REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

DIRECTIONS FOR REGULATING INVESTMENT MECHANISMS IN THE AGRARIAN-PROCESSING SECTOR

Speciality:	5308.01 – "Types of economic activity"
Field of science:	Economic sciences
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GENERAL CHARACTERISTICS OF THE STUDY

Relevance and degree of development degree of the research. Contemporary global transformations, including economic transformations, have created new realities, and the improvement and modernization of economic processes have come to the forefront.

In the contemporary period–particularly between 2020 and 2025–the significant impact of fluctuations in global food prices on the development of the agro-processing sector and the refinement of investment mechanisms has become increasingly apparent. This is evidenced by various global shocks, including the effects of the COVID-19 pandemic, challenges to grain exports stemming from the Russia-Ukraine war, issues arising from climate change, and obstacles related to energy and logistics. Furthermore, the rising costs of fertilizers and energy in recent years have, in turn, driven up food prices. Concurrently, geopolitical tensions and logistical difficulties have led to an increase in expenses associated with security, insurance, and transportation.

At the same time, factors related to disruptions in supply chains within the agricultural processing sector necessitate ongoing research in this field. Disruptions in the supply chain not only lead to the loss of raw materials but also cause price volatility and create challenges in delivering the final product to the market on time. The perishable nature of the products and delays at border crossings are among the factors that hinder the supply of food products. International trade restrictions, conflicts, wars, and economic sanctions have significantly complicated the import and export of raw materials for food products.

It should be noted that the implementation of the National Priorities for socio-economic development for the period up to 2030 is currently in an intensive phase. Among these priorities, the diversification of the economy, the development of a green economy, and the rapid growth of non-oil and gas sectors are at the forefront[1].

[1]Azerbaijan 2030: National Priorities for Socio-Economic Development. Decree of the President of the Republic of Azerbaijan. – Baku, – February 2, 2021.

A socio-economic development strategy covering the years 2022–2026 is being implemented to realize these priorities[2]. On the other hand, work is underway to develop the next socio-economic development strategy, covering the years 2027–2030. Particular focus is being placed on enhancing the transparency of the economy, strengthening financial and investment support, and fostering an environment of healthy competition. The newly adopted Competition Code is of significant importance in this regard[3]

Another important issue is the improvement and modernization of economic activity mechanisms in line with global challenges. The digitalization of the economy and its development based on artificial intelligence have become a necessity of the times. The Concept for Digital Development was approved by the Decree of the President of the country dated January 16, 2025[4]. Furthermore, the Artificial Intelligence Strategy for the years 2025–2028 was approved by a Decree of the President of the country dated March 19, 2025[5]. All of this gives rise to new tasks in various sectors of our economy, including the agro-processing sphere.

At the same time, in light of the new realities that emerged following the victory in the 2020 Patriotic War, there is a pressing need for the agro-processing sector to operate more productively within the Karabakh and East Zangezur economic regions and to structure its operations based on cutting-edge technologies. Currently, the primary objective is to establish and implement mechanisms that strengthen financial and investment support, ensuring the comprehensive and systematic revival of the liberated territories and the efficient organization of restoration efforts.

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[2]Strategy for the Socio-Economic Development of the Republic of Azerbaijan for 2022–2026. // Approved by the Order of the President of the Republic of Azerbaijan dated July 22, 2022. No. 3378].

[3]Competition Code of the Republic of Azerbaijan. Approved by Law No. 1051-VIQ of the Republic of Azerbaijan dated December 8, 2023.

[4]Concept for Digital Development in the Republic of Azerbaijan. Approved by the Decree of the President of the Republic of Azerbaijan dated January 16, 2025.

[5]Artificial Intelligence Strategy of the Republic of Azerbaijan for 2025–2028. Approved by the Order of the President of the Republic of Azerbaijan dated March 19, 2025.

These points necessitate fundamental research; specifically, they require an in-depth study of the challenges involved in accelerating the development of the agricultural sector–a vital component of the national economy–as well as the adjustment of investment mechanisms to enhance the efficiency of the agro-processing sphere. Furthermore, they underscore the need to develop new, productive operational mechanisms. Collectively, these factors demonstrate the relevance of the dissertation topic.

