

THE REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertations for the degree of the of Doctor of Philosophy

REGIONAL ECONOMIC ISSUES OF ENSURING BALANCE IN THE FOOD MARKET

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GENERAL CHARACTERISTICS OF SCIENTIFIC WORK

Relevance and development of the topic: The deepening of the globalization process has a distinct impact on the socio-economic life of developing countries. Especially in countries whose economies are more dependent on import channels, the negative manifestations of globalization become more evident. Although the dependence on import channels is observed particularly in the food and nutrition sector, all of this leads to social problems in society.

In the current conditions, the disruption of balance in the food market emerges as one of the major threats to food security. Although the imbalance in the food market bears a macroeconomic character, this negative trend stems from complex problems of a sectoral socio-economic and import-oriented nature. The balance in the food market primarily involves harmonizing supply and demand for goods. However, the unavoidable reality is that ensuring balance in the food market often has an idealistic nature, while in practice this balance remains quite fragile. A key factor determining the emergence of this process is the fact that, under modern conditions, food markets operate in a globally competitive environment.

The problems in ensuring reliable food supply for the population are mainly manifested through the disruption of balance in the food market. Although this trend is related to multiple factors, it is primarily connected to food security, the lack of sustainable development in agriculture, and the inability of different segments of the population to access the food market on equal terms (due to limited purchasing power), among other reasons. From this perspective, since the late 20th century and especially from the early 21st century, the seriousness of this problem in our country has been acknowledged, leading to the adoption of several State Programs, a series of legal and regulatory acts, and the “Strategic Road Map for the Production and Processing of Agricultural Products in the Republic of Azerbaijan.” In this “Strategic Road Map”, *a number of goals have been defined in the direction of developing the production*

*and processing of agricultural products and ensuring food security*¹.

In the Decree of the President of the Republic of Azerbaijan dated on March 2, 2001, on the “Approval of the Food Security Program of the Republic of Azerbaijan” the government set out a two-stage strategy to achieve food security: *first, providing support to private farmers and entrepreneurs; second, increasing the profitability and competitiveness of Azerbaijan’s agriculture, as well as ensuring its integration into the international economic system.* ²

The directions outlined in the Decree have been fully implemented. Thus, state support and tax concessions have been applied to agricultural commodity producers, and this process continues. Additionally, the country’s agricultural and food markets have been integrated into the global community. However, despite all these efforts, in the early 2000s, a sharp increase in energy carrier prices, intensified global competition, climate change, reduction in water resources, and other factors led to a sharp rise in food prices on the world market, which in turn caused problems in food supply and disrupted balance in the food market.

For the purpose of preventing such problems that the “State Program on Reliable Provision of Food Products to the Population of the Republic of Azerbaijan” for the years 2008–2015 was adopted by the Decree of the President of the Republic of Azerbaijan dated on August 25, 2008. The State Program reflected issues such *as ensuring the preservation of food products, development of related infrastructure, creation of sectoral and regional economic balance, ecological stability, and protection of biodiversity.*³

There are numerous factors that have long hindered the maintenance of balance in the food market. These factors include the artificial

¹ “Strategic Roadmap on the Production and Processing of Agricultural Products in the Republic of Azerbaijan” – Decree of the President of the Republic of Azerbaijan dated December 6, 2016. 177 pages.

² On the Approval of the “Food Security Program of the Republic of Azerbaijan” – Decree of the President of the Republic of Azerbaijan dated March 2, 2001.

³ “State Program on Reliable Provision of the Population of the Republic of Azerbaijan with Food Products in 2008–2015” — Decree of the President of the Republic of Azerbaijan dated August 25, 2008.

increase in demand in the food market, the decline in the volume of local commodity demand, the significantly lower productivity of agricultural crops and livestock compared to developed countries, the limited opportunities for applying innovative technologies in the agriculture and food processing sectors, the restricted environment for free competition in the production, service, and natural sectors of agriculture and food processing, the presence of tendencies toward local monopolies, the intensified impact of global climate change on health and the food market compared to previous decades, and the lack of alignment of the specialization process in agriculture and food processing in the country's regions with global challenges.

The above-mentioned factors necessitate conducting research on the topic “Regional-economic problems of ensuring balance in the grain market” and determine the relevance of the topic.

The food market and the problems related to improving the socio-economic mechanisms of its regulation have become a subject of research under modern market conditions in both our country and foreign nations. Among national economists, this topic has been studied by Z.A.Samadzada, E.A.Quliyev, E.R.Ibrahimov, B.X.Atashov, A.X.Nuriyev, I.H.Ibrahimov, E.M.Hacızade, A.C.Verdiyev, I.V.Ahmadov, G.A.Gancıyev, H.A.Xalilov, V.H.Abbasov, R.A.Balayev, N.C.Qafarov, A.F.Abbasov, X.M.Huseynova, M.C.Huseynov, R.A.Huseyn, F.V.Quliyev, F.F.Fikratzade, N.A. Shalbuzov, E.A. Quliyev, F.F.Babayev, F.V.Rustamov, İ.M. Kheyrikhabarov, A.A. Qurbanzada.

Among foreign economists, valuable research in this field has been conducted by E. Krlatikh, İ.L. Matsenovich, N.A. Popov, E.V. Serova, V.A. Zolinski, E.N. Borisenko, V.S. Balabanov, A.V. Gordeev, E.E. Rumyantseva, A.A. Shutkov, and others.

Despite the fact that various aspects of the food market have been studied in existing research, issues related to ensuring food security and maintaining balance in the food market in accordance with modern requirements necessitate continued research in this direction.

Object and subject of the research. The object of the research is the food markets of the Republic of Azerbaijan and various economic entities and management bodies involved in the supply of these

markets. The subject of the research includes the regional-economic factors ensuring balance in the food market, as well as the mechanisms, methods, and tools for regulating and solving the existing problems in this field.

