

THE REPUBLIC OF AZERBAIJAN

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ABSTRACT

Of the dissertation for the degree of Doctor of Philosophy

IMPROVING THE REGULATORY MECHANISM OF THE AGRICULTURAL PRODUCTS MARKET IN THE REPUBLIC OF AZERBAIJAN

Speciality: 5312.01 – “Field economy”

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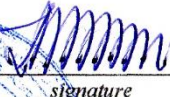
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GENERAL CHARACTERISTICS OF THE RESEARCH

Relevance and study level of the topic. The agrarian market regulation system is one of the important tools in terms of ensuring favorable conditions for agricultural producers during the sale of their products, as well as stimulating them to earn in a stable and profitable manner, thereby increasing the sustainability of production.

As mentioned in relevant reports of the UN Food and Agriculture Organization (FAO), agricultural markets are at the center of the development process. Well-functioning markets allow trade to optimally allocate resources, disseminate knowledge and technologies, and provide mechanisms that effectively link agriculture to other sectors of the economy. Since the market mechanism is crucial for the structural transformation of the economy, growth and development, appropriate policy instruments are implemented by the states to contribute to the sustainability of positive trends in the markets and trade of agricultural products.

As a result of continuous reforms in the agricultural sector in our country, significant progress has been made in the direction of ensuring food security and meeting the demand for a number of strategic products through local production, as well as in the growth of agricultural products exports. The introduction of multifaceted state support to farmers by the state has stimulated the increase of business activity in the agricultural sector and increased the economic interest in the activity in this field.

At the same time, the trend of growth and development in the field of production of agricultural products in the country, thanks to the purposeful measures taken, requires ensuring the stability of the agricultural market and favorable market conditions for farmers. For this purpose, there is a need to develop the agricultural market in the country and apply effective market regulation mechanisms, including the systematic implementation of operative market intervention measures.

Within the framework of supporting the development of the agrarian sector, the elimination of deficiencies formed in the market system and creating conditions for market failures has been identified as issues that must be resolved in a number of policy documents of national significance. So, in the "Strategic Roadmap for the production and

processing of agricultural products" adopted by the Decree of the President of the Republic of Azerbaijan dated December 6, 2016, the issues of developing the market infrastructure for agricultural products and improving the market regulation system were reflected. In this direction, the existing problems and the main directions that are important to solve are given. As a continuation of the relevant measures defined and implemented in the Strategic Road Map, the provision of the necessary conditions for the effective activity of market participants within the new stage of agrarian reforms is one of the important challenges of the state in the focus of the state in the "Socio-economic Development Strategy of the Republic of Azerbaijan in 2022-2026" has been determined.

However, in the current circumstances, the increase in production volume for some products leads to excess supply during the harvest period, which leads to the instability of the prices of those products and the creation of unfavorable market conditions for producers. At the same time, insufficient development of logistics infrastructure creates certain difficulties in storing products. This results in unfavorable prices for consumers in the off-season or the dominance of imported products in the market. Such instability and price fluctuations in the market of agricultural products, of course, have a negative impact on the sustainable development of production in the agricultural sector.

In addition to traditional market failure factors such as limited logistics system and lack of infrastructure, producers' lack of knowledge about market demand and price level, or information asymmetry, demand and supply structure in seasonal and off-season periods, the effects of the pandemic and the background of military-political conflicts have led to global the current conditions in the food market make it particularly necessary to implement systematic regulatory measures by the state to protect the internal market and create a favorable market environment for producers and consumers.

In this direction, in order to ensure the sustainability of the growth trend in the production volume, taking into account the possibilities of replacing the import of relevant agricultural products with local products, strengthening the use of export potential and developing the processing sector, it is necessary to prevent price fluctuations (volatility) in the agricultural market and ensure stability. It is important to solve the issues

related to the formation of effective market intervention mechanisms.

Taking into account the above, in terms of creating a favorable environment, it is considered important to comprehensively investigate the mechanisms of market regulation of agricultural products, improve the existing system, and explore the possibilities of applying effective mechanisms.

Issues of regulation of the economy in Azerbaijan, including the mechanisms of the agricultural commodities market regulation from various aspects (including the competitive environment, price level, development of market infrastructure, increase of exports, etc.) Z.A.Samadzade, H.A.Khalilov, E.R.Ibrahimov, V.T.Novruzov, N.A.Javadov, F.P.Rahmanov, R.K.Isgandarov, V.H.Abbasov, I.H.Ibrahimov, I.H.Aliyev, S.V.Salahov, V.A.Gasimli, R.Z.Huseyn, F.F.Fikratzade, I.Sh.Garayev, A.F.Abbasov, I.M.Kheirkhabarov, B.X.Atashov, M.M.Huseynov and others studied by others.

At the same time, the issues of regulation of the agricultural products market have been of interest to foreign researchers from different aspects in different periods. In this direction, there are numerous studies and researches in the economic literature. Foreign researchers V. Erokhin, J.Cullinan, Frank Ellis, Jim Harvey, Frolova E.Yu., I.A.Minakov, Christopher B. Barrett, Emelly Mutambatsere and others have studied the issues of agrarian market regulation in their research work and made recommendations on market development.

