## **REPUBLIC OF AZERBAIJAN**

On the right of the manuscript

## ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

## PRICE FACTOR IN THE REGULATION OF ECONOMIC INTERESTS IN AGRICULTURE IN THE NEW ECONOMIC CONDITIONS

Applicant:	Naila Idris qizi Sultanova
Field of science:	53 – Economic sciences
Speciality:	5312.01 – Field economy

The dissertation has been carried out at the department of "Social Development Economics and Pricing" of the Azerbaijan State University of Economics.

Scientific supervisor:	Professor, Doctor of Economic sciences Khanhuseyn Huseynagha oghlu Kazimly
Official opponents:	Professor, Doctor of Economic sciences Natig Ali oghlu Javadov
	Doctor of philosophy in economics, assistant professor Nariman Bahram oghlu Boyukkishi
	Doctor of philosophy in economics, assistant professor Nizami Jalal oghlu Gafarov

Dissertation council ED 2.10 of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at Azerbaijan State University of Economics.

Chairman of the Dissertation council:

Signature

Doctor of economic scienes, Professor Adalat Jalal oghlu Muradov

Scientific secretary of the Dissertation council

Signature

Doctor of philosophy in economics assistant professor **Zohrab Hasan oghlu Ibrahimov** 

signature

Chairman of the scientific seminar:

Doctor of economic scienes, Professor Ramil Zahid oghlu Huseyn

#### **INTRODUCTION**

The importance of the subject. Economic interests, the mechanism for their coordination and provision can be differentiated in different administrative systems and management methods. In this regard, it should be pointed out that at the beginning of independence years, the transition to market economy relations in the Republic was necessary for establishing primarily new economic forms and regulating legal economic relations between them and for the restructuring of the agro-industrial system.

Intra-enterprise and inter-enterprise production-economic relations in the agrarian sector should generally serve for the provision of the material interests of the system and enterprises. In the condition of achieving this goal, the relationships could be one of the realizing means of national goals. The implementation of this task is based on accurate information on the type, quantity, time of fulfillment of contractual obligations, the nature of claims and demands arising from the conclusion and execution of the contract. In addition, the reasons creating the legal breach of existing contractual relations between the parties must be identified and appropriate action should be taken.

Based on these provisions, from the beginning of the independence period, the situation in the field of ensuring the interests and benefits of economic entities interacting in the national agrarian sector can be assessed. First of all, it should be taken into consideration that as a result of rapid weakening of inter-country and intra-country relations, producers suffered enormous losses during this period. Inappropriate management and control over the formation of private property on the basis of collective and state farms resulted in failure of the end result have broad management and control functions. At first glance it seemed that the goal was not to create a new, modern farm system, but to destroy the old system in a short time. Thus, the loss of economic ties began to reflect itself in the dynamics of high prices in the agricultural sector. In the course of this process and in the subsequent period, the tendency of agricultural producers, consumers and the violation of economic interests of the state began to intensify. A steady rise in prices, coupled with a decline in production, has led to the stagflation. The wrong approach in the economic policy of this period was to leave prices to the market. As a result, it was confirmed that the production and processing of agricultural products do not fully meet the economic interests.

As a result of the socio-economic policy pursued by the nation-wide leader H.Aliyev, the economic outlook for the development of the agrarian sector, the views on securing interests in this sector of the economy have changed. The implemented reforms in a short time have led to significant progress in agriculture. At present, as a result of the pursued policy under the leader of the country towards the development of the regions and the non-oil sector, the supply of producers with higher incomes and consumers with high quality products has begun to increase. At the same time, there has been an increase in the amount of payments to the state budget. However, these opinions do not provide a full guarantee of interests and benefits in agriculture. One of the main reasons for this is the sharp differences between the level and dynamics of prices for agricultural products and logistical resources, as well as the weakness of attempts to regulate these differences. The relevance of the research is connected with the scientific and experimental investigations and confirms the actuality of the topic.

The agriculture is the second largest sector of the national economy after industry and has made the development of it the subject of extensive scientific research. Different aspects of the specific problems of this area have been investigated by well-known scholars of our republic, including A.Ch.Verdiyev, I.Sh.Garayev, Kh.H.Kazimli, I.H.Ibrahimov. S.V.Salahov, E.A.Guliyev, E.R.Ibrahimov, B.H.Atashov, I.H.Aliev, V.H.Abbasov, H.A.Khalilov, R.A.Balayev, M.A.Ibrahimov, R.Z.Huseyn V.Gasimli and others. At the same time, it must be pointed out that the problem of securing economic interests in the agrarian sector has been investigated in the conducted research work from the aspect of general organizational and economic mechanisms. However, the issue of equivalence of exchange with other areas in which this area is in mutual economic relations has not been directly revealed as a price factor.

Renowned scientists and researchers of foreign countries Kundius V.A, Obolensky K.P, Shmakov A.G, Mazloyev V.Z, Polzyakov D.A, Borkunov N.A, Ushachev I.G, Bondina N.N, Drodzhz I., Radzyavichus

G., Scandirro P., Brucc C., and James Roumassetns research focuses on various aspects of securing economic interests in agriculture.