Goals and objectives of the research. The goals of the research is to explore the theoretical and scientific foundations for ensuring balance in the food market, to analyze modern trends in maintaining balance in the food market, and to develop scientifically grounded and practically significant recommendations and proposals regarding the improvement of the regional-economic mechanism for ensuring market balance.

In accordance with the goals of the research, the following tasks have been identified:

- Identifying the nature, necessity, and influencing factors of ensuring balance in the food market;
- Studying the regional economic mechanisms for ensuring balance in the food market;
- Exploring the theoretical aspects of forming a system of socially based mechanisms, insurance, and secured investment in ensuring market balance;
- Analyzing the current state and development trends of ensuring balance in the food market;
- Investigation of regional factors affecting the balance in the food market;
- Analysis of the current state of economic mechanisms ensuring balance in the food market;
- Justification of food market balance and the sustainable development of agriculture;
- Identification of the role of improving the infrastructure system in ensuring balance in the food market;
- Determination of directions for improving the economic mechanism of ensuring balance in the food market and preparation of relevant proposals.

Research methods: As research methods, logical generalizations, statistical analysis, surveys, observations, comparative and systematic

analysis, grouping, and economic-mathematical analysis methods were used.

As the information base, data from the State Statistical Committee of Azerbaijan, the Ministry of Economy, the Ministry of Agriculture, the Agrarian Research Center, the State Customs Committee, the UN Food and Agriculture Organization (FAO), including actual materials, reports, and internet resources were used, along with the scientific research of economic scholars.

Key Provisions Presented for Defense:

1. Under globalization conditions, there is a need to substantiate the impact of ensuring balance in the food market on the formation of social stability in society.

2. In the context of global competition, there is a need to identify the specific characteristics of ensuring balance in the food market and the internal and external environmental factors influencing it.

3. In global food markets, amid rising prices and increasing food imports, it has become necessary to study the impact of market imbalance, inflation processes on the population's living standards, and the negative trends affecting national agriculture and the processing industry.

4. In order to effectively neutralize the negative impacts of conjunctural fluctuations occurring in global markets and to stimulate the development of local agriculture and the processing industry, it is essential to establish flexible economic mechanisms to ensure balance in the food market.

5. Taking into account the global conjuncture conditions of domestic and international food markets, it is necessary to support the development of new specialization models in agriculture that align with the natural-climatic potential of the regions and their productivity levels.

6. Special attention should be paid to identifying the impact of increasing the competitiveness of local agricultural production and the processing industry on ensuring balance in the food market.

Scientific Novelty of the Research:

- The necessity of ensuring balance in the food market under global competition conditions has been substantiated;

- The scientific foundations for identifying and eliminating factors negatively affecting the balance in the food market have been determined;
- The impact of ensuring balance in the global food market on food security has been investigated.
- The state regulatory tools used to ensure balance in the food market have been classified.
- The impact of stimulating commodity supply in the food market and investing in the agricultural and processing industries on maintaining balance in the food market has been substantiated;
- The impact of agflation processes on the population's standard of living and on maintaining balance in the food market has been identified;
- The directions of ensuring balance in the food market and increasing product exports, taking into account the modern realities of specialization in agriculture, have been studied.

Theoretical and practical significance of the research. The theoretical significance of the research lies in the fact that the identification of the main directions and specific recommendations that will allow the improvement of flexible economic and regional mechanisms to ensure balance in the food market can serve as a basis for future studies.

The practical significance of the research is that the obtained results can be used in the preparation of state and regional programs aimed at ensuring balance in the food market, as well as in formulating proposals and recommendations related to modern specialization processes in agriculture in the regions.

Approval and application. The main theoretical provisions, practical results, and recommendations of the dissertation have been published in 9 journal articles, including 3 abroad and 3 conference materials, of which 2 were published abroad. Among the published scientific works, the following theses can be mentioned: “The Role of Ensuring Market Stability in the Protection of Food Security” (Baku, 2016), “Global Threats to Food Markets and Their Regulatory Aspects” (Baku, 2023), “Ensuring Market Stability: The Role of Agromarketing Services in Azerbaijan’s Food Market” (Romania, 2024).

In addition, the applicant's articles such as "Factors Affecting the Maintenance of Stability in the Food Market" (Baku, 2015), "Macroeconomic Aspects of Ensuring Market Balance in the Food Market" (Baku, 2016), "The Application of Innovations in the Agrarian Sector as a Key Factor for Competitive Production" (Baku, 2017), and "Macroeconomic and Microeconomic Factors in Ensuring Food Market Stability" (Cooperation University, 2018) have been published.

Name of the organization where the dissertation work was completed: Agricultural Research Center of the Ministry of Agriculture of Azerbaijan.

Total volume of the dissertation by character count with breakdown by structural sections: The dissertation consists of an introduction, three chapters, a conclusion, and a list of references. According to the logic of the research, the dissertation contains 339057 characters, including the introduction, three chapters (1st chapter – 101240 characters, 2nd chapter – 69278 characters, 3rd chapter – 103017 characters), and the conclusion (6725 characters), as well as the list of references used. The dissertation comprises a total of 167 pages and includes 16 tables, 2 graphs, and 2 diagrams.