Development of agricultural products market and market regulation issues were considered within the framework of the projects implemented by FAO, OECD, World Bank, IFAD and other international organizations and in the researches of international experts, and recommendations were given on the assessment of market failures and development directions.

However, taking into account the effects of global factors such as climate change, pandemics and regional conflicts, the improvement of agricultural product market regulation mechanisms in Azerbaijan has not been a separate research subject. The theoretical and practical aspects of the improvement of mechanisms involving market intervention measures by the state in order to create opportunities for agricultural producers to access the market under equal and favorable conditions and to reduce

unfavorable market conditions have not been investigated at the necessary level.

The object and subject of the research. The object of the study is the agricultural products market system and market participants in Azerbaijan. The subject of the research is the formation and improvement mechanisms of market regulation for agricultural products .

Research goals and objectives. The main goal of the research work is the systematic analysis of the regulation of the agrarian market of Azerbaijan and the preparation of justified proposals for the further improvement of the existing regulatory mechanisms in this field.

In accordance with the objectives of the study, the following main tasks should be performed:

- ✓ Researching the theoretical issues of market regulation for agricultural products;
- ✓ Analysis of global trends in the agricultural products market and disclosure of international challenges;
- ✓ Investigation of methodological approaches to regulatory mechanisms in the market of agricultural products;
- ✓ Analyzing the organizational features of the formation and regulation of the agricultural products market in the country;
- ✓ Evaluation of the effectiveness of market regulation on agricultural products;
- ✓ Determining directions of regulation of agricultural products market;
- ✓ Preparation of proposals and recommendations on the improvement of agricultural products market regulation mechanisms.

Research methods. During the research, systematic approach, comparative analysis, analysis of dynamic series, generalization, analytical and statistical research methods were used.

Main clauses defended. The main provisions submitted to the defense are characterized by the following:

- ✓ Generalization of scientific-theoretical views on the regulation of the agricultural products market;
- ✓ Generalization of global trends and international challenges in the market of agricultural products;
- ✓ Determination of existing methodological approaches for evaluating the effectiveness of market regulation for agricultural products;

- ✓ Grouping the characteristics of the development of the agricultural market in Azerbaijan by stages and revealing the characteristics of the formation of the market regulation at the corresponding stages of development;
- ✓ Determination of development needs in accordance with the results of the assessment of the efficiency of the agricultural market in Azerbaijan;
- ✓ Determining directions for improving the regulation of the market of agricultural products in the country according to the development needs and improving the relevant mechanisms.

Scientific novelty of the research. The following scientific novelties were obtained in the study of mechanisms for improving the regulation of the agricultural products market:

- ✓ Appropriate generalizations were made based on scientific-theoretical views on the regulation of the agricultural products market and systematic analysis of approaches to the evaluation of the effectiveness of the regulation;
- ✓ The main factors of the formation of the mechanisms of the regulation of the agricultural products market according to the stages of evolution are explained;
- ✓ The organizational features of the development stages of the agricultural products market in Azerbaijan under the conditions of state independence are shown;
- ✓ The impact of improving market regulation mechanisms, which have become more relevant due to the effects of global factors such as climate changes, regional conflicts and pandemics, on the agricultural sector has been evaluated and priority directions have been identified;
- ✓ The effectiveness of market regulation for agricultural products was comprehensively assessed based on modern methodologies and the conditions for ensuring market stability were determined;
- ✓ Proposals were put forward to improve the market regulation tools in a mutually connected way along the value chain;
- ✓ Proposals for intervention measures that serve to create favorable market conditions from the point of view of producers and consumers in the agrarian market have been prepared;
- ✓ Recommendations were made on directions for stimulating the

development of market infrastructure for agricultural products;

✓ The possibilities of organizing the market of agricultural products in the regions freed from occupation have been determined.

Theoretical and practical significance of research. The results obtained in relation to the studied topic can be widely used in the preparation of policy recommendations and policy documents related to the development of the market of agricultural products and the improvement of market regulation mechanisms.

Research approval and implementation. In 2020-2023, reports were made (online) at a number of international and republican level scientific conferences (Turkey, Moldova), in prestigious foreign scientific journals (Russia, Ukraine) and scientific publications recommended by the Higher Attestation Commission regarding the main provisions and results of the dissertation work. The articles have been published in periodical scientific publications in the list.

Various references and information on the investigated issues related to the directions of the regulation of the agricultural products market have been submitted to the Ministry of Agriculture, including relevant institutions of the Ministry.

The name of the institution where the dissertation work was performed. The dissertation work was carried out at the Agrarian Research Center under the Ministry of Agriculture.

Structure and scope of the dissertation. The dissertation consists of an introduction (11857 marks), three chapters (Chapter I 77584, Chapter II 75131, Chapter III 53774 marks), a conclusion (11628 marks) and a list of references (151 names), the total volume is 164 pages. There are 19 tables, 1 picture, 13 graphs, 3 appendices. The general text part of the dissertation (excluding tables, schemes, diagrams, graphs, appendices, bibliography and spaces) is 229,974 characters.