Regarding the extent to which the topic has been explored, it should be noted that scholars from both our country and abroad have examined and studied the issues surrounding the financial and investment support of the agricultural sector at a conceptual level, as well as the challenges involved in regulating investment mechanisms within the agro-processing sphere, and have produced scholarly works on these subjects. Azerbaijani economist-scholars–including Academician Z.A.Samadzade, E.R.Ibrahimov, E.A.Guliyev, B.Kh.Atashov, ASh.Shakaraliyev, Z.F.Mammadov, V.H.Abbasov, I.H.Ibrahimov, R.A.Balayev, A.E.Guliyeva, E.M.Sadigov, Kh.M.Huseynova, Sh.T.Aliyev, M.J.Huseynov, E.B.Mammadova, E.A.Ibrahimov, M.M.Huseynov, M.A.Ibrahimov, V.A.Gasimli, R.Z.Huseyn, V.I.Ismayilov, V.I.Bayramov, B.S.Ahmadov, and others–have authored research works addressing development issues in the agrarian sector, including the design and application of financial-investment mechanisms, as well as the regulation of investment mechanisms for agro-processing enterprises. The scientific views and works of a group of foreign scholars and researchers–including prominent founders and representatives of the classical school of economics–address financial issues, the role and functions of investments, their socio-economic significance, and their importance across various economic sectors. Specifically, the works of A.Smith, A.Marshall, R.M.Solow, J.M.Keynes, M.E.Porter, R.Levine, M.U.Baychorov, M.Kh.Gazeyev, M.A.Grigel, O.V.Kiselyeva, I.V.Sergeyev, E.A.Utkin, Z.A.Tobolich, A.I.Fazrakhmanova, and others–encompassing dissertations and monographs–explore key challenges in the agrarian sector, such as ensuring financial stability and attracting investment. Furthermore,

these works cover the state regulation of investment mechanisms within the agro-processing sphere, the development of more effective investment mechanisms suited to contemporary realities, and the enhancement of investment attractiveness.

Notwithstanding all this–and taking into account new challenges arising from global threats and difficulties encountered in recent years–further fundamental research is required regarding the improvement of financial and investment support mechanisms (which are crucial for accelerating the resolution of problems in the agricultural sector), their alignment with international best practices, and the adjustment of investment mechanisms within the agro-processing sphere to meet the demands of the times.

Object and subject of the research. The object of the research is the agro-processing sector operating in the Republic of Azerbaijan, along with the related fields of activity and organizations. The subject of the research encompasses the approaches to regulating investment mechanisms within the agro-processing sector, as well as the issues, methods, and tools for improving these mechanisms.

Aims and goals of the research. The objective of this dissertation is to examine the theoretical and methodological foundations and the current state of the regulation of investment mechanisms within the agrarian-processing sector, to identify existing problems, and to develop scientifically grounded proposals and recommendations for the improvement of these mechanisms. To this end, the following tasks were defined and addressed in accordance with the structure of the dissertation:

- the theoretical-methodological foundations, forms, and methods of regulating investment mechanisms in the agrarian-processing sphere have been analyzed in light of new requirements;
- the methodological features of regulating investment mechanisms in the agro-processing sector have been examined;
- global experience regarding the regulation of investment mechanisms in the agro-processing sector has been studied;
- an analysis of the current state of development processes within the agro-processing sector in our country has been conducted;

- investment mechanisms in the agro-processing sector have been analyzed and evaluated;
- issues necessitating the regulation of investment mechanisms in the agro-processing sector have been examined;
- matters concerning the strengthening of the legislative framework for the improvement of investment mechanisms have been studied;
- approaches to enhancing the investment attractiveness of the agro-processing sector have been explored;
- the regulation of investment mechanisms in the agro-processing sector in alignment with contemporary challenges–including the priorities for the revitalization of the territories liberated from occupation–has been investigated.

Research Methods. The study employs a systemic and comprehensive approach, comparative analysis, economic-statistical methods, analysis and synthesis, the analysis of dynamic series, and analytical-computational methods, as well as modern techniques and tools of economic analysis. In defining the theoretical and methodological approaches, reference was made to the works of both Azerbaijani and foreign scholars concerning the regulation of investment mechanisms within the agro-processing sector. Furthermore, the research draws upon laws, regulatory and legal provisions, and other documents governing the state regulation of investment mechanisms in Azerbaijan's agro-processing enterprises, as well as methodological materials from specialized research institutes and centers.

Main provisions put forward for defense. In the context of the research's scientific novelties and the results obtained, the following set of key propositions is submitted for defense:

- In the context of global threats and new requirements, there is a pressing need to regulate the investment mechanisms within the country's agrarian-processing sector;
- In line with the realities of the current era, the fundamental adjustment and methodological refinement of existing investment mechanisms and instruments in the agrarian-processing sector are inevitable;

- There are unresolved issues regarding the enhancement of efficiency in the processes of generating, attracting, and utilizing investments;
- There is a need to develop a system of indicators, principles, and assessment mechanisms–encompassing the strengthening of investment activity and the enhancement of investment attractiveness within the agro-processing sector, as well as the determination of the effectiveness of state support mechanisms in these areas;
- It has become necessary to improve the reliability and functionality of the financial and investment mechanisms within the agro-processing sector–a sector that plays a vital role in the more efficient organization of agricultural activities, which in turn are strategically important for strengthening food security in Azerbaijan;
- Following the great victory in Karabakh, the necessity to establish and develop the agro-processing sector in the territories liberated from occupation has increased significantly.