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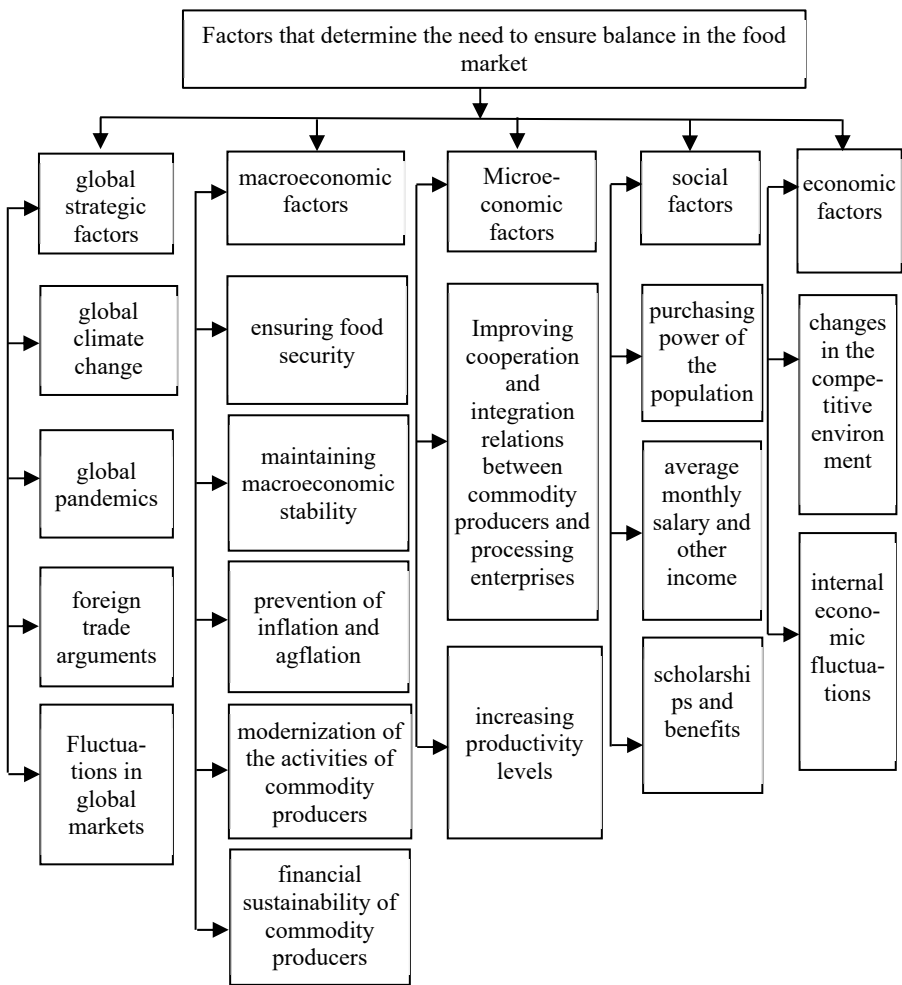
MAIN CONTENT OF THE RESEARCH

In the introduction of the dissertation, the relevance and degree of development of the topic, the aims and objectives of the research, its object and subject, research methods, main provisions put forward for defense, scientific novelties, as well as its theoretical and practical significance, and other aspects are presented.

In Chapter I of the dissertation, titled “**Theoretical Foundations of Ensuring Balance in the Food Market**” the essence, necessity, and influencing factors of ensuring balance in the food market are examined. Additionally, the chapter explores regional economic mechanisms, social mechanisms for ensuring balance in the food market, and the theoretical foundations of expanding investment systems with insurance coverage.

Ensuring balance in the food market, especially under conditions of globalization, is of great relevance. This relevance becomes even more significant amid the destructive threats posed by the globalization process. Measures aimed at ensuring balance in the food market are, first and foremost, closely linked to the nature and importance of that balance. The essence and relevance of balance in the current period are directly related to the structure and characteristics of the food market. From this perspective, maintaining stability in the food market, ensuring the sustainability and long-term nature of this balance, and contributing to social stability are critical points to be emphasized. The classification of factors determining the necessity of ensuring balance in the food market is presented in the table below. **(Scheme 1.)**

Ensuring balance in the food market is closely linked to strategic factors and reflects the necessity for the state to ensure food security. Achieving this goal requires the implementation of complex measures and, alongside a number of other factors, also depends on maintaining balance in the food market.



Scheme 1. Classification of factors determining the need to ensure balance in the food market

Source: Scheme compiled by the author.

The food market constitutes a strategically important part of the economy and society. Under the conditions of integration into the system of international relations, it is not possible to claim that the food market operates independently, that is, in an isolated manner. Precisely from this aspect, a number of factors influence the

maintenance of stability in the food market. These factors can be classified into two groups:

- Internal factors affecting the maintenance of stability in the food market;
- External factors affecting the maintenance of stability in the food market.

Internal factors include economic, legal, social, technological, and organizational elements. External factors are related to the international market conjuncture and foreign trade relations. Taking these factors into account and implementing appropriate measures is important for ensuring stability in the food market and maintaining the country's food security.

Ensuring macroeconomic stability envisions maintaining balance in the food market. This is closely related to achieving the sustainable development of agriculture and the processing industry, as well as increasing consumers purchasing power. Among the factors affecting the stability of the food market, interest rates on loans play an important role. Commodity producers express the need to obtain loans on favorable terms in order to carry out large-scale production. In such conditions, providing loans under concessional terms plays a significant role in enhancing the components of repeated production in agriculture and ensuring sustainable development.

In the “Strategic Road Maps on the national economy and key sectors of the economy in the Republic of Azerbaijan” approved on 6 December 2016 by the Decree of the President of the Republic of Azerbaijan it is stated that in order to ensure the country food security after 2025, major anticipated changes and problems in the fields of economy, social affairs, demography, environment, and technology will be taken into account.

In order to establish an adequate food security system, it is planned to expand the application of new food chain technologies (increasing the level of use of biotechnology and nanotechnology, increasing food production through the use of other production technologies, medicalization of food, and the creation of new types of food) and to form new agro-food chain structures (expansion of organic production, formation of regional, local, and alternative food chains,

reduction of losses and waste in the food chain, and expansion of recycling opportunities). *Currently, in the Global Food Security Index, Azerbaijan ranks 61st in terms of food availability and 86th in terms of the quality of food products. A better agricultural system will allow Azerbaijan to rise to approximately the 40th position in both indicators* ⁴.