#### The goals and objectives of the study.

Providing the equivalent of inter-sectoral exchange in the agrarian sector and developing a mechanism for using prices for this purpose. To achieve this goal it is advisable to carry out the following tasks:

- to study the scientific and theoretical aspects and the legal basis for using the price factor in the protection of economic interests in the agrarian sector;

- to study international experience of pricing in agriculture and to evaluate its possibilities in Azerbaijan;

- analysis of the current situation of using the pricing factor in the regulation of economic interests in the agrarian sector;

- analysis of the impact of economic indicators in the agrarian sector on price formation;

- study of normative-methodical base of calculation of parity prices in agriculture and its specific features;

- justification of ways to improve the use of the pricing mechanism to stimulate agricultural production;

- development of the mechanism of formation of optimal price ratios between agrarian producers and consumers;

- determining the directions for improving the regulation of economic interests in the provision of in-house ratios in agriculture;

**The object of the research** is the equivalence of sharing between agricultural enterprises and producers of material and technical resources used for their production.

The subject of the study is the ratio between prices for agricultural products and technical and chemical resources used in agricultural production.

**Methods of the study.** Methods of comparative analysis, grouping, balance, correlation and regression analysis were used in the study.

## The main provisions to be defended.

• Problems of reconciling the economic interests of the participants in the agrarian sphere;

• scientific and practical approaches of the price regulation in agriculture from the position of state regulation in the national economy;

• the place and role of prices among the factors ensuring economic interests in the agricultural sector;

• the level of impact on prices of the mechanism to support economic interests in the agricultural sector;

• normative-methodical bases of ensuring parity or equivalent exchange in agriculture;

• formation and regulation of optimal producer and consumer price ratios in agriculture;

• Opportunities for effective application of international experience in the regulation of economic interests in the national agricultural sector.

The scientific novelty of dissertation work consists of the followings:

-Scientific-theoretical aspects of the concept of "economic interest" in the agrarian sphere were studied, its interaction and dependence with economic interest were revealed on the basis of limited scientific-theoretical approaches;

- The opportunities for the application of international experience in price regulation in the agriculture of Azerbaijan were assessed and it was concluded that it will be accompanied by state support in the near future;

- Econometric assessment of the ratios between the indicators of support of economic interests and the price factor in the agricultural sector was conducted, the negative impact of price disparities on the main types of products on the activities and economic interests of entities were revealed;

- The mechanism of using the price factor in stimulating agricultural production is substantiated, it is concluded that it is impossible to ensure economic benefits without providing the conditions and opportunities for the implementation of the stimulating function of prices;

- By developing a mechanism for the formation of optimal price ratios that ensure the interests of agricultural producers and consumers,

it was concluded that the rate of change in production costs and cost, inflation and profitability should be taken into account in determining producer and consumer price;

**Theoretical and practical significance of the research work.** The scientific and practical significance of the presented dissertation work can be assessed from several aspects. As a result of the analysis carried out during its implementation, the level of use of the price factor in the coordination of economic interests of producers, consumers and the state was determined. Consistently, on the basis of the obtained results, the directions of regulation of economic interests in ensuring the proportions of production in agriculture were substantiated, relevant proposals and recommendations were developed.

**Approbation and application of the dissertation.** On the results of the dissertation at the scientific-practical conference "Tenth anniversary of the state independence of the Republic of Azerbaijan" (Baku 2002), "Sustainable economic development problems, prospects, International scientific conference (Sumgayit April 27-28, 2016), articles and theses were presented at the International Scientific-Practical Conference (Baku, June 1-2, 2018) on "Problems of improving food security of the independent Azerbaijani state" dedicated to the 100th anniversary of the Azerbaijan Democratic Republic, articles were published in well-known scientific journals.

Based on the results obtained during the research, the proposals were accepted by the Agrarian Science and Information Consulting Center for practical use (reference  $N_{0}$  02/1803, 12.02.2018).

Name of the organization where the dissertation work is **performed.** The dissertation was completed at the Azerbaijan State University of Economics.

**The volume and structure of dissertation work.** The research work consists of an introduction (9,090 symbols), 3 chapters (Chapter I - 89,332 symbols, Chapter II - 77,412 symbols, Chapter III - 65,122 symbols) results (10,303 symbols) and a list of references, 146 pages (251,059 symbols). 5 diagrams, 4 pictures and 17 tables are given in the dissertation work.

#### CONTENTS

Introduction

Chapter I. Theoretical-methodological bases of using the pricing mechanism in securing economic benefits in agriculture.

**1.1.** Scientific and theoretical aspects of using the price factor in the protection of economic interests in the agrarian sector.

**1.2.** Conceptual legal issues of using the pricing mechanism in securing economic benefits in agriculture.

**1.3.** International experience of pricing in agriculture and its application in Azerbaijan.

Chapter II. Research of price regulation of economic interests in agriculture in modern conditions.

**2.1.** Contribution to the regulation of economic interests in the agrarian sector

**2.2.** Influence of indicators of support of economic interests in agrarian sector on pricing.

**2.3.** Normative-methodological base is and its characteristic features for calculating parity prices in agriculture

Chapter III. Improvement of pricing regulation of economic interests in agriculture.

3.1. Ways to improve the use of the pricing mechanism to stimulate agricultural production.

3.2. Adjustment of favorable price ratios between producer and consumer in the agrarian sector.

3.3. Improvement of intra-agricultural ratios and regulation of economic interests in agriculture.

#### CONCLUSION BIBLIOGRAPHY

## SUMMARY OF WORK

**1.Scientific and theoretical aspects of the use of the price factor in the protection of economic interests.** Each business entity has its own economic interests. Their failure creates conflicts between the parties to the economic relationship in society. The economic interests of economic entities act as a form of real manifestation of mutual socio-economic relations. Production relations in society can be managed organizationally as economic interests as a concrete reality. In turn, production relations are realized in the form of economic interests.

