United Kingdom and Japan. The results of this study showed higher rates of effective support for nominal rates. Kitson et al. (1991) calculated the effective support rate for some British industries in the 1930s. The results for the majority of industries were negative, indicating that they did not support these industries. Greeney et al. (1994) estimated the effective support rate for the Egyptian agricultural sector by Blasa and Kordon for 6 export products and 6 imported products. The results show positive support for imported products other than wheat in the Cordon method. The results of the Balas method confirm these findings, with the difference that the numbers obtained are higher with this method. In both cases, export rates for rice, cotton and sorghum are negative. Antimyani et al. (2003) calculated and compared the effective support rates for 11 groups of EU agricultural products using effective support rates (ERP) and effective distribution support rates (DERP).

The results obtained from the first method indicate positive support for all products except oilseeds and the second method is the negative support of oilseeds and textiles. Fernandez (2006) attempted to investigate whether the increase in foreign competition has led to an increase in productivity in industry, and in calculating effective support rates in Colombia. The results show a strong positive relationship between tariff liberalization and tariffs.

## Various types of government support from Iranian agriculture sector

Since September 2007, with the approval of the Law for the Guarantee of Purchasing Crops, consisting of a single item and three notes, the use of one of the government support tools was regulated to support farmers. Studies show that, before this time, government measures to intervene in the market of products Agriculture has been cross-sectional and in the time of lack of supply to demand and price control of the product through imports, and in support of the producer of agricultural products, it is safe to say that the program is codified It did not exist. With the efforts of many experts and officials of the agricultural sector, the law guaranteeing the purchase of basic crops in September of 1989 was approved by the Islamic Consultative Assembly. The adoption of this law in the aforementioned years was a very important step in supporting the agricultural sector. However, the evaluation of the results of the implementation of the law over the past years has shown that the legislator's goals are not fulfilled; such an establishment of a balance in the cultivation system and the prevention of losses, and even in some cases farmers are dissatisfied with the guaranteed price because they did not cover production costs. In the case of important export products such as raisins and dates, due to changes in world prices and the presence of high-power rivals, pricing and government intervention through the purchase of product guarantees, as one of the factors affecting exports, disrupted the export

process. Is Therefore, in view of the many developments that have arisen in the economic field of Iran and the world, revision of the method of protection and reform of the current law is necessary.

Note, was approved by the Islamic Consultative Assembly. According to this law, horticultural products including raisins, dates, leaves, citrus, apples, pomegranates, figs and livestock products and silk cocoon were added to the list of previous products. In Note 1 in September 2004, the Amendment Act (3) of the Law of Guarantee of Purchase the agricultural products and the annexation of the two notes came to the approval of the Islamic Consultative Assembly. Under this law, the government, in case of late payment of the price of a product purchased from a farmer, is required to pay a monthly pay-as-you-go payment, per month.

Also, according to the Decree dated 22/4/1384, the Islamic Parliament of the Islamic Republic of Iran added to the Law of Guarantee for Purchase in the year 1368, according to which the government was obliged to determine the purchase price of the basic agricultural products covered by the law in such a way that the rate of increase never exceeded the rate The inflation rate announced by the Central Bank of the Islamic Republic of Iran in the same year is not less.

## Exports of Iranian agricultural sector

According to available information, the trend of changes in the value of exports of agricultural products has risen in recent years, from a figure of 1021.11 million dollars in 1996 to 1575.34 in 2003 and reached 3156.6 million dollars in 2006 Is During these years, the trend in the value of exports of agricultural products has fluctuated in a way that in some years exceeded $ 1,500,000 and in some years as of 2006 reached more than $ 3,000 million. Figure 1 shows the trend of changes in the value of exports of agricultural products over the past years. Exports of agricultural products in 2010 totalled about j million tons worth $ 5100 million, which is 16.4 / 27.4 in terms of weight and value, respectively.