Among the factors influencing the balance in the food market, cooperative relations also have an impact. The development of cooperative relations and the establishment of large and medium-sized commodity farms can help expand the volume of food supply in the market. Under such conditions, it is possible to stabilize price levels and ensure accessibility, especially for low-income population groups.

It should be noted that ensuring balance in the food market is related to the state's strategic interests and is a complex process carried out through macroeconomic, microeconomic, and social approaches. The success of this process depends on considering internal and external factors and implementing appropriate policies.

Ensuring balance in the food market is closely related to the strategic interests of the state. The main goal of the state is to ensure food security. Achieving this goal requires the implementation of complex measures. Ensuring food security also depends on maintaining balance in the food market.

External environmental factors also influence the maintenance of stability in the food market. Since every country is integrated into the system of international relations, it is natural that changes in the international market conjuncture affect the national economy, including the agricultural sector, which is an important and strategic field, as well as the agro-food complex and, consequently, the food market. Therefore, under such circumstances, it would be appropriate to include external environmental factors among those affecting food market stability. This influence in the food market directly depends on the role of local commodity production. The main criterion for

⁴ “Strategic Roadmap for the National Economic Perspective of the Republic of Azerbaijan” Decree of the President of the Republic of Azerbaijan dated December 6, 2016, 108 p.

ensuring food security is the self-sufficiency level through local food production. In conditions where this level is high, the food market is less exposed to the impact of external environmental factors.

A legal framework is also essential for the regulation of the food market. According to the laws of the Republic of Azerbaijan, the state implements various measures to ensure the food security of the population. Among these measures are:

- Increasing the production of food products and quality normalization;
- Drafting the food balance and forecasting the population's food supply;
- Regulation of the food market and adoption of normative legal acts;
- Regulation of food supply during emergency situations;
- Coordination of the activities of state bodies and municipalities.

In addition, the regional characteristics of the food market should also be taken into account. The natural climate conditions and resources vary across different regions of Azerbaijan. These differences influence the location and specialization of product production. Regional factors forms the capacity and structure of the food market.

All of the above mentioned shows that ensuring balance in the food market is closely related to the state's strategic interests, macroeconomic and microeconomic factors, social factors, legal regulation, and regional characteristics. Each of these factors is important for ensuring food security and maintaining social stability.

In Chapter II of the dissertation titled “Modern Trends in Ensuring Balance in the Food Market” the current situation and development trends in ensuring balance in the food market, the current state of economic mechanisms for maintaining this balance, and the analysis of regional factors in the food market are examined. It is noted that price is one of the most important elements of a market economy, and in particular, ensuring balance in the food market directly depends on the level of prices and their fluctuations.

In some cases, random fluctuations in prices also occur in the agricultural sector. These fluctuations usually arise due to changes in

natural conditions that affect the supply of agricultural products. For example, changes in the productivity of agricultural crops ultimately lead to changes in the supply and prices of various product types. For instance, in the event of rainfall, if this process lasts for a week or even 10 days, an increase in fruit and vegetable prices is observed in the country's food markets. At the same time, such changes also manifest in the prices of especially greens products.

The annual price trends of the main types of food products in the food market are shown in Table 1.

Table 1.
Average annual prices of consumer goods, in manats

Name of products and services	Unit of measure	2019	2020	2021	2022	2023	% in 2023 compared to 2019
1	2	3	4	5	6	7	8
Wheat flour	1 kq	1,11	1,09	1,20	1,43	1.54	139
An excellent type of wheat bread	-/-	0,82	0,81	0,86	1,22	1.29	157
Pasta	-/-	1,78	1,86	2,04	2,37	2.64	148
Beef with bones (chopped)	1 kq	10,24	10,69	10,57	11,83	13.86	135
Beef with bones (pieces)	-/-	12,24	12,53	12,50	14,00	16.1	132
Lamb with bones	-/-	11,23	11,87	11,92	13,22	14.92	133
Chicken meat	-/-	4,63	4,56	4,74	5,54	5.85	126
Sterilized skim milk	1 liter	2,07	2,12	2,30	2,60	2.75	133
Sour cream	-/-	7,11	7,40	8,18	9,56	10.43	147
Yoghurt	1 liter	1,94	1,93	2,13	2,42	2.59	134
Hard and soft cheese containing starter culture	1 kq	13,59	13,54	14,90	16,90	18.17	134
Curd (solt)	-/-	2,93	2,89	3,33	3,80	4.12	141
Cottage cheese	-/-	8,00	7,61	9,35	10,96	11.82	148

Continuation of table 1

Chicken egg	10 ədəd	1,44	1,62	1,92	1,87	1,98	138
Butter	1 kq	16,09	16,41	16,78	19,07	19,55	122
Olive oil	1 litr	12,43	12,90	13,21	14,14	15,55	125
Sunflower oil	-/-	2,87	2,92	3,99	5,27	5,19	181
Lemon	1 kq	3,01	3,35	3,28	2,98	3,15	105
Orange	-/-	2,30	2,34	2,32	2,38	2,65	115
Apple	-/-	1,54	1,93	1,93	1,74	1,77	115
Pear	-/-	2,61	2,70	2,79	3,25	3,77	144
Walnut	-/-	5,13	5,47	5,72	5,26	5,23	102
Hazelnut	-/-	4,93	5,45	5,86	5,75	5,66	115
Cucumber	1 kq	0,62	0,60	1,01	0,89	0,90	145
Tomato	-/-	0,81	0,97	1,55	1,68	1,42	175
Potato	-/-	0,83	0,77	0,81	1,18	1,23	148
Tomato paste	-/-	4,28	4,48	4,65	4,98	5,42	127
Cucumber pickle	-/-	1,65	1,68	1,79	2,20	2,35	142
Chocolate and natural chocolate products	100 qr	1,33	1,38	1,45	1,84	2,05	154
Ice cream	500 qr	5,88	5,48	6,00	6,45	6,90	117
Table salt	1 kq	0,67	0,66	0,74	0,82	0,88	131
Black and green tea	500 qr	9,72	9,84	10,35	11,23	12,62	130
Mineral waters and spring water	1 litr	0,89	0,91	0,97	1,05	1,17	131
Cola	-/-	0,96	1,01	1,07	1,27	1,42	148
Lemonade	-/-	1,39	1,49	1,54	1,79	1,95	140
Fruit juice	1 litr	1,80	1,83	1,96	2,14	2,29	127
Vodka	0,5 litr	7,46	7,94	8,46	8,98	9,18	123
Brandy (cognac)	-/-	13,40	14,56	14,41	16,77	17,64	132
Whiskey	-/-	-	-	-	19,04	19,64	-
Table wine	0,7 litr	7,02	7,69	8,74	9,34	9,89	141
Beer	0,5 litr	1,88	2,04	2,30	2,57	2,73	145