STRUCTURE OF THE DISSERTATION

Introduction

Chapter I. Theoretical-methodological bases of agricultural product market regulation

1.1. Functions and main tools of market regulation of agricultural products

1.2. Development factors of agricultural products market regulation mechanisms

1.3. Methodological aspects of assessment of market conditions and regulation of agricultural products

Chapter II. Assessment of the current state of regulation of the agricultural products market in Azerbaijan

2.1. Analysis of the current situation on the market of agricultural products

2.2. Organizational features of agricultural product market regulation

2.3. Evaluation of the effectiveness of the regulation of the agricultural products market

Chapter III. The main directions of improvement of agricultural products market regulation mechanisms in Azerbaijan

3.1. Implementation of the market intervention mechanism

3.2. Directions for improving market regulation along the value chain

3.3. Stimulation of the systematic development of the market infrastructure

The result

List of used literature

Supplements

Abbreviations and conventional signs

BASIC SCIENTIFIC PROVISIONS SUBMITTED TO THE DEFENSE

1. Generalization of theoretical approaches related to the regulation of the market of agricultural products

The presence of effective agricultural markets plays an important role in ensuring the sustainable development of the agricultural sector. A functioning market mechanism is crucial for the structural transformation of the economy, growth and development.

In the dissertation, the issues of regulation of the agricultural products market were investigated, the researches and studies conducted in this direction in the economic literature were reviewed, and the existing theoretical approaches related to the mechanisms of the regulation of the agricultural market were analyzed in detail.

It is shown that researches on the agricultural products market system have been conducted in two directions, i) the advantage of liberal regulation and ii) the more effective protectionist policy.

Supporters of the liberal regulation policy consider it necessary to eliminate the restrictions applied to the economic system of the state, as well as the support measures, and to soften the barriers applied in foreign trade operations¹.

On the contrary, supporters of the protectionist state policy implemented in order to ensure the development of the domestic market by restricting global trade in order to improve the economic activity in the country, as well as safety and quality requirements, believe that this policy has a positive effect on the increase of employment and the growth of production². It is known that the policy of protectionism in the conditions of the market economy is applied to a certain product or sector, as well as to any country or group of countries, depending on the goals of the state.

The theoretical approaches to the directions and mechanisms of

¹Ellis, F. *History of Agricultural Policy* / Ellis F., Harvey J., Waites T. // - 2008; Erokhin, V. *Trade liberalization and state support of agriculture: effects for developing countries*, Erokhin V., Ivolvega A., Heijman W. // - 2014, -1, 14 p.

²Alekseevich, IM *Agricultural Market Development: Trends and Prospects* Alekseevich, IM, Valerievich AN // - 2019, 5 p.; Cullinan, C. *Improving the legal environment for agricultural marketing / Agricultural Services Bulletin 139*, Cormac Cullinan // FAO. Rome: - 1999

market regulation are summarized in the dissertation work, referring to the research, studies and reports of researchers and scientists from different countries, including international organizations.

Taking into account the conducted theoretical research and the experience of the countries of the world, a schematic description of the regulation of the agricultural products market as an element of the state's agrarian policy measures is given in figure 1.

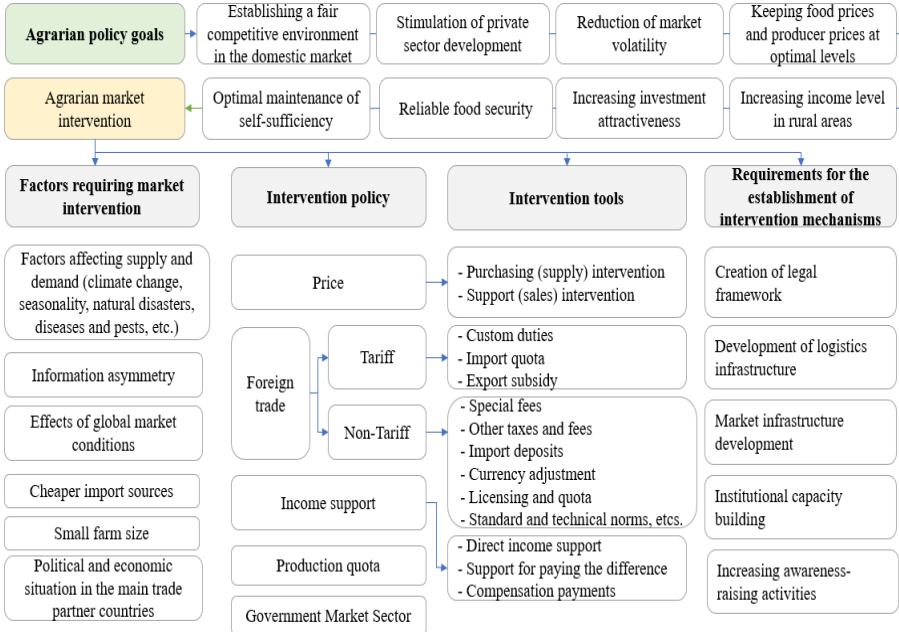


Figure 1. Conceptual description of market regulation of agricultural products

Source: Prepared by the author

Thus, based on our research on the theoretical issues of the regulation of the agricultural products market and the policy mechanisms and instruments aimed at the regulation implemented by the countries of the world in this direction, we can say that the main factors that cause the failures of the agricultural products market are the unstable price level, information asymmetry, high transportation and operating costs are considered. These mentioned factors limit the possibilities of agricultural product markets to provide desired and

expected benefits, attract large-scale investments to the sector, and weaken the connection of small farmers and entrepreneurs with global market systems and global value chains. In this regard, it is possible to say that the state's market intervention measures are, in most cases, a government response aimed at reducing or eliminating these failures and risks, as well as taking preventive measures.