As a confirmation of the reality, economic interest is an economic category that represents the relationships between the main agents of the reproduction process and the system's economic needs. In this case, the notion of interest allows us to view the needs of economic entities as a compilation of the system of requirements in their interaction with other entities.

It should also be noted that the issue of ensuring economic interests as well as economic interests is important for every business entity. Economic interests are more of a category related to the sale of property. People's economic activity is directly related to their interests.

The development of the system of economic needs of each of the economic entities, in turn, creates conditions for the reproduction of economic interests. Stability in the reproduction of the system of interests of society and economic entities ensures the provision of economic needs, their expansion and renewal.

Modern production and economic relations, the provision and coordination of interests mainly depend on the competitiveness of economic entities. In particular, the growing demand for agriculture and food products is compounded by the increased competition in consumer markets.

In general, the issue of securing economic benefits in agriculture is manifested in the relationship between producers, processing plants, suppliers, the state and consumers. This also puts the problem of equivalence and efficiency of the exchange between these entities.

Research shows that there are still differences of opinion among economists on the content of the concept of "equivalent exchange". From the point of view of the established methodology, the disputes on ensuring the equivalence of intersectoral exchange at the macroeconomic level are taking a new character. Until recently, the solution to this problem was approached only in terms of the price factor. However, it should be noted that ensuring the equivalence of exchange as a common and multifaceted problem.

The equivalence of exchange between agriculture and industry is due to the following features of the agrarian sector of the economy:

1. Analysis of competitive markets. The nature, price and quality of land, which is a key factor in agricultural production, have a significant impact on the choice of options for the use of other production resources in the field of agribusiness.

2. Analysis of demand for agricultural products. The inelasticity of this demand leads to the problem of low incomes in the field of agricultural production. This is due to the fact that the production of additional agricultural products results in a sharp decline in its ultimate profitability.

Table 1.

Measures	EU	USA		
Support for	Direct payments	Direct payments:		
entrepreneurial	Payments for natural	Payments for natural		
incomes	disasters	disasters,		
		Reorganization of agrarian		
		production, etc.		
Restrictions on	basic food products	Import duty on other		
imports	import tariff	products, except grain		
	import quotas	import quotas of meat and		
	(sugar, milk, etc.)	milk, etc.		
	Indicative prices:	Indicative prices:		
Support of	1. Guaranteed - High	1. Guaranteed - minimum		
entrepreneurs on	2.Interested prices	prices for the domestic market		
price	3.The minimum price	2. Intervention - secured or		
		collateral pricing		
		3. lump sum payments		
Reduction in	Measures against excessive production			
production volume	Stimulation of land withdrawal from circulation			
	Farmers' Extraction	Land Conservation		
	Program from the	Program		
	agricultural production			
Stimulation of		Budgetary financing of food		
internal demand		aid to low-income citizens		

Mechanisms for eliminating price disparities in the US and the EU

Source: Drozhz I. Typology of stages of development of a single agrarian policy of the EU

Despite the formation of exchange relations between agriculture and industry, the formation of the resource base of agricultural production and the existence of various sales channels for the sale of agricultural products in the market is not the only condition for ensuring the equivalence of that exchange. The main factor in regulating this process is the exchange rate, in other words, the ratio between the prices of material and technical resources and agricultural products.

The main reasons for price disparities are, on the one hand, the provision of agricultural production with expensive technical resources, and, on the other hand, the low competitiveness of the agricultural sector itself. Agricultural enterprises are usually small and therefore unable to influence prices, high risk of agricultural production, lack of direct access of agricultural producers to the final consumer and therefore their inability to actively participate in the distribution of value added, increase in prices for socially important agricultural products. Restriction by also creates price disparities.

The effectiveness of pricing policy should not be limited to direct interference in the prices of finished products in order to reconcile supply at the local or international level with the inelastic demand for agricultural products. In this regard, it is necessary to learn from foreign experience and use it.

2. Assessment of the current situation of using the pricing factor in the regulation of economic interests in the agricultural sector. Prices in the agricultural sector of the country, along with many factors, are determined by the global economic space – price fluctuations in the global market. Therefore, it would be advisable to start the analysis with analysing the price dynamics in the world market. It is worth noting that the study of agrarian prices alone would not be correct from this point of view, and, of course, it is necessary to investigate other important factors influencing the formation of these prices, especially the for mineral fertilizers and fuel. It is true that current fluctuations in fuel prices in the world market do not directly affect the agrarian sector of Azerbaijan. It is well known that in Azerbaijan these prices are directly regulated by the state and are relatively stable for the medium term, in 3-5 years. However, the cost of fertilizers used in Azerbaijani agriculture directly depends on the

world prices. In addition, 49.7% of expenditures in the agricultural sector account for material costs, while the share of mineral fertilizers in the structure of these costs is 15.6%. The fact that only one group of costs has such a high share limits the interest in field production.

It is known that the main parameter that attracts investors in any sector of the economy and motivates them to invest is the amount of profit or level of profitability. It should also be borne in mind that any level of profitability is not acceptable for every investor or farmer. Therefore, it is important to bring the level of sectoral profitability to a level comparable to other areas with the provision of economic and legal support by the state (subsidies, price regulation, etc.). From this point of view, it is expedient to analyze the dynamics of changes in the profitability of the main types of agricultural products.