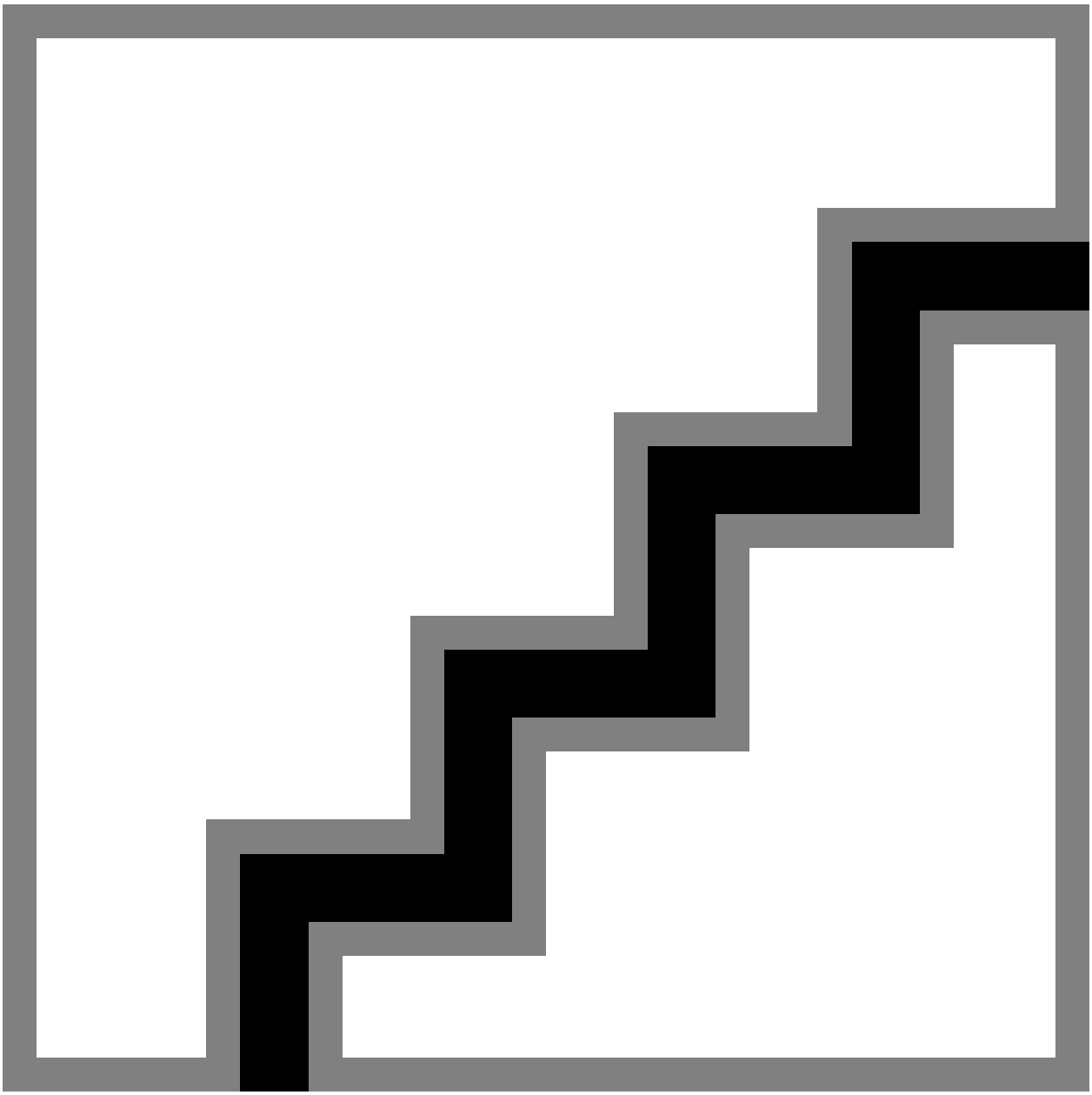

**Figure1.** Changes in the value of Iranian exports of agricultural products in the years 1996-2006 (million dollars).

**Import of agricultural sector of Iran**

The available information indicates a decline in the value of import of agricultural products over the years and the existing figures show a upward trend in some years. For example, during the period from 1996 to 1998, the trend in import value of agricultural sector was relatively declining and in the following years it slightly increased. In 2010,16,000 thousand tons of agricultural products worth 9700 thousand dollars entered the country, in terms of weight and Compared to previous years, value has decreased by 17.3% and increased by 7.8%, due to the drop in imports of the three main products of wheat, barley, rice and imports of other products from the increase.

The highest import value of agricultural products was in 2006, which brought the economic variable to $ 3.4812 million. This figure is higher than the sum of existing figures related to the value of imports of agricultural products in the Iranian economy and is the highest in comparison to the previous years. Below is the trend of changes in the value of import of agricultural products in recent years.

**Trade balance of Iran agricultural sector**

One of the important indicators in the field of economics is the trade balance index to examine the status of commodity exchange at the international level. In this part of this research, it has been tried to

investigate the balance of trade of agricultural sector of Iran in the past years, according to the available information.

- Available information indicates that during the past years, the trade balance of the agricultural sector of Iran has always been negative and shows figures less than zero. Over the past years, these figures have fluctuated, and over the years, they have shown larger figures.
- According to the available information, the agricultural balance of the agricultural sector in the years 1375 to 1377 showed a negative trend with a decreasing trend. In the years to come, the index has a trend and has reached its lowest level of $ 8,886 million in 2005, although it has rebounded in 2006 to $ 7,1655 million. Table 2 shows the trends in the trade balance of the agricultural sector of Iran in recent years.