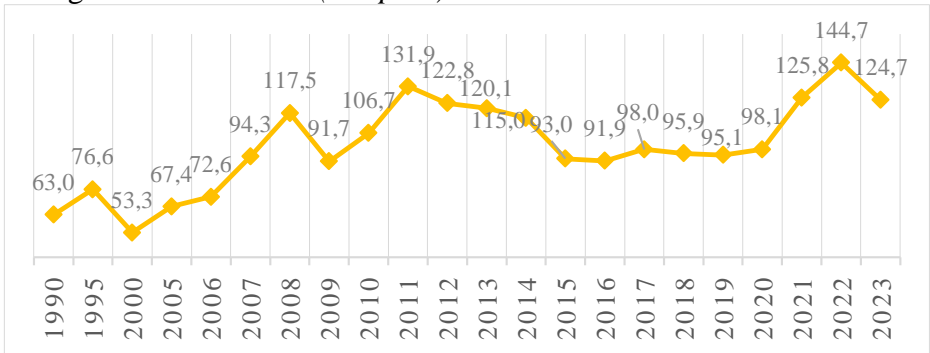
2. Summarizing global trends and international challenges in the agricultural market

Although different policies are applied to the agricultural sector at different stages of economic development and in different economies, the need for sustainable development of agriculture is one of the main challenges in modern times.

In the research work, various policy tools applied to the agricultural sector, including factors of the development of mechanisms of regulation of the agricultural products market, were examined, global trends in the agricultural market were analyzed, and the main challenges of international organizations considered important for the development of the agricultural sector were given.

It was noted that the fluctuations that started in 2020 in the agricultural markets due to the effects of the global pandemic and the disruptions in the international supply and trade chains became more acute from 2022 with the start of the Russia-Ukraine war.

According to FAO, the price index for food products has reached its highest level in 2022 (*Graph 1*).



**Chart 1. Global food price index
(2014-2016=100)**

Source: www.fao.org/worldfoodsituation/FoodPricesIndex/en/

FAO believes that the development and implementation of effective measures that promote the sustainable development of the agricultural market, especially the minimization of the effects of factors such as the pandemic, should be the main responsibility of the state policy.

In addition to the support measures determined by the unique specificity of the agricultural sector, as well as the natural resources and economic opportunities of the countries, any shocks and uncertainties arising in the economic systems require the introduction of new support measures to the agricultural markets, and the policy instruments of many countries change. For example, the market disruptions caused by the pandemic and the war have forced most countries to make changes in their agricultural policy measures.

Based on our assessments of the analysis of global trends in agricultural products markets, we can say that such policy changes are a historical regularity arising from the necessity of the environment formed under the influence of certain conditions.

In periods of instability in the world market, the new policy instruments applied by individual states were more aimed at protecting the domestic market and meeting needs, as well as maintaining domestic economic development. In the current conditions, the new development phase of the agricultural sector poses a challenge for most countries to develop and implement new development strategies.

Our research on the development characteristics of global agricultural markets and international challenges related to the development of the agricultural sector shows that neither modern challenges nor historically existing approaches envisage ensuring development without the role of the state in the agricultural sector. Although the approaches are different, the main goal of all governments is to achieve sustainable development of the agricultural sector, ensure food security and improve the welfare of the population, and increase profitability. This again emphasizes the need to ensure favorable market conditions.

3. Existing methodological approaches for the assessment of market regulation of agricultural products

Assessment of market development needs or deficiencies in the

framework of measures to ensure the sustainable development of the agricultural sector serves as a basis for the formulation of adequate policy instruments. In the economic literature, there are various methodological approaches that allow assessing the current state of market conditions for agricultural products and determining development needs.

In the dissertation, the main factors that cause market failures and the existing approaches to their evaluation were investigated, and the indicators determining the efficiency of the market system were determined.

Thus, one of the main factors that cause market failures is the level of volatility in prices. According to V. Abbasov, *"The main leading role in the state regulation system is played by the efforts aimed at the expectation of the price level and price balance. The imbalance of the price mechanism often leads to devastating results"*³. Agreeing with this opinion, we believe that the state's support measures implemented in the direction of stabilizing the price level can play an important role in the formation of favorable market conditions.

In the thesis, the following formulas were used to determine the level of volatility of prices for agricultural products:

1. Coefficient of Variation (CV) is the division of values over a period of time by the average value over the same interval⁴.

Coefficient of Variation (CV) = (Standard Deviation (SD) / Mean (\bar{x}) * 100. (1)

Arithmetic Changes of Prices. It is determined by dividing the difference between the 2nd period price and the 1st period price by the 1st period price.

Arithmetic Changes in Prices = (P2 - P1) / P1 (2)

2. Logarithmic Price Changes. It is determined by finding the logarithm of the price of period 2 divided by the price of period 1.