Source: The table was compiled by the author based on materials from the State Statistical Committee of the Republic of Azerbaijan.

As seen from the table, during the period under comparison, the prices of wheat flour, pasta, bone-in and boneless beef, lamb, chicken, dairy products, cheese, butter, vegetable oils, vegetables, and some beverages have significantly increased. For example, the average annual price of wheat flour rose by 39%, pasta by 48%, bone-in beef by 35%, chicken meat by 26%, sunflower oil by 81%, tomatoes by 75%, and chocolate by 54%.

These price increases have negatively affected the balance of the food market. Dependence on imports is one of the main reasons for these increases. Although the level of self-sufficiency in crop products has increased as a result of subsidies provided to agriculture since 2004, dependence on imports for major industrially processed food products continues. This, in turn, reduces supply in the food market and leads to price increases.

This leads to a decrease in supply in the food market and an increase in prices. In such a situation, problems arise in the level of self-sufficiency with food products. In 2023 year the local commodity producers received a planting subsidy of 252284 thousand manats for the 119673 hectares of land they cultivated, a subsidy of 12351 thousand manats for those engaged in livestock production, 6500 thousand manats for the machinery used, 7370 thousand manats for the sale of infertile animals, and 6002,3 thousand manats in subsidies for the sale of first and second reproduction seeds and seedlings. As a result of all this, the level of self-sufficiency, especially in crop products, has increased. However, no subsidies are provided to processing industry enterprises, which affects the level of self-sufficiency in the ready-made food products sector. (Table 2)

Table 2.

Level of self-sufficiency in the main types of industrially processed food products, percent

	2010	2015	2020	2021	2022	2023	In 2023 compared to 2010 ±
Refined rice	13.0	9.6	14,2	17.7	17.6	20.4	7.4
Flour (all types)	95.1	95.1	95,4	95.0	93.3	90.4	-4.7
Cereals (all types)	11.3	17.9	34,4	45.1	45.4	44.4	33.1
Fresh bread without syrup, eggs, cheese or fruit jam	99.99	99.99	99,98	99.98	99.98	99.97	-0.02
Cakes and confectionery, other bakery products with added sweeteners	70.6	66.6	76,8	77.1	75.5	76.2	5.6
Rusks and cookies, long-lasting confectionery products	21.2	33.8	39,4	39.2	40.2	47.7	26.5
Cocoa, chocolate and sugar confectionery	22.8	17.8	30,7	34.2	30.6	27.2	4.4
Pasta products	72.7	53.2	42,3	47.2	64.3	73.3	0.6
Vegetable oils	74.3	60.5	34,8	73.2	66.7	54.9	-19.4
Fruit and vegetable juices	140.3	114.1	130,5	128.0	118.6	138.6	-1.7
Canned fruits and vegetables	91.8	87.6	90,9	90.1	88.9	88.8	-3
Milk and cream with a fat content of 1-6 percent	98.4	99.0	99,1	99.0	99.2	99.7	1.3
Milk and cream with a fat content of more than 6 percent	87.7	96.8	91,8	90.6	82.9	72.9	-14.8
Butter	50.0	69.2	62,7	66.7	62.0	64.7	14.7
All types of cheeses	85.7	84.2	88,1	86.3	87.9	86.4	0.7

Continuation of table 2

Yogurt, cream, etc. products	93.7	94.1	94,5	93.1	93.4	94.3	0.6
Raw materials for sugar production	2.4	5.6	14,6	5.5	39.5	43.2	40.8
Sugar	155.6	192.9	69,4	100.7	103.9	84.4	-71.2
Tea	63.2	40.2	45,5	89.5	91.1	89.5	26.3
Salt suitable for human consumption	26.4	76.9	111,4	104.8	117.2	101.6	75.2
Unsweetened mineral and carbonated waters	89.3	95.4	95,9	97.2	94.8	96.6	7.3
Sweetened mineral and carbonated waters	90.8	86.1	90,6	92.0	97.9	102.1	11.3

Source: [Compiled by the author based on data from Azerbaijan's foreign trade, statistical compilation, Official publication, Baku 2023, p.77]

The main difficulty in ensuring the balance of the food market lies in the products dependent on imports, including rice, flour, cereals, sugar, biscuits, chocolate, sugary confectionery products, pasta, vegetable oils, canned goods, and other food products, whose price increases are related to this issue. These increases cause disruptions in the balance of the food market. To maintain balance, economic mechanisms, including subsidies to stimulate the supply of goods, play an important role. Subsidies provided to agricultural producers from the state budget help cover their main expenses (fuel, seeds, fertilizers, energy, etc.). In particular, subsidies have contributed to an increase in the level of self-sufficiency in grain and vegetable production. Information on subsidies paid to agricultural producers is reflected in the table below. (Table 3)

Table 3.