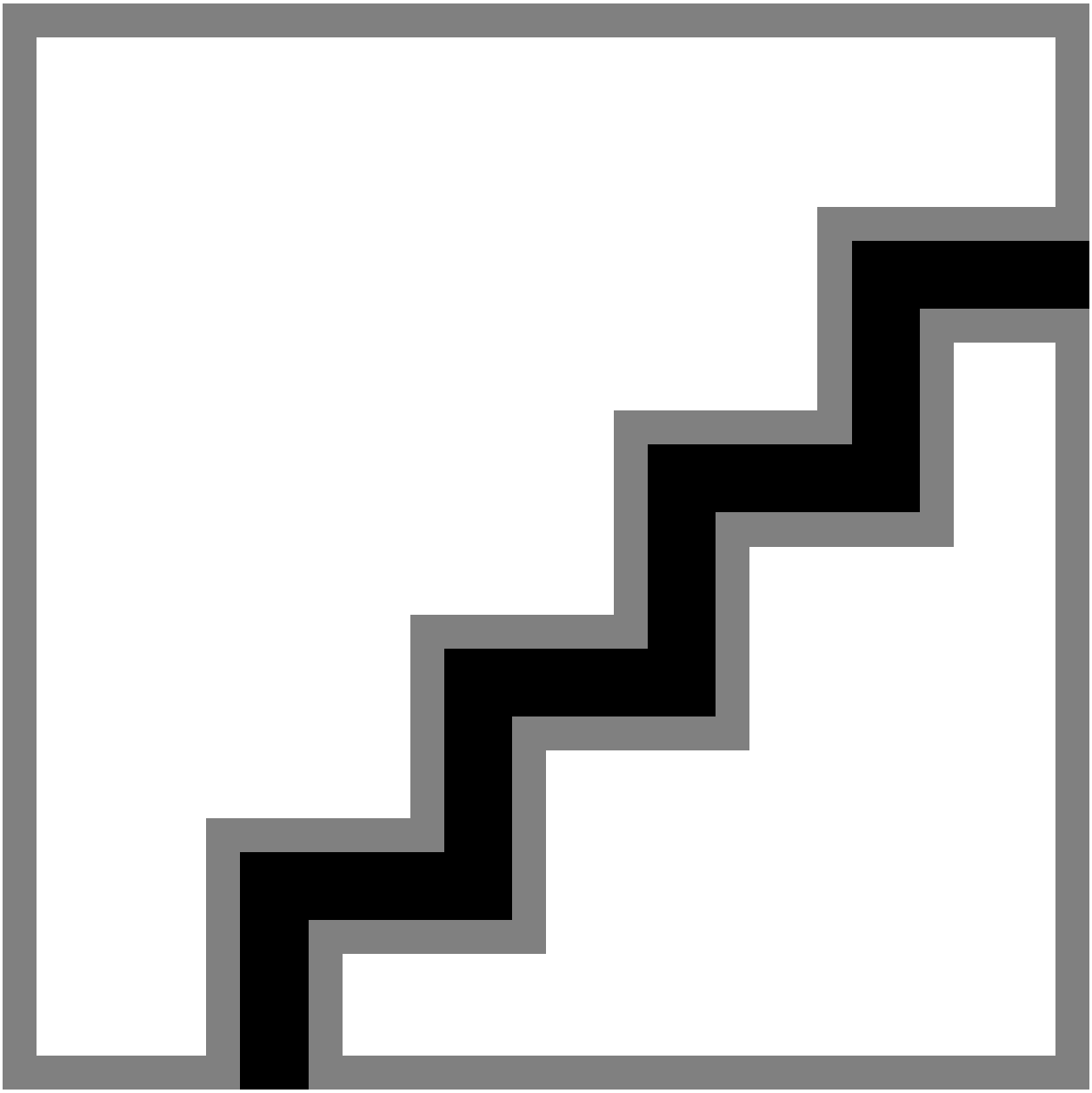

**Figure 2.** This figure shows the trends in the trade balance of the agricultural sector of Iran in recent years.

**Iran's share of agricultural trade in the world**

According to available information, due to the expansion of various countries' economic activities, as well as the formation of trade facilitation organizations around the world, such as the World Trade Organization, in recent years, the value of trade has been positive in the world over the past years. In this regard, it seems that Iran's share of world trade between 1997 and 2001 was relatively declining, so that Iran's share of world trade in goods in the world

ranged from 34/0 in 1997 to 28/0 It has been reached in 1380.

Between 2002 and 2006, Iran's share of world trade in goods in the world has risen from 0.36 in 2002 to 0.70 in 1385, but in 2007 it showed.

- A slight decrease and to 0.45 has come.The growth of Iran's share of commerce in 2002 and beyond could have many reasons. For example, implementing a currency exchange rate policy has been one of the most important reasons for increasing Iran's share of global trade.
- On the other hand, the government's orientation towards increasing imports to the country in the years to 1381 is also one of the main reasons for increasing Iran's share of commodity trade among the countries of the world.
- Table 3 shows the share of Iran's trade in goods between 1997 and 2007, expressed as a percentage.