Logarithmic Price Changes = ln (P2 / P1) (3)

3. Annual price volatility. The standard deviation is determined

³ Abbasov, V. *Aqrar sahədə tənzimləmənin aktual problemləri / Vahid Abbasov (Monoqrafiya) // Bakı: - 2012, 424 s., - 1 s.*

⁴Madelon FZ Z-4: *Mean, Standard Deviation, And Coefficient Of Variation / Electronic resource] // - 2019.*

by multiplying the square root of the number of observations during the year.

Annual price volatility = Standard Deviation * SQRT (n) (4)
n = indicates the number of values observed during the year⁵.

One method of assessing how favorable market conditions are for market participants is to determine price parity.

The price parity in the dissertation work is estimated by the following formula.

$$I_{qp} = I_{k/t} / I_s * 100\% \quad (5)$$

here:

I_{qp} - price parity index;

$I_{k/t}$ - price index of agricultural products;

I_s - the average price index of industrial products used for the production of agricultural products⁶.

At the same time, the analysis of the market margin, which is considered one of the indicators that determine the efficiency of the market system, was carried out using the following formula.

Gross market margin = (Consumer price - producer price) / (Consumer price)*100⁷. (6)

According to the conducted research, it is known that one of the main factors for the good functioning of the markets is the infrastructure. If the market infrastructure in agriculture is inadequate, serious problems may arise in the competitive environment and adequate supply volume in the market. In the research, calculations made with the following formula used to determine the storage capacity for agricultural products based on the methodology applied in the European Union were used⁸.

⁵Bloem, J. *Calculating Price Volatility* / Bloem J. // - 2015, - 1-2 p.

⁶Samarukha, V.I., Tyapkina M.F. *Price disparities arising on agricultural and industrial production.* // *Baikal Research Journal* ///Irkutsk, 2019, - 10 pages.

⁷Mandizvidza, K. *Analyzing Marketing Margins and the Direction of Price Flow in the Tomato Value Chain of Limpopo Province, South Africa* / Mandizvidza K / *International Journal of Environmental & Agriculture Research (IJOEAR) ISSN: [2454-1850] [Vol-3, Issue-3, March- 2017], - 2, 4 p.*

⁸*Study on storage capacities and logistical infrastructure for eu agricultural commodities trade / European Commission. Areté srl – Research & Consulting in Economics - 2017, - 11, 16 p.*

$$SN = \text{Max} (Px + Ix - Ex + Sx - ACx) (7)$$

Here,

Px - monthly production volume for product x ;

Ix - monthly import volume for product x ;

Ex - monthly export volume for product x ;

Sx - the balance volume at the beginning of the month for the x product (the balance at the beginning of the month is equal to the balance volume at the end of the previous month);

ACx - monthly consumption volume for x product (annual production+annual import-annual export) / 12.

Thus,

Storage capacity = Max(Production+Import-Export+Starting stock-Monthly consumption).

Examining the market access conditions of agricultural producers is considered as one of the other factors that allow to assess the market system's feasibility and identify development needs. In this regard, the nominal and effective protection coefficient indicators were evaluated in the study, as well as the market access needs of farmers were evaluated through satisfaction surveys. In addition to all this, it was considered important to analyze the country's tax and customs policy during the determination of the existing methodological approaches for the assessment of market regulation.

Thus, during the assessments of methodological approaches related to the assessment of the needs for the directions of regulation that serve the development of agricultural products markets, it is known that as factors characterizing the development of the market, the level and frequency of price volatility, the degree of parity of prices, and the market margin should be evaluated. As factors affecting the development, the limitations of logistics infrastructure, market access conditions for farmers, as well as the tax and customs policy of the country should be investigated.

4. Characteristics of the formation of market regulation on the development stages of the agrarian market in Azerbaijan

In the dissertation, analyzes and evaluations of the current state

of the agricultural products market in Azerbaijan were carried out, the formation of market regularities during the period of state independence, the measures implemented in this direction were investigated, and the features of the formation of market regulation were revealed.

The formation of market regulations for agricultural products in Azerbaijan and the process of evolution of the market system are conditional on i) the initial stage of the transition to the market economy covering the first years of independence: 1991-1994, ii) the intensification stage of agrarian reforms: 1995-2002, iii) the stage of formation of new development mechanisms based on the principles of market economy: 2003-2014 and iv) the modern stage of agrarian reforms: divided into periods after 2015 and detailed information in the dissertation by analyzing and evaluating the main characteristic features of the regulation for the relevant periods given.

At the same time, the currently existing regulatory mechanisms were examined and analyzes were carried out related to permanent tariff mechanisms, non-tariff measures, export stimulation measures, purchase price policy (contract farming) and adaptation measures to the global food crisis that occurred in recent years, and it was determined that the country the market price of agricultural and food products is not directly regulated, the agricultural market regulation policy is mainly implemented in the form of means of production support, customs-tariff regulations, tax concessions and non-tariff regulations.

According to the evaluations carried out in the research work, it is shown that in order to increase the effectiveness of the measures defined by various normative and legal acts and set out in separate policy documents, the call to ensure market stability should be solved in parallel with the government's agrarian policy measures to promote production.