Information on subsidies paid to agricultural producers

Types of support	Amount paid, thousand manats			
	2020	2021	2022	2023
Subsidy of planting, main planting	232959.3	254494.0	242995.1	257004.5
Due to repeated plantings	2219.7	3434.8	3563.3	5487.3
For cotton sales	29475.1	28088.5	56438.3	53774.9
For tobacco sales	266.8	106.4	788.4	1668.6
For sugar beet sales	919.3	544.6	2358.2	3556.5
For the sale of cocoons (5 manats per kilogram)	2172.4	2405.1	1989.0	2050.6
For the sale of food wheat (100 manats for each ton of food wheat delivered)	0.0	0.0	0.0	12536.5
For discounted sale of machinery and equipment (when 20% of the initial cost is paid, a discount of 40% of the initial cost is provided from budget funds)	73616.9	80000.0	82900.0	83900.0
Technical interest subsidy	2350.0	4740.0	6190.0	6500.0
For the discounted sale of breeding animals (breeding animals are sold at a 60% discount)	16644.4	17100.0	28800.0	7370.0
For the sale of seeds and seedlings of the 1st and 2nd reproduction (the amount of the subsidy is determined based on the approved quota)	4766.1	6658.4	7431.1	6002.3
For reimbursement of expenses incurred by scientific research organizations for the production of original, super-elite and elite seeds (production costs are paid from budget funds)	934.2	909.1	1534.7	
For each calf obtained through artificial insemination (100 manat per calf)	8798.6	9067.4	9690.4	10300
For the maintenance of a bee colony (hive) (10 manat per year for each bee colony)	5017.5	5313.3	5820.9	0
Total	380140.2	412861.6	450499.4	450151.3

Source: [Compiled based on information from the Ministry of Agriculture]

In 2023, the volume of subsidies, which reflect the main mechanisms of state support for agriculture, amounted to 450151.3 thousand manats. This represents an 18.4% increase compared to 2020. In 2023, subsidies provided for cotton sales amounted to 53774.9 thousand manats, which is an 82.4% increase compared to 2020. At the same time, the volume of subsidies for tobacco sales increased 6.2 times compared to 2020. Subsidies for sugar beet sales rose 3.9 times. Subsidies for repeated crops increased 2.6 times. The volume of subsidies for cocoon sales decreased by 5.7%, amounting to 5 manats per kilogram. Subsidies provided for the discounted sale of machinery and equipment increased by 13.9%, and the volume of machinery interest subsidies increased by 2.7 times. Subsidies for the sale of first and second reproduction seeds and seedlings increased by 25.9%.

Additionally, the amount of subsidies provided for each calf obtained through artificial insemination increased by 17.1%. These data show that state support for agriculture has increased in various areas, and the volume of subsidies across different directions of the agricultural sector has expanded. This is of great importance in terms of increasing productivity in the sector and strengthening support for various areas.

In Chapter III of the dissertation titled **“Directions for Improving Regional Economic Mechanisms to Ensure Balance in the Food Market”** the sustainable development directions of agriculture in ensuring balance in the food market, opportunities for improving the infrastructure system to ensure this balance, and the directions for improving the economic mechanisms for maintaining balance in the food market are identified.

The subsidies allocated to agriculture and the support provided for crop areas are mainly aimed at the development of extensive factors. This approach does not fully reflect the goal of intensifying production and increasing productivity with the funds allocated from the state budget. Simple mathematical calculations show that due to the incorrect determination of the structure of subsidies, an increase in the prices of meat products is observed in the food market.

Ensuring sustainable development in agriculture is essential for maintaining balance in the food market. This must be implemented

through global, national, and sectoral approaches. The sustainable development of agriculture is closely related to internationally adopted decisions and legislative acts. In a globalizing world, certain directions and mechanisms have begun to form to achieve sustainable development in agriculture.

Within the framework of agricultural policy, it is important to improve economic mechanisms to ensure the sustainable development of agriculture. For this purpose, the following measures are intended to be implemented:

- Formation and development of long-term and mortgage-based lending processes;
- Strengthening state support for the activities of agricultural commodity producers;
- Establishment of a unified system for the insurance of agricultural plants and livestock products;
- Preventing agricultural commodity producers from being subjected to price pressure;
- Solving the financial rehabilitation problem of agricultural commodity producers;
- Ensuring balance in the food market and increasing commodity supply by enhancing the attractiveness of agriculture for business and investment;
- Applying intensive technologies and improving the material and technical base to intensify production;
- Active implementation of innovation projects;
- Application of an anti-crisis management system;
- Prioritizing productivity when allocating subsidies and grants.

Agriculture, due to its dependence on natural and climatic conditions, has a complex specificity and is significantly influenced by external factors, including the agro-processing sectors and market conditions. Global experience shows that activating state support in the management of economic processes in the agricultural sector and rural economy plays an important role in ensuring sustainable development and neutralizing internal and external threats that may affect the sector. (Scheme 2)

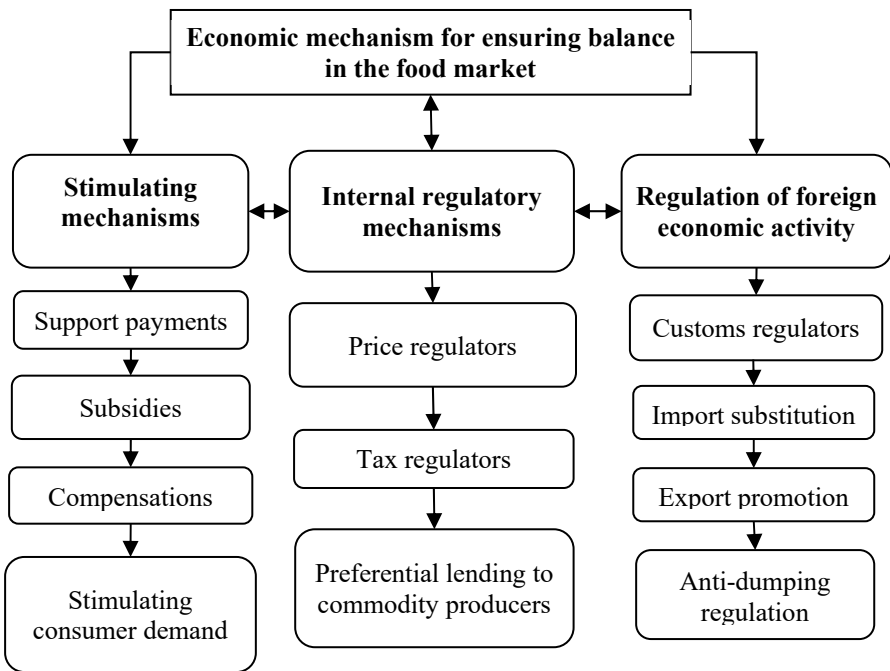


Figure 2. Internal and external regulation mechanisms for maintaining balance in the food market.