Table 2.

Years	Grain (without corn)	Cotton	Sugar	Tabac	Patta toes	Veget able	Melon plantation	Fruits
2015	47,3	10,6	201,8	83,0	17,6	71,4	43,1	24,8
2016	45,8	7,3	71,0	-	261,1	17,8	33,2	17,7
2017	53,6	-	25,7	179,0	-	40,3	18,5	30,0
2018	56,2	27,2	55,0	87,7	27,5	42,8	73,6	28,5
2019	55,0	12,9	88,6	51,0	47,4	12,1	44,4	41,0
		Tea	Weight gain					
years	grapes	leaves	cattle	Sheep and goats	Poult rty	Milk	Wool	
2015	14,1	-	2,4	37,9	3,0	23,9	26,7	
2016	4,2	-	3,3	27,8	14,4	20,7	21,7	
2017	8,5	-	39,5	58,9	5,0	19,8	31,5	
2018	6,2	15,6	70,3	68,7	10,3	20,2	41,4	
2019	3,6	19,2	22,0	56,2	2,9	11,2	33,1	

Profitability of products sold by agricultural enterprises, in percent

Source:www.stat.gov.az

The analysis of the table data shows that compared to 2015, the profitability of sugar beet, grapes, vegetables and milk in 2019 decreased significantly. At the same time, we can note a decrease in the profitability of cotton, tobacco, vegetables and grapes in 2019 compared to previous years. We think that this is mainly due to the weak development of processing of these products. Supply, processing, sales and export issues in a comprehensive manner has a negative impact on the interests of producers. There is a special effect of reduced productivity due to limited use of water resources and, in some cases,

losses due to untimely harvest due to lack of equipment. In any case, low profitability reduces the interest of entrepreneurs in relevant fields.

Azerbaijan has great investment opportunities to improve the organizational and economic mechanism of the agricultural sector and to finance measures for the development of processing industries in the country. The programs adopted on sustainable socio-economic development of the regions in Azerbaijan define the level of regional development of the agrarian sector with other sectors of the economy, as well as organizational and economic mechanisms for the development of the agrarian sector in the country's economic regions. The measures are aimed at coordinating the economic interests of producers, consumers and the state. Their effective results are, first of all, reflected in the activities of agricultural enterprises.

<b>F</b> L	lanciai	results (	л agricu	itui ai en	lierprises
	2015	2016	2017	2018	2019
Number of operating	1659	1592	1608	1641	1471
enterprises, unit					
including:					
Those who work for profit	1530	1488	1512	1560	1376
Those who work at a loss	129	104	96	81	95
Total income, thousand	84990	119130	115025	163990	190080
manats					
Total profit, thousand manats	39763	75246	62815	96917	92696
Total profitability, in percent	11,3	20,3	14,1	20,1	17,2
Profit in crop production (loss	20241	40268	32235	56577	68795
(-), thousand manats					
Livestock profit (loss (-),	19993	31330	24356	19048	10481
thousand manats					
Agricultural products	11,3	19,4	12,9	16,2	15,3
profitability of sales in percent					
From it					
In crop production	36,0	43,5	25,5	40,4	35,7
In animal husbandry	7,1	11,8	8,0	5,9	3,4
In animal husbandry	7,1	11,8	8,0	5,9	3,4

#### Financial results of agricultural enterprises

Table 3

Source:www.stat.gov.az

The analysis of the table data shows that during 2017-2019, there were some fluctuations in the number of agricultural enterprises, including those operating at a profit and loss. During that period, there was a decrease of 170 units in the total number of enterprises and 184

units in the number of profitable enterprises, however, there was no significant change in the number of loss-making enterprises. Although the average yield of agricultural products during the analysis period was 15 percent, it is unfortunate that the profitability of livestock is very low (7.4 percent). This is mainly due to the rise in prices for livestock feed and the small share of these products in exports. Low profitability, limited access of agricultural producers to central markets, as well as low production capacity and capacity of processing and supply enterprises reduce interest in this area.

In terms of ensuring interests in the agricultural sector, along with the above factors, price disparities in the global economic space should remain a topical issue. First of all, the level of dependence of the national agricultural sector on imports of some production resources should be investigated. Before analyzing the price dynamics in the agricultural market of the Republic of Azerbaijan, one point should be clarified. This is the correct choice of the base period in the analysis of price changes. In our opinion, given the fundamental changes in the world and Azerbaijani economy in recent years, it would be appropriate to adopt 2015 like the base period for analysis.



Diagram 1. Change in selling prices of some agricultural products, in% (2015 = 100%) Source: www.azstat.gov.az

As can be seen from the diagram, the last three years of the analysis period saw an increase in food prices, with a number of exceptions. The highest

increase in sales prices of melons, fruits and berries was observed in 2017. The steady annual increase in the selling prices of cereals and cotton can be attributed to factors such as their subsidies for arable land and the exemption of necessary production resources from import taxes. Carrying out similar measures expands the reproductive capacity of agricultural producers by reducing costs. Thus, the current reality proves the effectiveness of protecting local producers from changes in the prices of both domestic and imported agricultural material and technical resources. Otherwise, price disparities or non-equivalent exchanges can become a constant problem of the agricultural sector.

One of the important problems of the price aspect of the development of the agrarian sphere is the existing system of trade in agricultural products. In developed countries, retail sales of agricultural products account for 20-40%, and in Russia - 60-80%. The table below confirms the existence of this specificity in the agricultural market of Azerbaijan.