5. Assessing the effectiveness of the agricultural market in Azerbaijan and determining development needs

It is known from the conducted researches that within the framework of the state support measures available in the country in the direction of ensuring the development of the agrarian sector, regulatory

measures of the state are being implemented on the agrarian market with various instruments.

The effectiveness of the existing regulatory measures applied to the market of agricultural products in terms of determining the development needs for the formation of favorable market conditions was evaluated in the research work.

Based on the methodological approaches defined in the previous sections, as well as official statistical indicators, alternative data sources available at the Agrarian Research Center and obtained through various surveys were also used in the conducted evaluations.

Within the framework of the evaluation of the efficiency of the agricultural market, taking into account the main features of the market of agricultural products in Azerbaijan, the level of volatility of prices for wheat, meat, milk, potato, onion and cabbage products was analyzed according to their importance from the point of view of both producers and consumers.

Table 1 shows the results of evaluating the level of price volatility during the same year based on the aforementioned analyzes conducted on the basis of the appropriate methodology.

Table 1.

Indicators of the average level of price volatility during the year

	Potato	Oni-on	Cab-bage	Normal milk	Skim med milk	Beef on the bone	Wheat
2017	46%	133%	-	-	-	12%	12%
2018	97%	120%	93%	44%	49%	5%	26%
2019	85%	99%	157%	37%	65%	6%	21%
2020	66%	134%	84%	38%	77%	5%	10%
2021	104%	97%	71%	30%	39%	12%	22%
2022	94%	91%	90%	6%	17%	14%	17%

Source: calculated by the author based on the data of the agrarbazsar.az portal

During the same year, the quantity of the price volatility level indicator approaching 0 indicates that sharp ups and downs in the prices of that product occur less frequently. If the indicators are 100% or more, it means that the price of that product fluctuates more than 2 times during the year. The variability of the price levels of products in

different months of the year is considered to be mainly due to the seasonal nature of production. The dissertation provides detailed analyzes in this regard.

In addition to the level of volatility of prices during different months of a year, price differences for the same periods of different years were also calculated according to the relevant methodology given in the previous sections. The indicators of the results of the mentioned analyzes are given in table 2.

Table 2.

Indicators of the average level of volatility of prices for the corresponding months of 2017-2022

	Potato	Onion	Cabbage	Normal milk	Skimmed milk	Beef on the bone	Wheat
January	72%	88%	160%	19%	46%	17%	19%
February	54%	52%	131%	11%	33%	18%	21%
March	55%	32%	172%	21%	29%	16%	26%
April	68%	43%	160%	32%	38%	20%	31%
May	74%	60%	107%	45%	30%	31%	34%
June	102%	153%	75%	24%	10%	22%	50%
July	128%	231%	142%	43%	46%	18%	66%
August	45%	176%	157%	35%	60%	20%	63%
September	67%	144%	137%	41%	42%	30%	48%
October	78%	115%	192%	23%	25%	36%	46%
November	70%	114%	255%	23%	59%	33%	32%
December	70%	85%	231%	51%	80%	31%	28%

Source: calculated by the author based on the data of the agrarbazar.az portal

The higher the level of change of the indicators given in Table 2 is higher than 0, it indicates higher price fluctuations occurring in the same month of different years. Although fluctuations in prices at a certain level during the year can be considered a regularity due to seasonality, such sharp increases and decreases can be evaluated as market conditions, especially from the point of view of producers, are not favorable / reliable .

In addition to the level of price volatility, issues such as price parity indicator, market margin, market infrastructure, market access

of producers were also analyzed in the research work. Based on the evaluation results, it is known that in 2022, compared to 2015, producer prices for general agricultural products increased by approximately 49.6%, but this increase was approximately 66.3% for consumer prices of general products and services. Also, the growth of costs for the production of agricultural products has been higher for a number of products in recent years.

It is shown that the price differences between farmgate and retail sales of the main agricultural products vary from 15 to 100%. However, the market margin for agricultural products, which are not included in the group of high sales risk, is considered favorable for market participants, although it is not high.

According to R. Huseyn, in order to regulate the high differences between producer and consumer prices of agricultural products, *"supporting the development of warehouse-supply and wholesale market infrastructure by the state can play an important role in the positive change of the situation"*⁹.

Based on the experience of the global food crisis, which was exacerbated by the Russia-Ukraine conflict in 2022, F. Fikratzade believes that *"in addition to strengthening the local production potential, the availability of infrastructure for the storage of food products in the country and the base created for the food industry are also important in terms of the country's food security"*¹⁰. Considering these ideas as an important argument for the development of market infrastructure for agricultural products, we consider it important to review the current situation.

Thus, based on our assessments, we can say that in general, there are certain unfavorable conditions in terms of the interests of producers and consumers in the market of agricultural products. In order to create favorable market conditions, the relevant measures should be

⁹Huseyn, RZ *Experience in the development of warehousing and wholesale market infrastructure of the Republic of Korea. Scientific works of Azerbaijan Scientific-Research Institute of Economics and Organization of Agriculture. No. 2, Baku, 2015, p. 26-35*

¹⁰Fikretzade, FF *The issues of strengthening Azerbaijan's supply of agricultural and food products and diversification of export markets against the background of the challenges arising from the Russia-Ukraine conflict / FF Fikretzade // "Economic reforms" scientific and analytical journal No. 2(3) /// - Baku: - 2022 , - 20-28 p.*

improved in order to increase the efficiency of the market regulation for agricultural products, and work should be expanded in order to eliminate market failures.