The scientific novelty of the research consists of the following:

- ✓ taking modern global challenges as a basis, the factors necessitating the regulation of investment mechanisms in the agro-processing sector have been identified and substantiated;
- ✓ measures for regulating investment mechanisms in the agro-processing sector have been defined within the context of objective realities, and a block diagram of theoretical approaches to their efficiency has been presented;
- ✓ the methodological characteristics of regulating investment mechanisms in the agro-processing sector have been examined, and a methodological framework based on scientific arguments has been developed;
- ✓ principles and criteria for evaluating investment mechanisms in the agro-processing sector have been established, with a focus on enhancing the efficiency of investment activities and increasing investment attractiveness;
- ✓ the issues concerning the attractiveness of investment

mechanisms in the agro-processing sector under new challenges have been examined, and an algorithm for assessing the attractiveness level of existing investment mechanisms has been developed;

- ✓ formulas for an integral indicator and a rating coefficient for the investment attractiveness of the agro-processing sector have been devised;
- ✓ based on the strategic importance of the agricultural sector in Azerbaijan, directions for enhancing the investment attractiveness of the agro-processing sector have been identified;
- ✓ in alignment with the objectives derived from the Strategic Roadmap, approaches for regulating investment mechanisms in the agro-processing sector have been presented and substantiated;
- ✓ taking into account modern challenges, objective realities, and the priorities for the revitalization of the territories liberated from occupation, the components of an Action Strategy for the regulation and improvement of investment mechanisms in the agro-processing sector have been outlined, and relevant proposals have been developed.

Theoretical and practical significance of the research. The theoretical significance lies in the fact that the scientific findings presented and derived in this work can contribute to accelerating the development of the agricultural sector as a whole–primarily by refining investment mechanisms within the agro-processing sphere and facilitating the implementation of more effective measures. The practical significance of the research consists in enhancing the efficiency of the agro-processing sector by aligning its investment mechanisms with the challenges and requirements of the contemporary era, as well as ensuring the maximum possible effectiveness of state support mechanisms in this area. The scientific and theoretical propositions presented in the dissertation may be utilized in the development of textbooks and teaching aids.

Approbation and application. The topic of the dissertation was selected in alignment with the general research direction of the Department of Finance and Banking at the Azerbaijan University of Cooperation.

The candidate has published 10 articles and 7 abstracts (including 2 articles and 1 abstract abroad) on the topic of the dissertation in reputable local and foreign journals recommended by the Supreme Attestation Commission. The main findings of the research are reflected in the following abstracts: “Problems of Improving Investment Mechanisms in the Agro-Processing Sector in the Modern Era” (Baku, 2018), “The Role of Investments in Increasing Production Output in Agro-Processing Enterprises” (Baku, 2018), “Challenges and Solutions for Enhancing Investment Attractiveness in Agro-Processing Enterprises in the Modern Era” (Baku, 2019), “Current Aspects of Investment Attractiveness in Strengthening the Economic Security of Agro-Processing Enterprises in Azerbaijan” (Sumgayit, 2020), “The Importance of Strengthening the Logistics Infrastructure of Agro-Processing Enterprises During and After the Pandemic” (Sumgayit, 2020), “Strategic Issues Regarding the Improvement of Investment Mechanisms for Agro-Processing Enterprises in Azerbaijan Under New Conditions” (Moscow, 2021), and “Formulating Investment Policy in Agro-Processing Enterprises Based on Innovative Approaches” (Baku, 2025).

Furthermore, the applicant has authored the following works: “Problems and Directions for Regulating Investment Mechanisms in Agro-Processing Enterprises” (Baku, 2018), “Ways to Improve Investment Mechanisms for Agro-Processing Enterprises” (Baku, 2018), “The Importance of Improving Key Mechanisms for the Investment Attractiveness of Agro-Processing Enterprises in Azerbaijan” (Philadelphia, 2018), “Ways to Enhance the Investment Attractiveness of Agro-Processing Enterprises” (Baku, 2018), “Issues Regarding the Assessment of Investment Mechanisms in Agro-Processing Enterprises” (Baku, 2018), “Strategic Approaches to Improving the Investment Environment for Agro-Processing Enterprises Amidst Global Financial Challenges” (Baku, 2019), “Directions for Strengthening Investment Mechanisms in Agro-Processing Enterprises within the Context of the Strategic Roadmap in Azerbaijan” (Baku, 2019), “Theoretical Foundations and Methodological Characteristics of Regulating Investment Mechanisms in Agro-Processing Enterprises” (Baku, 2019), “Current

Issues in Regulating Investment Mechanisms for Agro-Processing Enterprises in Azerbaijan" (Moscow, 2020), and "Innovative Modernization of Investment Policy in Agricultural Processing Enterprises" (Baku, 2026) titled articles have been published.

Name of the organization where the dissertation work was carried out. Azerbaijan Cooperative University.

The total volume of the dissertation in characters, indicating the volume of the structural sections of the dissertation separately. The total volume, comprising the Introduction (14898 characters), Chapter I (85116 characters), Chapter II (54416 characters), Chapter III (57576 characters), Conclusion (11087 characters), and the list of references (24558 characters), is 259410 characters. Excluding tables, figures, and the list of references, the dissertation contains 223093 characters.