Source: Compiled by the author.

It should be noted that the infrastructure of the food market plays an important role not only in meeting the socio-economic needs of society but also performs significant functions in ensuring stability in the food market. The formation of food market infrastructure combines the wholesale and retail markets of agricultural products, reflecting both production and consumption, and fulfills important functions in ensuring this balance.

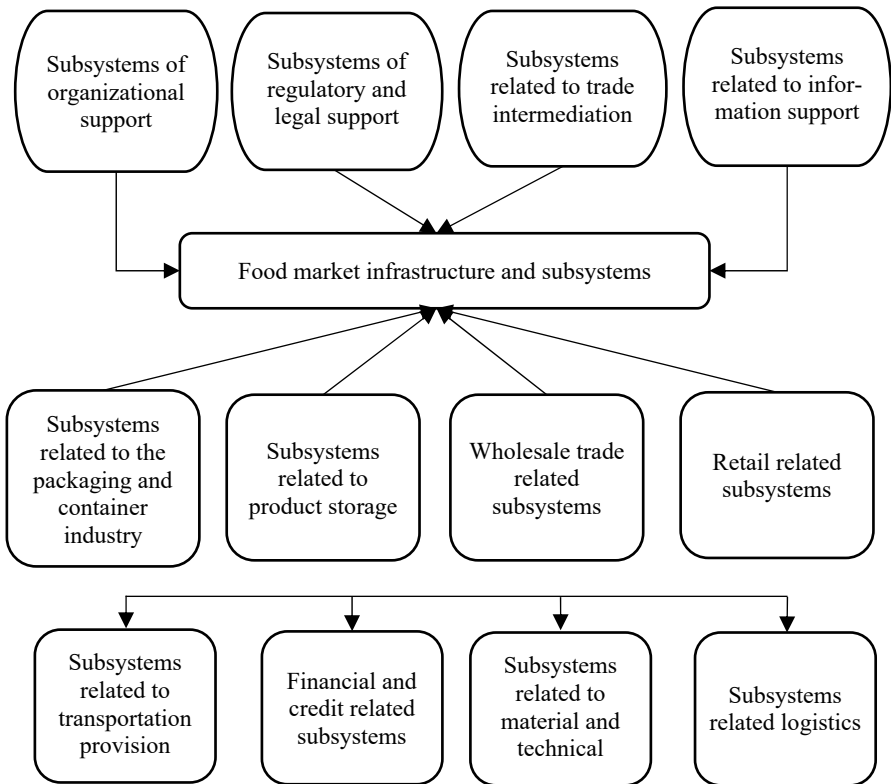
The infrastructure of the food market has its own subsystems, which can include the following:

- Subsystems engaged in trade and intermediary activities;
- Subsystems involved in the formation of warehouse infrastructure;
- Subsystems providing necessary information related to market

conjuncture formation and conjuncture changes;

- Subsystems incorporating the main elements of balancing industrial processes;
- Subsystems related to transportation services reflecting the delivery and transportation of agricultural and food products;
- Subsystems that contribute to the formation of the food market and ensure financial, credit, and organizational support for agriculture and related sectors that are closely connected with it as an essential component of this field.

The functional activity of the subsystems of the food market infrastructure is reflected in the following form (Scheme 3).



Scheme 3. Functional subsystems of food market infrastructures.

Source: Scheme compiled by the author.

As shown in the diagram, the functioning of the food market directly depends on the supply, transportation, and storage of agricultural and food products, as well as the operation of exchanges, wholesale and retail trade structures, the financial settlement system between sellers and buyers, the efficiency of information and marketing services, and the close interconnection of other structures.

CONCLUSION

Ensuring balance in the food market depends not only on the strategic interests of the state, but also on the efficiency of regional economic mechanisms. In order to ensure food market balance in various economic regions of Azerbaijan, a number of important factors and principles must be taken into account.

1. One of the negative factors affecting the stability of the food market is the insufficient flexibility of regional economic mechanisms. In particular, the slow pace of technological modernization in the regions ultimately leads to problems in the physical and moral renewal of main production assets.

2. The balance in the food market, especially in the livestock and processed products sector, is increasingly disrupted. As a result, the prices of meat and dairy products, butter, and other goods in the food market have risen. This price increase has also led to an increase in the import of such goods into the country. This process not only increases dependence on imported products and accelerates the outflow of foreign currency from the country but also creates problems in terms of price affordability from a social perspective.

3. In Azerbaijan's agricultural sector, government subsidies have mainly been directed toward supporting extensive production methods. This approach does not fully cover the objective of intensifying production and increasing productivity. As a result, the improper structuring of subsidies, particularly in relation to rising meat product prices, has become an issue.

4. The production of mixed and high-protein feed necessary for the development of livestock farming in Azerbaijan is still insufficient and does not fully meet the quality requirements of existing feeds. The

high costs associated with alfalfa production limit the accessibility of this product for commodity producers. In addition, the establishment of large-scale livestock farms has not been able to prevent price increases in this segment of the food market. This situation is linked to the presence of monopolistic tendencies and the lack of a free competition environment. Negative factors in logistics processes also contribute to price increases, making consumers the most adversely affected party.