6. Directions for improving agricultural market regulation

The issues of forming a favorable market environment for agricultural products are one of the important challenges in ensuring the sustainable development of the agricultural sector, and are still urgent issues that need to be improved.

Based on the results of the analyzes and evaluations carried out in the dissertation, the directions of regulating the agricultural products market in accordance with the needs of the development of the agrarian market , as well as justifications for the improvement of the regulatory mechanisms in these directions, were given.

It is shown that the decrease in prices caused by the oversupply of the main agricultural products during the production season, as well as the difficulties of farmers in relation to sales in this regard, necessitates the implementation of regulatory measures in this direction. On the other hand, the decrease of farmers' interest in the production of products whose prices have fallen sharply in one year, or on the contrary, the oversupply of products sold at a higher price in the next year, leads to the formation of unfavorable market conditions. Such situations result in the lack of sustainability in the production activities of farmers, which affects the production volume of agricultural products in the country as a whole.

In the dissertation, given the need for improvement in the direction of eliminating or minimizing the market uncertainties caused by the price level, justified proposals were put forward regarding the application of concrete stimulation measures in order to expand the logistics infrastructure, including storage warehouses, receiving, supply points, and processing facilities.

As another direction of improvement, the prevention of the formation of unfavorable conditions in the market competition due to cheap import sources along with local products is indicated. In this direction, it was considered important to improve the tax and customs policy, as well as to strengthen quality control measures through non-tariff instruments.

The elimination of information asymmetry in terms of increasing the functionality of the market rules of the agricultural market, and the formation of favorable market conditions, has been investigated as one of the directions for improving the regulation of the agricultural market.

MAIN RESULTS

Based on the analyzes and evaluations carried out in the dissertation, the following main results were obtained and proposals and recommendations were made regarding market regulation mechanisms:

1. Regulation of the market of agricultural products existed in different forms depending on economic and political situations in different periods. Both from a historical point of view and in the modern era, regulation of the agricultural market is relatively widely applied by most countries in order to create favorable market conditions and ensure the proper functioning of market laws;

2. In modern conditions, in the system of regulation of the agrarian market, the measures of state intervention in the market occupy a special place. Such measures are, in most cases, among the main policy instruments aimed at reducing or eliminating market failures and risks, as well as taking preventive measures in this direction;

3. In order to ensure the development of the agricultural sector in Azerbaijan, the state supports measures in several directions. Also, in a number of policy documents, programs and strategies, important measures aimed at the development of the agricultural market have been defined. Within the framework of these measures, the dynamics of growth in the volume of production in the agricultural sector has been achieved, and the volume of export of agricultural products has expanded. Also, measures to stimulate the construction of logistics and market infrastructure in the regions are successfully continued;

4. Currently, market regulation is carried out in a certain form within the framework of quality control measures for local and imported products with non-tariff instruments in order to improve the supply of means of production at favorable prices in the country, to achieve the stability of the market supply, to regulate imports and

exports with customs taxes and duties, and also to protect competition conditions. are hold. Although such mentioned mechanisms and policy instruments serve to regulate the agricultural market to some extent, the country does not have a fully systematic and more effectively coordinated market regulation mechanism, including a direct market intervention mechanism;

5. At the same time, there is high instability in the level of market prices for the main agricultural products, especially during seasonal periods, caused by the increase in production. Thus, during the production season, the oversupply of local products in the market results in price fluctuations, which creates unfavorable market conditions for producers. In order to eliminate such a situation, it is considered appropriate to create effective and flexible market intervention mechanisms that ensure the achievement of the optimal level of prices from the point of view of producers and consumers;

6. During the production season, the unfavorable market conditions created by local producers for each other are exacerbated by the entry of cheap imported products into the market during that period, which causes losses to producers. In order to minimize such market failures, customs-tariff policy in order to improve the environment of equal competition for domestic and imported products, including the application of import duties and export regulation mechanisms in coordination with the market intervention mechanism, as well as non-tariff policy in order to reduce the quality distortion of domestic and imported products it is important to strengthen food standards control measures within the framework of measures;

7. At the same time, there is a lack of infrastructure for storing manufactured products. In the regions, logistics service networks, reception and delivery points are not adequate to meet the demand. Within the framework of agricultural market development measures, it is proposed to stimulate the expansion of the logistics infrastructure, including cold storages, reception and supply points , in this direction, preferential financing, including the subsidization of loan phases, the introduction of a loan guarantee mechanism, or refrigeration for subsidized intensive gardens. it would be appropriate to evaluate the possibilities of giving additional incentives to warehouse construction;