MAIN CONTENT OF THE WORK

The **"Introduction"** to the dissertation covers the relevance and the extent to which the topic has been studied, the object and subject of the research, its goals and objectives, the methods employed, the main propositions submitted for defense, the scientific novelty, theoretical and practical significance, the approbation and application of the research, as well as the overall scope of the work.

The first chapter of the dissertation, titled **"Theoretical and Methodological Foundations for the Regulation of Investment Mechanisms in the Agrarian-Processing Sphere,"** examines the theoretical issues surrounding the regulation of investment mechanisms in the agrarian-processing sector, the methodological characteristics of regulating these mechanisms, and international experience in this area.

It should be noted that issues concerning the efficiency of capital, financial resources, and investments–including the regulation of the flows of these resources, their efficient utilization, and the productive use of resources engaged in economic processes–have consistently remained a focus of attention throughout all stages of the development of economic science. Adam Smith posited that *"just as*

the capital of an individual increases only by the amount saved from annual income or profit, the capital of the entire society–which is equal to the sum of the capitals of all individuals–can also be increased in this manner"[6]. In this way, the founder of the classical school of economics demonstrated the necessity of exercising greater caution regarding issues related to capital, and of adopting an optimal approach to the challenges involved in the organization of its movement and the mechanisms of its utilization. A. Marshall, for his part, stated that *"in real life, there is no precise distinction between circumstances involving capital and those that do not"*[7]. *Here, the author referred to issues and unforeseen circumstances concerning the use of capital, capitalization, the limits of the value it generates, and its trajectory.* In R. M. Solow's views on economic growth and the systematic implementation of measures required to enhance an economy's competitiveness, it is noted that *"financial resources and investments play a significant role"*[8]. In this regard, it is impossible to disagree with the prominent economist, and these ideas have become increasingly relevant in recent decades. Regarding the assessment of these factors, the eminent economist J. Keynes held the view that *"the utilization and regulation of resource potential–including financial and investment resources–involve relationships that take shape between enterprises and the state, among enterprises themselves, and between employees and owners within an enterprise; the impact of each of these must be taken into account"*[9].

We would like to focus on several issues concerning the economic theories of classical economists–A. Smith, A. Marshall, R. Solow, and J. Keynes–specifically in the context of regulating investment mechanisms within the agrarian-processing sector. According to A. Smith, investments naturally gravitate toward sectors that yield the

[6]Smith, A. Wealth of Nations, edited by C.J. Bullock. Vol. X. The Harvard Classics.New York: P.F. Collier & Son, 1909–14; Bartleby.com, 2001.–p.76

[7]Marshall, A. Principles of Economics. Vol. 1. Moscow: Progress, 1993. – p. 51.

[8]Solow, R.M. A Contribution to the Theory of Economic Growth// The Quarterly Journal of Economics. 1956. February Vol.70, No.1. p. 71.

[9]Keynes, J.M. The General Theory of Employment, Interest and Money. Palgrave Macmillan. 2007.– p.136.

highest profits. However, he acknowledged that the allocation of capital to agriculture within the domestic market is vital for the country's long-term stability. On the other hand, the agrarian-processing sector occupies a weaker position in free-market competition compared to other industrial sectors. Consequently, specific investment regulation mechanisms must be implemented to prevent the outflow of capital toward other, more profitable sectors. In line with A. Smith's theory of free competition, the state should eliminate monopolistic tendencies within the market. In this context, to enhance the investment attractiveness of the agrarian-processing sector, price parity must be ensured between producers of agricultural raw materials and enterprises within the processing industry. Thus, the artificial reduction of raw material prices by monopolistic entities–rather than stimulating investment in the agricultural sector–may lead to an outflow of capital from this sector.

In our view, the issue of enhancing the investment attractiveness of various segments of the non-oil sector–particularly agriculture and the agro-industrial complex–remains highly relevant, and agro-processing enterprises are no exception in this regard. Investments and financial-credit resources play a pivotal role in ensuring the more efficient operation of this sector and its constituent enterprises. Academician Ziyad Samadzade notes that *"the financing of technology-driven projects within the agricultural sector–facilitated by preferential loans–has led to the commissioning of new enterprises and the continued construction of others, thereby further expanding the capacity for the production, processing, and storage of agricultural products. All of this reflects the year-on-year strengthening of the agricultural sector's potential"*[10]. We also hold the view that investment and financial mechanisms play a significant role in realizing the potential of the agrarian sector and ensuring the productive and efficient operation of its processing enterprises. Furthermore, given the current state of the economy–particularly within the agricultural sector–there is a need for substantial

[10]Səmədzadə, Z.Ə. Azərbaycan iqtisadiyyatı 100 ildə. IV cild. – Bakı: Letterpress nəşriyyat evi, – 2021. – s.145.