Table 4.

				]	previous y
Product names	2015	2016	2017	2018	2019
Agricultural products	101,2	97,4	111,9	102,0	104,4
One year plants-total	97,2	87,4	109,5	97,8	104,1
Grain	96,7	84,2	101,7	101,0	103,8
Vegetables crops	93,9	84,1	113,8	94,6	101,8
Potato	103,5	100,7	100,0	102,5	112,7
Sugar beet	118,0	100,0	100,0	100,0	100,0
Raw cotton	100,0	100,4	100,1	105,4	115,3
Perennials – total	114,6	102,0	111,6	102,0	107,8
Grapes	106,3	92,8	98,1	100,9	99,4
Subtropical fruits	121,7	106,6	175,0	115,6	124,2
Citrus fruits	153,1	102,9	100,3	101,3	100,3
Tea and mint leaves	99,3	101,1	98,0	91,7	98,1
Livestock products-total	101,0	103,4	113,5	104,6	103,3
Beef (live weight)	98,2	102,0	124,5	104,6	106,3
Mutton (live weight)	99,0	99,9	112,6	104,9	107,7
Poultry (live weight)	105,4	108,7	119,7	101,0	101,7
Eggs	117,4	136,4	105,4	120,0	89,3
Natural honey	105,8	104,7	111,5	106,1	104,3

Producer price index for agricultural products, as a percentage of the previous vear

Source:www.stat.gov.az

The table shows that, with some exceptions, selling prices for agricultural products have risen steadily during the analysis period. This can be seen as the result of a purposeful policy to support domestic production, import substitution and export stimulation.

It is clear from the statistics that the annual increase in producer prices for most agricultural products during the analysis period did not exceed 20 percent. The increase in their prices was not sustainable and was typical for some years. Undoubtedly, as a result of rising prices, the share of profits in it also increases, and thus prices fully fulfill their stimulating function.

## **3. Influence of indicators of support of economic interests in the agrarian sector on the formation of prices.**

Improvement of the pricing mechanism in the agrarian sector is only possible with interventions in the prices of agricultural products - mortgage prices, it shall not be limited to the application of guaranteed prices or state regulation of prices.

We can note that the insured pricing system has not yet been developed in the development of the agrarian sector and agrarian entrepreneurship. There is no primary element in terms of the collateral pricing system. At the same time, there are no gears that directly affect the prices for agricultural products to form a pricing mechanism that could play a role in the development of the agrarian sector and agribusiness. However, measures that affect the benefits of agrarian products are important in this regard and they have the same effect on the development of entrepreneurship. Thus, although prices are formed in the supply and demand balance, production costs are not the last factor in price formation.

It is well-known that in Azerbaijan there is almost no other direction that can influence the pricing of agricultural products - consumer support. In this regard, there is no need for such measures. However, we can argue that agricultural support measures for general services have been implemented on a large scale. Thus, support services for general services cover research and agricultural education costs, government control costs, infrastructure and marketing costs. All the listed issues are fully implemented in the country, with the exception of marketing activities. It is well known that the country has a network of statesponsored agrarian education, organizes and finances state agrarian studies, and not only public funds are spent on various infrastructures and other projects, even international financial institutions are involved.

The issues that arise from the above are actually revealing one point. Today, it is necessary to support innovation processes in Azerbaijan's agriculture rather than to support entrepreneurship as a whole. It is true that it is, in fact, the support of entrepreneurship as well as the maintenance of innovation processes. However, in some cases, short-term current interests of entrepreneurship do not coincide with the acceleration of innovation processes. In addition, innovation processes increase productivity and, in fact, promote pricing and increase the competitiveness of the product.

As indicated in the Strategic Road Map for the Production and Processing of Agricultural Products in the Republic of Azerbaijan, previously existing deficiencies in the provision of producers' financial resources and related agricultural machinery and equipment have been completely eliminated, the level of fertilizer use has been increased, and farms with productive breeds have expanded, whereas, appropriate support measures have had a significant impact on reducing production costs.

Table 5

Provision of agriculture with machinery							
	2015	2016	2017	2018	2019		
Tractors per 1000 hectares of land, units	7,7	10,5	13,1	20,0	20,4		
Sowing area per tractor, per hectare	129	96	76	50	49		
Number of combines (machines)	per thous	and hect	ares of so	own area	a		
of relevant	crops, u	nits					
Grain harvester	0,7	1,4	1,8	3,5	3,7		
Corn harvester	0,1	0,1	0,1	0,3	0,2		
Potato harvester	0,1	0,1	0,2	0,7	0,8		
Beetroot harvester	1,2	0,1	0,6	3,6	4,8		
Cotton picker	4,6	1,7	2,3	3,7	4,8		
Appropriate plantings per combine (machine) per hectare.							
Grain harvester	1369	736	567	286	272		
Corn harvester	18455	17928	17845	3175	4105		
Potato harvester	15244	12558	4898	1521	1324		
Beetroot harvester	820	7061	1740	276	210		
Cotton picker	217	577	439	272	208		

Source: www.stat.gov.az

As can be seen from the table, in 2015-2019, although there were some fluctuations in the number of some types of equipment, there was a rapid increase. This is the result of post-oil economic policy, the state care for the non-oil sector.

At the end of the analysis, it should be noted that the level of support for agrarian entrepreneurship through the price mechanism is not yet fully satisfactory, and there is a need to continue and expand the necessary measures in the future.