5. In Azerbaijan, the existing economic mechanisms for ensuring balance in the food market have not been sufficient to achieve the dynamic and balanced development of agriculture and the food market. This situation is related to the improper structuring of subsidies, the misdirection of targeted state investments into the improvement of irrigation systems, land reclamation and irrigation measures, and the lack of transparency and monitoring of implemented investments. Government subsidies in the agricultural sector have mainly been aimed at supporting extensive factors. This approach does not fully cover the goal of intensifying production and increasing productivity.

6. Based on the stated results, the following proposals can be put forward to solve regional-economic problems and ensure stability in the food market:

➤ In the Karabakh and Central Aran economic regions, the establishment of large specialized grain and livestock farms with the aim of increasing productivity through the application of advanced innovative and digital technologies, meeting the demand for food wheat, and at the same time saving the 303981 thousand manats allocated for the import of food grain (in 2023).

➤ Supporting the establishment of large specialized grain and livestock farms in the Karabakh and Central Aran economic regions through economic means credit and investment funds (such as the Entrepreneurship Development Fund, etc.); and cultivating products suitable for specialization in regions where grain farming is not favorable, in accordance with the nature of specialization.

➤ In mountainous areas, including the economic regions of Mountainous Shirvan, Ganja-Dashkasan, Guba-Khachmaz, and

Eastern Zangezur, used the advantages created by natural and climatic conditions and applying innovative technologies to introduce high-yield livestock breeds; establishing large-scale dairy and meat-oriented livestock farms; and imposing strict bans on the slaughter of 8–10 kg lambs in slaughterhouses and markets (including banning the slaughter of small ruminants weighing less than 15 kg).

➤ Supporting the specialization in the production of fruits and vegetables, subtropical products, and nut fruits in accordance with the economic regions of Quba-Khachmaz, Lankaran-Astara, and Shaki-Zagatala through institutional, infrastructural, and economic means; stimulating the application of innovative technologies to increase productivity;

➤ The creation of specialized commercial products contributes to ensuring stability in the domestic food market and also creates favorable conditions for the export of non-oil products to the global market. Based on all this, we consider that, as in the creation of medium and large-scale commercial production cooperatives, it would be appropriate to support new models of specialization in the regions through subsidies, concessional lending, and guaranteed pricing mechanisms.

➤ More than ten years have passed since the adoption of the state program on food security in our country. During this time, many important events and processes have taken place. Since September 27, 2020, the sovereignty of our state has been restored on the lands occupied by Armenian invaders for almost 30 years. When addressing the issue from the perspective of the research subject, it becomes clear that the country economic potential and opportunities for agricultural specialization have significantly expanded. In addition, globalization has brought new threats. Global climate change and pandemics have created new challenges in the food market, which have also impacted the stability of supply. Therefore, in order to respond effectively to global challenges, it is considered necessary to adopt a new food security program that reflects concrete goals and priority directions to ensure balance in the food market.

7. Ensuring balance in the food market is an important component of the sustainable development of agriculture and brings to the

forefront the need to define the priority directions of this process. In our opinion, from the perspective of ensuring food market stability, the following can be considered as the main directions of sustainable agricultural development:

- Establishment of an effective system of state regulation for agriculture and related sectors, including the agro-processing industry as a whole;
- Efficient alignment of budgetary, credit, tax, and social policies with the interests of agricultural commodity producers;
- Development of all forms of infrastructure;
- Financial rehabilitation of agricultural commodity producers, regardless of ownership form;
- Formation of an efficient system of agricultural commodity producers focused on the market and capable of creating market value and increasing the total volume of goods in the market.
- Special attention to the formation of medium and large-scale agricultural commodity producers and cooperatives;
- Ensuring effective resettlement and specialization in territories liberated from occupation;

8. The economic mechanisms implemented to ensure balance in the food market can produce positive outcomes only when such measures are carried out in a way that stimulates effective demand — that is, under conditions where the demand for purchasing power is reinforced. The following can be considered the main regulatory tools implemented by the state to improve economic mechanisms aimed at ensuring balance in the food market:

- Ensuring government participation opportunities and increasing its share in financing measures related to the formation of food market infrastructure;
- Financing by the state the implementation of a procurement system for this or other food products, especially in conditions of increased commodity supply in the food market;
- Establishment of a state reserve fund for the purpose of commodity intervention in the food market, and the implementation of market interventions for food products from this fund when necessary, creating a government procurement system for food

products through the establishment of state reserves;

- Implementation of necessary measures in the food market, particularly in production segments, regarding investments and subsidies, and at the same time activation of the regulatory system in this field;

- Implementation of measures aimed at regulating the prices of food products, especially the application of minimum and maximum prices, which in essence can be one of the most important tools for ensuring balance in the food market.

The proposed measures are aimed at maintaining stability in the food market and ensuring its sustainable development.

The main provisions of the dissertation, the obtained results, and related proposals have been published in the following scientific articles and theses.

1. Allahyarova, A.F. *The Role of Ensuring Balance in the Food Market in Protecting Food Security.* // Baku: Proceedings of the National Scientific-Practical Conference on "Land Reform in Azerbaijan – 20 Years: Achievements and Prospects." Scientific Research Institute of Agricultural Economics, 2016, pp. 284–289.

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Economics, Ministry of Agriculture of the Republic of Azerbaijan, No. 1, 2017, pp. 87–93.

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11. Allahyarova, A.F. *Regional Mechanisms for Ensuring Balance in the Food Market and Classification of Influencing Factors*. // Astana: IV International Book Edition of the Commonwealth of Independent States “Best Young Scientist - 2022,” pp. 63–68.

12. Allahyarova, A.F. *Ensuring Market Stability: The Role of Agromarketing Services in Azerbaijan’s Food Market*. // [Online] <https://dp.univ-danubius.ro/index.php/EIRP/article/view/584/425>



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