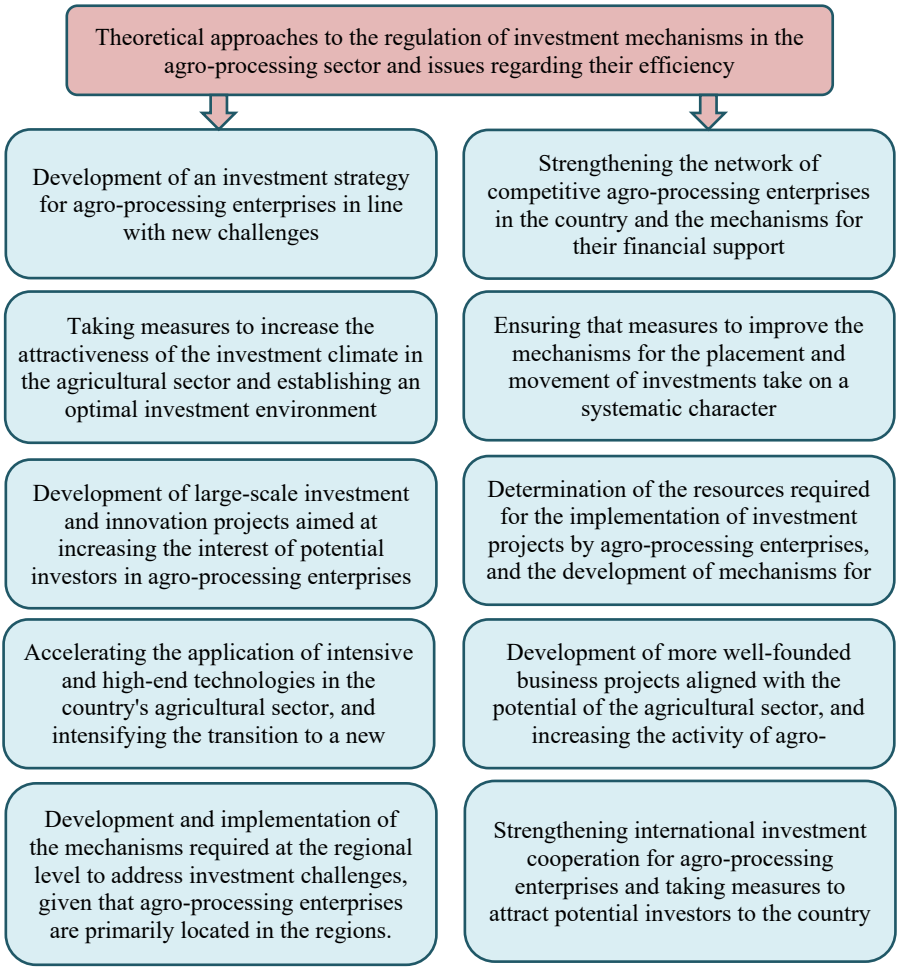
investment capital to boost economic performance and facilitate integration into the global economy. It is well understood that the continuous and efficient functioning of the agrarian sector relies on the supply of raw materials derived from various branches of agriculture. As Prof. E.A. Guliyev rightly notes, *"investments directed into agricultural sectors serve as key drivers of economic development and progress. To ensure the efficiency of such investments, all relevant factors–including the most minute details concerning priority areas of activity–must be thoroughly examined and objectively evaluated".*[11] It should be added that the sustained channeling of investments ultimately has a positive impact on the efficiency of production and processing operations, while facilitating the transfer and application of new technologies. Attracting investment to the agricultural sector not only exerts a multiplier effect on its development but also enables the creation of more sustainable development mechanisms. Honored Scientist and Professor B.Kh. Atashov states: *"The formation of a sophisticated financial market–one that ensures the intensive flow of both domestic and foreign investment into the economy–has become a necessity. Indeed, much like other instruments of market relations, the development of a robust financial market serves as a catalyst for the advancement of the economy as a whole"*[12]. In our view, the author is largely correct, as the dynamic nature and high maneuverability of the financial market enhance access to investment resources and reduce the barriers faced by investors. Undoubtedly, a robust legislative framework plays a pivotal role in fostering investor confidence; we will examine key legislative aspects separately later on.

Scheme 1 presents a block diagram illustrating the regulation of investment mechanisms within the agro-processing sector, along with approaches to assessing their efficiency.

Based on Scheme 1, it can be argued that, in the current context, further efforts are required to refine investment mechanisms within

[11]Guliyev, E.A. Global Food Security: Realities, Challenges, and Perspectives. – Baku: Kooperasiya Publishing House, 2018. – p. 76.
[12]Atashov, B.Kh. Financial Markets. / B.Kh. Atashov – Baku: Kooperasiya Publishing House, 2016. – 456 p.