# 4. Norms for calculating parity prices in agriculture methodical base.

Rising prices for industrial products and production services increase agricultural production costs. By assessing the value of rising costs, agriculture can protect its economic interests through appropriate increases in prices, or by justifying the financial losses arising from the breach of price parity, which needs to be balanced by the state.

The proposed mechanism, on a single methodological basis, has the following objectives:

• Routine observation of changes and proportions of level changes, as well as changes in economic conditions, of actual prices for products, services, consumer goods and products, produced by agricultural enterprises across various channels;

• Calculating parity prices for the main types of commodity products and identifying financial losses arising from price ratios on all properties;

• Operative tracking and analysis of inflation processes; indexation of supply prices and subsidies for agrarian products and, in general, other forms of consumer protection for agricultural commodities.

Undoubtedly, this mechanism is of great importance for agricultural governing bodies, who control and regulate prices, as well as carry out functions of subsidizing balancing mechanism. The deeper and more precise development of it, first of all, should be based on the relevant normative and methodological framework. Particular attention should be paid here to calculating parity prices based on the actual price index of agricultural products across various channels and the price indices for industrial products and services purchased by agricultural companies.

Parity prices for various types of agricultural products are based on the prices of industrial vehicles during the base year. In the current period, the criterion of parity is to maintain the established proportions of prices for industrial and agricultural products.

The following conditions are taken into account in determining parity prices and estimating price ratios for agricultural products:

1. Wholesale prices of means of industrial production and services and purchase prices of agricultural products are used.

2. The nomenclature set of means of industrial production and services used in the production of agricultural products shall be determined.

3. For each type of means of industrial production and services, the set corresponding to the base year is valued at current market prices.

4. Basic and current prices for all types of industrial means of production and services, except for agricultural machinery, combined fodder and fuels and lubricants, shall be taken into account.

5. The parity price of a certain type of agricultural product in the current period is determined on the one hand on the basis of the complex price of the set in the base year and the corresponding purchase price.

6. Parity prices are determined separately for agricultural machinery, compound feed, fuels and lubricants, and aggregate for other means of production and services.

If the state, depending on its financial capacity, guarantees agricultural enterprises to sell their products at parity prices, then parity prices perform the function of guaranteed prices.

When calculating the annual price indexes for the sale of agricultural products, the prices of the previous year or the previous period of the current year are taken as the basis for the calculation of the current price indices. When determining the current price indices, it is necessary to consider the seasonal factor's impact on the price index. The seasonality factor is expressed by the inconsistency of the list of agricultural products used in the calculation of the current price indices over the two periods, as well as seasonal fluctuations in the sale prices.

The economic literature shows numerous methods for determining price disparity in relation to agricultural sector products. The most commonly used methods relate to the system of retrospective price fluctuations, and the product exchange stability method also includes:

$$\dot{\mathbf{I}}_{par} = \left(\frac{p_i^{kt1}}{p_k^{r1}}\right) \div \left(\frac{p_i^{kto}}{p_k^{ro}}\right) = 1 \tag{1}$$

Here: Index of Parity- $\dot{I}_{par}$ , and  $p_i^{kt0}$  – is the agricultural product price at the base and reporting period,  $p_k^{r1}$  and  $p_k^{r1}$  – is the cost of agricultural production resources at the base and reporting period.

Obviously, this method is used to identify changes in price ratios for certain agricultural products, and in fact this approach is correct. This is because agrarian products diversification, in turn, differentiates resource requirements for production realization. The aggregate index of price parity can be calculated as follows:

$$\dot{I}_{par} = \frac{i^{kt}}{i^{res}} = \frac{\frac{\sum p_i^{kt_1} q_i^{kt_0}}{\sum p_i^{kt_0} q_i^{kt_0}}}{\frac{\sum p_k^{res_1} q_k^{res_0}}{\sum p_k^{res_0} q_k^{res_0}}} = 1$$
(2)

Here:  $q^{kt}$  and  $q^{res} - is$  the volume of agricultural produce and resource used and sold.

An important methodological issue in the use of aggregate index is to determine the structure of weights on individual price indices. Indeed, the rise in fuel prices does not have the same effect on grain prices and fruit disparity in terms of price disparity, and it is important that weights be taken into account.

Price calculation of parity in the course of agricultural production areas such as profitability criteria is accepted as the level of profitability of the product which is necessary for the reproduction and provision of it.

5. Improvement of the use of pricing mechanism in agricultural production stimulation.

It is clear from the research that price disparity poses a serious impediment to the development of the agrarian sector as a whole and entrepreneurship in this area. At the same time, the existing system of sale of agricultural products plays a negative role in the creation of disparity. The main argument here is that the sale of products in different salespoints has a different impact on their prices. For example, supplements to agrarian products cost 20-40 percent in Western markets, 50-90 percent in the post-Soviet space, and sometimes even over 100 percent. Therefore, improvement of the agrarian production system can be considered as one of the most important factors in adjusting the pricing mechanism and development of agrarian entrepreneurship. From this point of view, it would still be wrong for many researchers to assume that the logistics centers and outsourcing services can be optimized by the optimistic approach to the issue.

Undoubtedly, the establishment of public procurement quotas, the implementation of guaranteed pricing systems and the establishment of special cooperatives play an important role in improving the agricultural products market. Optimization of the "producer-consumer" route of agricultural production is of the crucial importance in this regard. Because the general direction of marketing policy in the agricultural sector is to bring consumer prices closer to costs and provide affordable prices for producers.