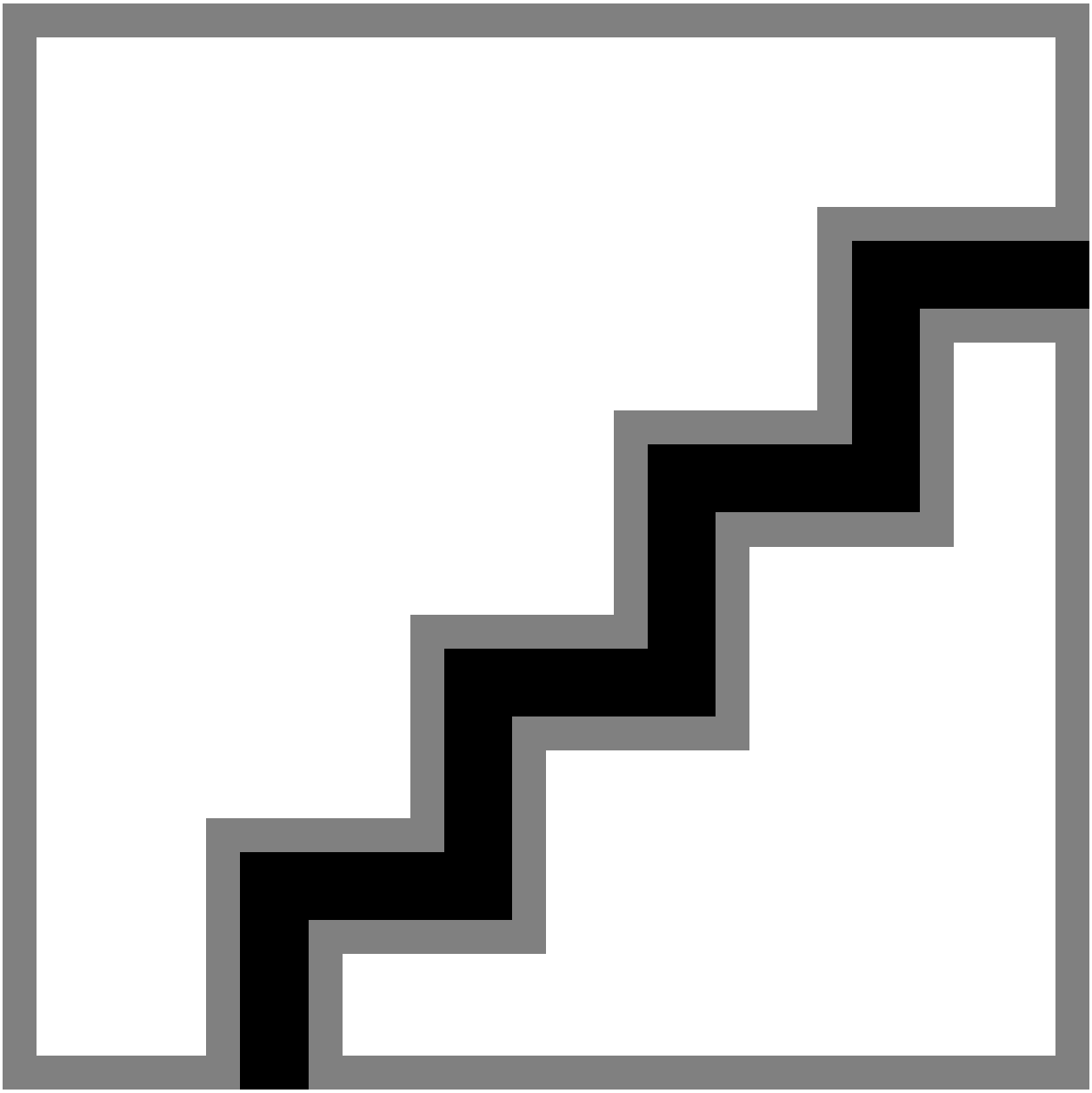

**Figure 3.** Iran's share of world trade in goods in the years 1997-2007 (percent).

## MODEL ESTIMATION

In this model, we tried to estimate the model with the structural failure in the imposed war years using the width of the origin and the virtual variable between 1359 and 1367. (For years of warfare 1and for other years the number Zero is considered.) At the same time, the nominal support rate variable of the previous period is used in model estimation.

### Dickey Fuller Test (Unit Root)

A random process will be static when the process of data generation (which results from it) has an average, variance, and time independent covariance. Two fuller dictation tests and fuller Dickey tests are the most commonly used tests in practice. If there is a problem in the available statistical data and for correction, then the regression model can be modified by adding a fixed number or an algebraic process. By adding a fixed number to the model, a model is suitable for the generalized Fuller Dick test. In the table below, the calculations performed for the generalized Fuller Dick test are shown.