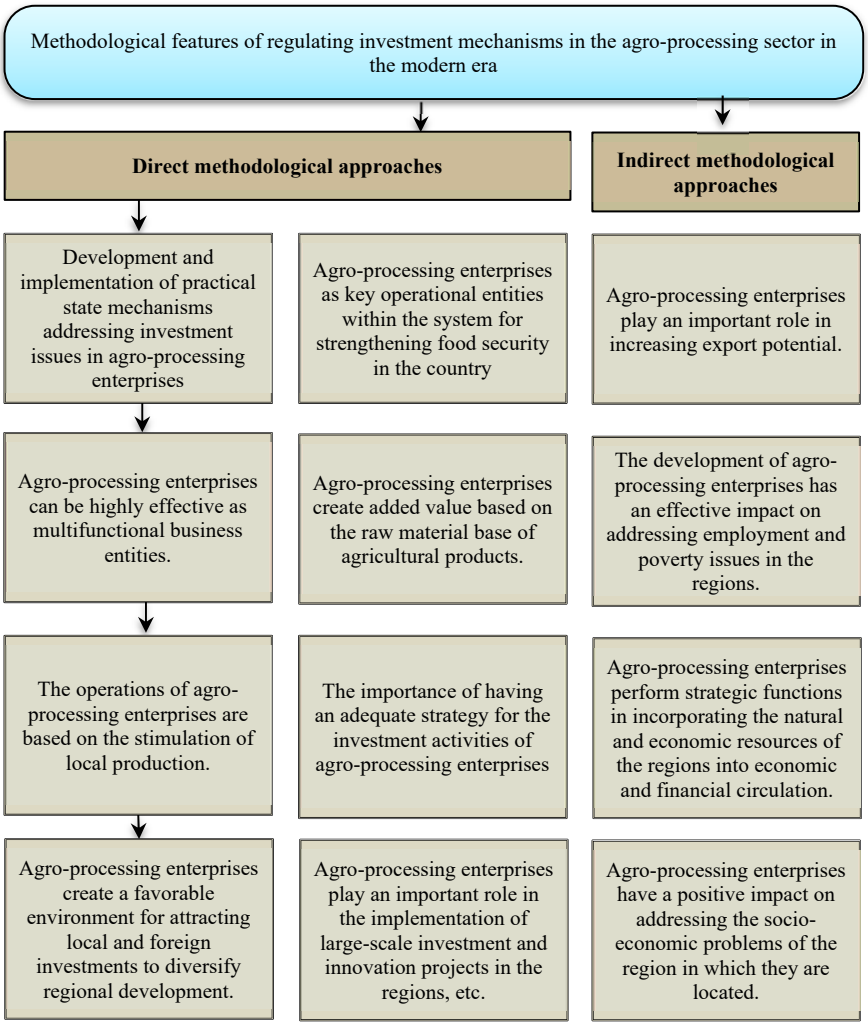
the country's agro-processing sector. Specifically, significant emphasis must be placed on enhancing investment attractiveness, engaging in targeted outreach to potential investors, strengthening relationships, and substantially improving the efficiency of existing state support mechanisms.



Scheme 1. Block diagram of theoretical approaches to the regulation of investment mechanisms in the agro-processing sector and issues regarding their efficiency

Source: Prepared by the author.

In Scheme 2, we have presented a block diagram of the methodological features regarding the regulation of investment mechanisms in the agro-processing sector in the contemporary period.



Scheme 2. Block diagram of the methodological features of regulating investment mechanisms in the agro-processing sector in the modern era

Source: Prepared by the author.

Regarding the application of international best practices for stimulating investment in the agro-processing sector in Azerbaijan, it should be noted that the experiences of the USA, Germany, France, Israel, Turkey, China, and Brazil have been analyzed. Based on this, specific regulatory, financial, and technological mechanisms–adaptable to the context of Azerbaijan–have been identified. We believe that, drawing on the US experience, it could be beneficial to utilize mechanisms–facilitated by US procurement management agencies–that protect processors against raw material supply risks through subsidized insurance programs. Furthermore, mechanisms for attracting private venture capital into the agro-processing sector warrant attention. Regarding the German model, it is our view that agro-processing enterprises being directly owned by farmer cooperatives enhances their attractiveness to investors. Additionally, the German government provides grants covering 50% of infrastructure costs for the establishment of regional agro-processing clusters. It would be advisable to adopt the mechanisms used in France, such as indexed investment incentives and the abolition of tax levies for family-run farming and processing businesses. In Israel, which boasts a highly developed agricultural sector, the experience of establishing agrotechnology venture funds is particularly noteworthy. The operational models of specialized agricultural organized industrial zones in Turkey are also of interest for Azerbaijan's agro-processing industry; these entities provide 50% grant support for the procurement of processing equipment. Furthermore, leveraging industrial investment funds and smart logistics chains–as seen in China–could prove beneficial for Azerbaijan. Brazil has implemented preferential loan programs for agro-processing enterprises, featuring a mechanism that provides long-term credit at interest rates below the inflation level, specifically to facilitate the modernization and technological upgrading of these facilities. There is a pressing need to implement a similar mechanism within Azerbaijan's agro-processing sector.