In the "producer-consumer" relationship, agricultural prices are subject to relative distortions due to the imperfections of the trade monopoly and the necessary infrastructure, or, to be more precise, the capacity of the appropriate refrigerated warehouses, and transportation problems. Monopoly, as well as the cost of warehousing and transport services have a negative impact. Existing and emerging monopoly threats at various stages of product promotion to the market are the basis for the implementation of the necessary administrative measures on the "producer-consumer" route. In order to clearly define this package of measures, it is necessary to first give a correct description of the interactions in the market for the sale of agricultural products. This description is based on both domestic and developed markets (can be considered as an example). The implementation of the following measures can be considered necessary for the formation of an improved sales system, or rather a system that creates a balance of "producer-consumer" interests:

• Establishment of a Price Information and Price Control Service within the Ministry of Agriculture, which analyzes the dynamics of prices for agricultural, wholesale, retail products, and publicizes these data and prepares proposals for management decisions;

• State setting of the maximum amount of rent and service fees for storage of products in cold storages at various points of sale - fairs, agricultural wholesale centers and retail outlets;

• To increase the direct access of agricultural producers, especially small entrepreneurs, to end consumers, it would be expedient to create a network of agrarian kiosks that can cover a large area, based on the example of the organization of agricultural fairs. In order to prevent kiosks from becoming a network of speculation, the Ministry of Agriculture may establish a targeted distribution system at the request of farmers - a system that allows a particular farmer or his representative to trade in each kiosk. The virtual information system also provides the necessary transparency in this area.

• It is also important to create the necessary legislative framework and implement administrative measures to prevent monopolies and administration in agricultural processing enterprises, wholesale centers, and shops, which seriously harm the interests of producers and consumers.

It is possible to stabilize the incomes of agrarian entrepreneurs by improving the system of sales of agricultural products and, consequently, by optimizing the prices of agricultural products.

6. Regulation of favorable price ratios between producer and consumer in the agrarian sector. At the current stage of agricultural development, state intervention in this area is necessary and aimed at solving the following tasks.

**1.** Maintaining the price level. This is a very complex task and is accomplished through different subsidies between government procurement and debt programs, as well as procurement and market prices. The implementation of these measures will be aimed primarily

at raising the incomes of agricultural producers, as well as by stabilizing prices.

**2.** Combating surplus - includes government measures to stimulate demand for agricultural products by reducing the supply of agricultural products and finding new areas of application.

The concept of parity has been developed in order to eliminate the consequences of inconsistencies in the development of industries: the given volume of agricultural products in each economic year should allow their producers to obtain a certain amount of goods and services. In other words, the parity index should remain stable.

In modern conditions, as in other CIS countries, it is impossible to ignore the state regulation of agricultural development in Azerbaijan. And its implementation undoubtedly defined the following responsibilities of the state:

- regulation of constant monitoring of market prices for agricultural products and means of production;

- development of the mechanism for maintaining the income of agricultural commodity producers through minimal price regulation;

- coordinating pricing and financial credit policies in the food, raw and resource markets with foreign countries;

- stimulation by the state of improving the quality of food and raw materials, as well as increasing production; by utilizing foreign experience and level of world market prices.

- adoption of a comprehensive action plan to attract foreign capital to the agrarian sector, and to establish agrarian industrial processing companies, primarily operating on mixed capital;

The expectation of price parity should be set at wholesale prices, so that the process of self-financing ensures efficiency in agriculture at the expense of the price factor. Unfortunately, the mentioned argument is still pending. The reality of the last decade is that all efforts to raise prices are mainly linked to the "Dictatorship of the Manufacturer". Officially, the retail prices for several daily goods and services were kept under government control. In reality, however, the circle of growth has become wider, and it is still happening in secret forms. In particular, it is common for prices to rise under the pretext of the disappearance of cheap assortments of goods and services, the rise in prices of products under the guise of improving the quality of raw materials, and changes in production technology. This stems from the administration, the dictatorship of the manufacturer and the service provider.

It should be noted that the producers themselves are also consumers of production, buyers of equipment, raw materials and supplies. Although the prices of equipment, facilities, raw materials and supplies have risen several times over the past 15 years, their productivity has increased by only about 30 percent. Of course, this is very little, because the increase in price and efficiency are not compatible at all.

Generally, the focus should be on ensuring that there is a favorable relationship between prices for agricultural products and prices of logistical resources, and that appropriate measures should be taken to deepen this ratio. The experience of developed foreign countries also confirms the fact that the dynamic development of this complex economic system can be achieved by anticipating the price equilibrium between the various sections of the agro-industrial complex.

With the record of economically developed countries' experience in agrarian price regulation, many economists suggest that they benefit from practically self-assured external experience. However, we must bear in mind that there are qualitative differences between the agrarian economy of our republic and developed countries.

In developed countries, the development of price ratios is somewhat moderate. Over a decade, the dynamics of prices for industrial products in those countries outstrip the growth of prices for agricultural products by 5-10 percent. This indicator is quite high for Azerbaijan. It is not possible to use foreign experience in our republic without any economic justification in the national economy.

Thus, on the basis of the analysis of methodological and practical aspects of price inequality in Azerbaijan, it can be said that the methodology for calculating the parity prices of industrial products, works and services, agricultural products consumed in agriculture has not been developed in our country. It also makes it difficult to identify cost elements and items for the production of relevant products. The development of parity pricing rules in our country precludes differentiated price monitoring within certain resource groups that differ in their technical parameters, productivity and prices.