**Table 1.** Generalized fuller dictation test for variables.

| Stats / Variables | The value of the statistics on the level | Dickey Fuller's Statistics %5 |
|---|---|---|
| P | -0.05 | -0.048780488 |
| PR | -0.05 | -0.571428571 |
| Q | -0.055555556 | -0.053571429 |

Given that the full value of Dickey Fuller statistics is calculated from its critical value at a level of 5%, then the variable P has no root problem and the variable itself can be considered in the model. At the same time, the absolute value of Fuller's dictation statistics for PR and Q variables is higher at 5% of its critical value, which means that there is no single root problem for these variables. In other words, price variables, nominal support rates, and the amount of production are variables that can be used in estimating the econometric model.

### Model estimation

In this model, due to the serial correlation problem itself, the first-order moving average (MA1) has been used. Given the low level of camera-Watson's statistics in model estimation, it has been attempted to find the correlation itself using the moving average of the order First, the estimation of the model with MA1 and without MA1 is presented below, which shows a significant difference in the Dorbon-Watson statistics of estimates.

### Estimated model without first-order moving average

In the estimation we consider that the non-use of MA1 reduces the camera-watts variable. The calculated figures in this model show that in the absence of using the first-order moving average, the width from the origin was 15.5 and the calculated coefficient for the PR-1 nominal support rate was 67. At the same time, it is seen that the relationship between PR-1 and Q-1 is positive to Q. This means that if any of the variables of the nominal rate of the previous period or the amount of the production of the previous period increases, the current period production will also increase, and at the same time, if any of the variables of the nominal support rate of the previous period or the amount The production of the previous period will also reduce the production of the current period. According to estimates made in the model, a one percent increase in the nominal support rate will increase 67 percent per cent in production. At the same time, an increase of one percent in the amount of production in the previous period would increase by 46 percent per cent in the production of the current period.

Log Q=5.15 +0.67 log PR-1+0.46 log Q-1-0.19 DUM

SE (0/0.6) SE (0/14) SE (0/28) SE (1/3)

F =61.44 R2=0.87 adjusted to 88/0R2=DW=1.59

It is seen that the estimated model has a high explanatory power and the variable shows 88% R2. At the same time, the adjusted model R2 is an acceptable figure and is about 87%. The calculations made for the F statistic also represent the number 44/61, which is an acceptable Figure.

In this model, the Karben-Watson statistic shows a Figure of 1. 59 which seems to be low. Given that the accepted figure for this statistic is approximately 2, it seems that using the first-order moving average can overcome the correlation itself, which will be discussed in the next section.

### Common self-correlation tests and anisotropy erosion for estimation

**Self-correlation tests in model estimation:** One of the problems with some regression models and violating classical assumptions is self-correlation. In a self-correlation condition, the covariance is not a component of the disruption, and there will be a relation between the disruptive components. The fundamental problem that we face in the conditions of our existence is that the coefficient variance will not be calculated correctly. In this situation, the estimated variances will be biased, so the hypothesis test and the confidence interval will be void. At the same time, in the correlation condition, the variance of other coefficients is not the least and therefore the absolute

efficiency of estimated the OLS coefficients will be eliminated.

**Dorbon-Watson test:** Typically, after calculating the camera-watts statistics by E views software 5, if the size of this statistic is about 2, then the digit is acceptable. It should be noted that the Durban-Watson test is valid only for self-examination And for tests of higher rankings, other tests are used. As stated, the camera-Watson statistic calculated in the first-order moving average model was 1. 59. 1, which was unacceptable and then after and after using the first-order moving average reached an acceptable value of 1/92.

## SUGGESTIONS

- The policy of pricing, purchasing guarantees, and government support for some of the export products is not efficient, and it is suggested that these products should be accompanied by other support measures that reduce production costs and increase productivity, such as government investment in production infrastructures, Improving product marketing in the international arena, establishing an income insurance fund, or establishing an income stabilization fund, especially for products with a high export share and the like.
- The state can take steps to expand the production of agricultural products, such as wheat, with the development of existing facilities and, firstly, provide institutional conditions for the development of the production of this product, and secondly, with a systematic planning and gradually real prices In the market for this product and similar products. This will increase the transparency of the market for these products and will in fact be a positive step towards the continuation and development of the production of this product under the conditions of accession to the World Trade Organization.
- It seems that the study of the status of the agricultural sector of Iran under the conditions of accession to the World Trade Organization is an important issue requiring extensive research in the field of research.