In the second chapter of the work, titled **"Analysis and Assessment of the Development Level of Investment Mechanisms in the Agrarian-Processing Sector of Azerbaijan"** the current state

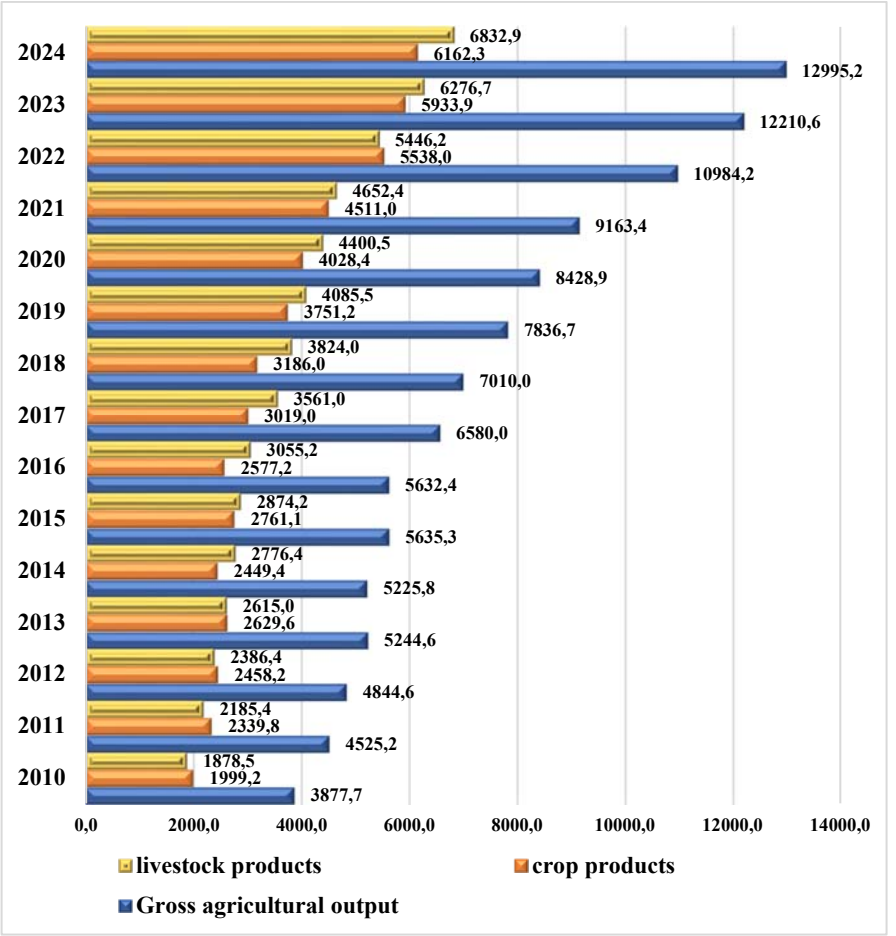
of development processes within the country's agrarian-processing sector is analyzed. An assessment is conducted based on an examination of investment mechanisms within the sector's enterprises, and the factors that determine the regulation of these investment mechanisms are identified and evaluated.

Conducting analyses based on key indicators is essential for a more realistic assessment and evaluation of the development processes within the agro-processing sector, as well as the efficiency with which resources invested in this field are utilized. To examine the current state of development processes within the country's agricultural sector and its enterprises, we have analyzed a set of specific indicators.

Graph 1 analyzes the overall dynamics of agricultural output in Azerbaijan from 2010 to 2024. As shown, total agricultural production in the country more than doubled during this period, reaching nearly 13 billion manats by the end of 2024.

The share of agriculture and the broader agrarian sector in the country's GDP did not see significant growth between 2011 and 2024; while it stood at 5.1% in 2011, it reached 6.7% in 2020 and settled at 5.7% in 2024. In our view, there is substantial untapped potential and significant scope to increase the share of agriculture in the national GDP; to fully leverage this, it is essential to substantially enhance the role of agro-industrial enterprises.

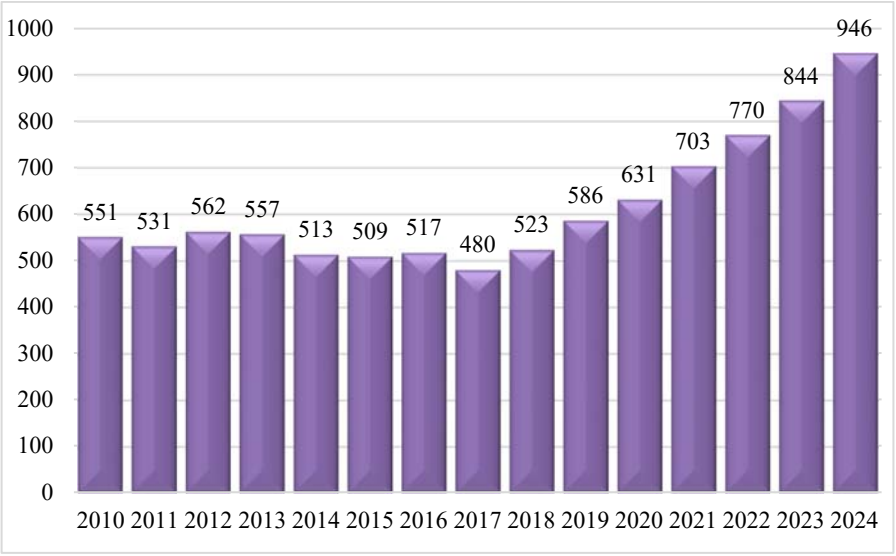
It would be worthwhile to address several issues concerning the share and strategic role of the agro-processing sphere within the non-oil sector. The non-oil and gas sector is of the highest priority in terms of diversifying the national economy and reducing its dependence on the oil factor. According to statistical data for 2025, up to 72% of the country's GDP is generated by products and services from the non-oil and gas sector. Within this structure, agriculture accounts for approximately 9%. Overall, agriculture and its associated processing sectors represent 10% of the non-oil GDP. In the composition of non-oil exports, agricultural and agro-processed products account for 34%.