8. The processing level of agricultural products is low. Almost a small part of the produced agricultural products, including fruits and vegetables, is processed. Also, processing enterprises are not very interested in working with local products for certain objective reasons. In terms of accelerating the development in this area, it is suggested to promote the processing of local products and eliminate limiting factors in the value chain. For this, improvement of VAT, elimination of "tax breaks" in the value chain can act as one of the main stimulating mechanisms in terms of market regulation;

9. In some sectors, there are unfair trade conditions in buyer and seller relations, especially from the point of view of local producers. In order to eliminate such cases, it is necessary to improve the legal framework and strengthen control measures;

10. More than 2/3 of agricultural products are exported in their primary form. Also, there is dependence on one or two markets in the export geography for most agricultural products. In addition to increasing the processing volume of agricultural products, it is appropriate to promote access to non-traditional foreign markets in order to diversify the export geography, for this purpose, to give grants to entrepreneurs for obtaining certificates accepted in European and Arab countries, and to increase advisory and information services to farmers in this direction.

11. Producers, especially small farmers, have a low awareness of market signals, including price levels, commercial requirements for their products, quality requirements, and buyers. In terms of minimizing such situations and eliminating information asymmetry, the formation of the market information system, as well as the improvement of the price base of agricultural products (agrarbazar.az) can ensure the reduction of distortions and increase the reliability of information in this direction.

12. Along with all this, it should be noted that the possibilities of restoring the traditional areas of the agricultural sector and developing new prospective areas in the liberated territories create new opportunities for the development of the agricultural products market.

The main provisions of the dissertation work, the obtained results and proposals are reflected in the following published scientific works:

1. Hacıyeva, S.İ. Aqrar sahədə qiymət paritetliyinin istehsalçıların gəlirlərinə təsiri / “Kənd təsərrüfatının iqtisadiyyatı” elmi praktiki jurnalı 2020, № 1 (31) / - Bakı, - 43-51 s.;
2. Hacıyeva, S.İ. Fermerlərin bazara çıxış problemləri / Azərbaycan Aqrar Elmi” jurnalı 2020, № 1 / - Bakı, 94-103 s.;
3. Hacıyeva, S.İ. Kənd təsərrüfatı məhsulları bazarında intervensiya tədbirləri: dünya təcrübəsi və Azərbaycanda tətbiqi istiqamətləri / “Statistika xəbərləri” jurnalı 2020, № 4 / - Bakı, - 59-70 s.;
4. Hacıyeva, S.I. Regulation issues of price fluctuations in the agricultural market / Часопис Економічних Реформ науково-виробничий журнал 2022, № 2 (46) / - Харків, 19-24 s.;
5. Hacıyeva, S.I. Market risks and risk management in the agricultural sector: challenges for Azerbaijan / Экономика и предпринимательство 2022, № 6 (143) / - России, - 404-408 s.;
6. Hacıyeva, S.İ. Azərbaycanda kənd təsərrüfatı məhsulları üzrə ticarət marjasının təhlili / “ADAU-nun Elmi Əsərləri” 2023, №1 / 47-52 s.;
7. Hacıyeva, S.İ. Aqrar bazarın gömrük-tarif alətləri vasitəsilə tənzimlənməsi / Kənd təsərrüfatının dayanıqlı inkişafı: qlobal çağırışlar və Azərbaycanda həyata keçirilən islahatlar” elmi-praktiki konfrans materialı, “Kənd təsərrüfatının iqtisadiyyatı” elmi praktiki jurnalı 2020, № 4 (34) / - Bakı, - 162-169 s.;
8. Hacıyeva, S.I. Main Challenges in Agricultural Commodity Market: Logistics Issues for the Export of Fresh Agricultural Products in Azerbaijan / ICOFAAS 2021. 3rd International Conference on Food, Agriculture and Animal Sciences (online), October 13-17, 2021, ISBN: 978-625-00-0379-4 / - Erzurum, Turkey, - 285-291 s.;
9. Hacıyeva, S.I. The Characteristics of Azerbaijan's Agricultural Products Market Formation / Importance of Soft Skills for Life and Scientific Success: Proceedings of the 1st International Scientific and Practical Internet Conference, March 1-2, 2022, ISBN 978-617-95218-4-3 / - Dnipro, Ukraine, - 60-62 s.;
10. Hacıyeva, S.I. Market gap analysis: untapped potential for export-oriented agricultural products in Azerbaijan / International Scientific-

Practical Conference “Economic growth in the conditions of globalization”, October 12-13, 2022, ISBN 978-9975-3583-9-2 / - Moldova, Chisinau, - 570-576 s.;

11. Hacıyeva, S.İ. Bazara çıxışın yaxşılaşdırılması ilə aqrar istehsalın artırılması imkanları / “Azərbaycan Respublikasının sosial-iqtisadi inkişafının aktual problemləri” Respublika Elmi Konfransı, 20-21 oktyabr 2022, № 6 / - Sumqayıt, - 396-398 s;
12. Xəlilov, H.A. “Modern dəyər zəncirinə keçid şəraitində kənd təsərrüfatı məhsulları bazarında rəqabət mühitinin xüsusiyyətləri” / H.A.Xəlilov, Hacıyeva S.İ, Qasımova N.F // Kənd təsərrüfatının iqtisadiyyatı Elmi praktik jurnal № 1 (43) // - Bakı: - 2023, 9-26 s.



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