## CONCLUSION

In this paper, it is tried to study te effects of Iran's accession to the World Trade Organization on the agricultural sector of Iran by using theoretical literature as well as existing experiences. In the first and second chapters of this research, theoretical developments in economics on international trade, the formation of international institutions with the nature of economic and commercial activities, such as Gat and the World Trade Organization, were examined.

At the same time, considering the necessity of studying the studies carried out in the agricultural sector of Iran under the conditions of accession to the World Trade Organization, efforts were made to present the results of the research to date as part of the second chapter of the thesis. Various existing researches, such as books, papers, expert reports and the like, have tried to explain some of the scientific and empirical facts in the agricultural and wheat sectors as an example of Iran's agriculture sector, in line with existing constraints.

A collection of studies and studies on wheat indicates that the results of studies in various research papers do not necessarily show the same results. In other words, the results of the estimated econometric models for wheat production under conditions of removal of government support do not necessarily indicate the positive and strong effects of the price of production of this product. Because the results of some models indicate the necessity of government support for this product, and some others, it is necessary to state that the government has not supported the production of this product. This difference in estimates was used for different reasons, such as unmatched usage statistics, weaknesses in econometric models, and similar cases. In other words, by relying on studies on the wheat crop, it cannot be conclusively stated that the necessity of supporting or not supporting the state of this product in terms of accession to students or researchers to calculate important indicators Such as effective support rates, and calculating these indices in order to further enhance research in this area.

**Table 2.** Results of the estimated econometric models for wheat production.

| Effect on amount of production of the current period | Increase rate | Variables |
|---|---|---|
| 0.72 Percent | 0.01 | PR-1 |
| 0.36 Present | 0.01 | Q-1 |

Although the results of some similar studies for the various reasons mentioned are somewhat different from the results of the present study, it seems that wheat production is now highly dependent on government support. In other words, in the event of the removal of government support in the context of (WTO) accession, wheat production will decrease substantially. This will be important in the context of the country's accession to the World Trade Organization, in which the reduction of government support is on the agenda.

Because the removal of government support will actually reduce the amount of wheat production and will provide grounds for the difficulty of producing this strategic product. It is important to note that at present, in order to prevent the damage to wheat

production in the country, the existence of state support in the conditions of accession to the World Trade Organization is indispensable. In order to prevent the negative effects and consequences of the removal of public support, A thorough and effective government effort is being made to gradually reduce government support in the long run. Abrupt cessation of government support under WTO accession will lead to a sudden drop in wheat production. Given the need to reduce the government's support for the production of various products such as wheat under the conditions of accession to the World Trade Organization, the sudden withdrawal of government support for wheat would damage the production of this product. Although it may be possible for the government to support a number of selected goods under the conditions of accession to the World Trade Organization, but based on the results of the model, it is better for the government, with long-term planning and moderation, to reduce the existing support for this strategic product. Take away the support from another product. In general, it seems that in the current state of affairs, Iran's definitive membership of the World Trade Organization as a threat to wheat production is considered as an example of the agricultural sector of Iran, and it can be attributed to the deterioration of state support, which could damage it. The more this field will work. The lack of government support for the production of this product (and as a result of price transparency) in the short and medium term will lead to a significant reduction in wheat production, and the only government with long-term planning and step by step can be transparent to prices. The field of wheat exchange moves. Considering the hypothesis of this study that "the government's nominal support for wheat is positively supported", this hypothesis is confirmed, and the government's support for wheat products has a positive effect on the production of this product.

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