As price inequality is one of the main factors in the weak integration and investment relations with foreign partners, consistent measures should be taken to regulate it. It is gratifying that the work done so far, the solid economic foundation created, lays the foundation for sustainable development in the coming years. The real GDP growth is expected to be 3.0 percent, including 3.8 percent in the non-oil sector. Growth in agriculture is planned at 4.8 percent next year. 18.3 billion manat will be directed to fixed capital in the same year, 10.6 billion manat of investment manat will be directed to the non-oil sector. In order to achieve growth based on non-oil investments in the coming period, one of the main tasks ahead is to expand the access of economic entities to financial resources, to bring the financial depth to 60 percent, as defined in the Strategic Roadmap.

The above-mentioned creates a serious basis for more fully satisfying the interests of the participants of agrarian activities in the near future.

The following scientific articles and theses have been published in relation to the content of the dissertation:

1.N.İ.Sultanova. "Kənd təsərrüfatında paritet qiymətlərin hesablanmasının normativ metodik bazası". Elmi əsərlər" jurnalı. AMEA İqtisadiyyat İnstitutu. I hissə 2018-ci il. Səh. 238-244

2. N.İ.Sultanova. "Aqrar-sənaye kompleksində paritet münasibətlərin tənzimlənməsi", "Müstəqil Azərbaycan Respublikası üçüncü minilliyin yüzilliyində" mövzusunda elmi-praktiki konfransın tezisləri, "Biznes Universiteti" nəşriyyatı, Bakı 2001. Səh 374-376

3. N.İ.Sultanova. "Aqrar bölmənin iqtisadi idarəetmə mexanizminin təkmilləşdirilməsi məsələləri". "Audit" jurnalı №3, 2002, səh 55-58

4. N.İ.Sultanova. "Dövlətin qiymət və gəlirləri tənzimləmə funksiyalarının təkmilləşdirilməsi". "Azərbaycan Respublikasının dövlət müstəqilliyinin onuncu ildönümünə həsr olunmuş elmi-praktiki konfransın tezisləri". "İqtisad Universiteti" nəşriyyatı, Bakı: 2002. səh.231-232

5. N.İ.Sultanova. "Daxili bazarın qorunmasında gömrük-tarif tənzimlənməsinin rolu". İqtisadiyyatın davamlı inkişafi problemlər,

perspektivlər, Beynəlxalq elmi konfransın materialları .Sumqayıt 27-28 aprel 2016.səh 594-595

6. N.İ.Sultanova. "Kənd təsərrüfatında iqtisadi mənafeərin təmin olunmasında qiymət mexanizmindən istifadə" AMEA İqtisadiyyat İnstitutu, "Elmi əsərlər" jurnalı 5-ci hissə 2017-ci il. Səh181-186.

7.N.İ.Sultanova "Aqrar-sənaye kompleksində qiymətlər arasında paritetliyin təmin edilməsi yolları". Azərbaycan Xalq Cumhuriyyətinin 100 illiyinə həsr olunmuş" Müstəqil Azərbaycan dövlətinin ərzaq təhlükəsizliyinin təmin edilməsi və aqrar sahənin rəqabətqabiliyyətinin yüksəldilməsi problemləri"mövzusunda Beynəlxalq Elmi-Praktik Konfransın materialları. Kooperasiya Universiteti, Bakı: 1-2 iyun 2018. səh 450-455

8. N.İ.Sultanova\*. Model shapinq Forms of State Intervention inThe Economy And Economic Model of The Country. "International Journal of Managment and Business Research". 8-ci cild №1, 80-92 səh. June 2018.

9. N.İ.Sultanova. "Kənd təsərrüfatında iqtisadi maraq və mənafelərin təminatı; təhlil və nəticələr" Kooperasiya elmi-praktik jurnal" İSSN2218-91-49. – Bakı: 2020, №1(56), səh.25-30

10.N.İ.Sultanova\*. İmplementation of Global Supply Chains as a Strategy for Increasing National Competitiveness."International Journal of Supply Chain Management. Oktybar, 2020. 9-cu cild №5, United Kingdom.səh.502-507.

11. N.İ.Sultanova\*. Company information resource management as a corporate risk management tool. "Revista ESPACIOS" Aprel, 09.2020, Vol.41 (İssue 12), səh 15-23. Venesuela USA.

12. Султанова Н.И. "Основные направления формирования совершенной рыночной системы в сельском хозяйстве» Экономическая безопасность агропромышленного комплекса: I Национальной научно-практической конференции. – Киров, 2021. – 347 с. ФГБОУ ВО Вятский ГАТУ

Guild

The defense of the dissertation will be held on "20" October on 2021 at 14:00 at the meeting of the Dissertation Council ED 2.10 operating under the Azerbaijan State University of Economics.

Address: AZ 1001, Baku, Istiglaliyat street 6

The dissertation is accessible at the Azerbaijan State University of Economics Library.

Electron versions of dissertation and its abstract are available on the official website of the Azerbaijan State University of Economics.

Abstract was sent to the required addresses on "20" September 2021.

Signed for print: 17.09.2021. Paper format: 60x84 1/16. Order 01/09. Volume 1 pst. (39960 symbols) Offset paper №1. Number of hard copies:100.

"AA – Polygraph" Production and Commercial Association e-mail: capevi@internet.ru Tel.: (+99455) 201-28-09