Graph 1. General dynamics of the volume of agricultural products in Azerbaijan, 2010–2024, million manats

Source: Prepared by the author based on data from the State Statistical Committee of the Republic of Azerbaijan. https://www.stat.gov.az/source/agriculture/.

Graph 2 analyzes the trend in the number of agricultural processing enterprises operating in the country between 2010 and 2024. As can be seen, the total number of such enterprises increased from 551 to 946 over the period under review; notably, more than 900 of these–or 95.1%–are non-state enterprises.



Graph 2. Number of enterprises operating in the agro-industrial complex in Azerbaijan, units, 2010–2024

Source: Prepared by the author based on data from the State Statistical Committee of the Republic of Azerbaijan. https://www.stat.gov.az/

Table 1 analyzes the overall dynamics of investments made in the economy of the Republic of Azerbaijan between 2010 and 2024, as well as the dynamics of investments attracted to specific sectors.

An analysis of Table 1 reveals that the volume of investments attracted from all sources reached its peak in 2015, amounting to 19,547.2 million USD. Notably, the figure for 2024–19,491.5 million USD–is quite close to this peak. This further underscores the critical importance of significantly updating the conditions and criteria for attracting investments–including foreign investments–into various sectors of the national economy, such as the agricultural sector and agro-processing enterprises, and ensuring that these processes are organized in alignment with international best practices.

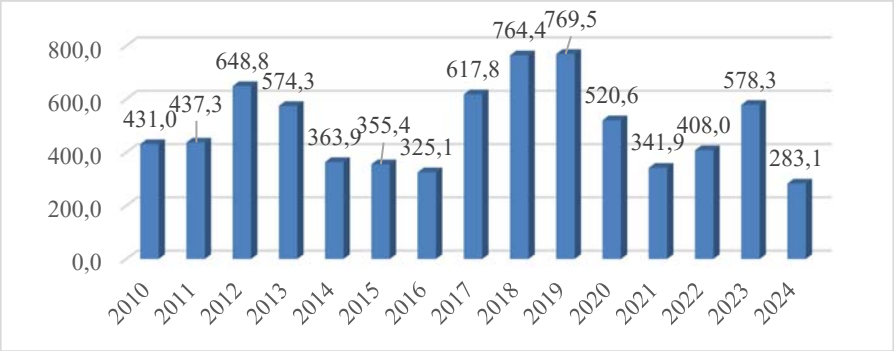
Table 1.

Dynamics of Investments in the Economy of the Republic of Azerbaijan, million USD (2010–2024)

Indicators:	2010	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total investment from all sources (including foreign investments):	**17591,4**	**19547,2**	**14228,0**	**14213,3**	**15221,7**	**14698,0**	**13225,9**	**14890,4**	**17138,3**	**18871,1**	**19491,5**
Domestic investments	9343,6	8828,1	4066,9	5092,8	6985,2	7568,9	7100,5	7389,3	8385,8	10241,0	11043,9
Foreign investments, including:	**8 247,8**	**10719,1**	**10161,1**	**9120,5**	**8236,5**	**7129,1**	**6125,4**	**7501,1**	**8752,5**	**8630,1**	**8447,6**
Financial credits	3405,9	2210,2	2197,8	1783,3	2880,0	1736,1	1004,4	1531,3	304,5	387,2	638,5
Direct investments, including:	3614,9	7483,1	7323,6	5713,8	4109,1	4275,3	4527,7	4795,3	6275,9	6658,1	7046,2
- Oil sector	2955,3	6622,7	5617,4	4900,8	3142,0	3345,2	3922,1	4004,9	4441,9	4657,0	5687,7
- Non-oil sector	659,4	860,4	1706,2	813,0	967,1	930,1	605,6	790,4	1834,0	2001,1	1358,5
Oil bonus	2,0	2,0	0,1	1,4	450,1	450,8	451,6	457,0	452,2	471,0	457,8
Other investments	1225,0	1023,8	639,6	1622,0	797,3	666,9	141,7	717,5	1719,9	1113,8	305,1
Share of foreign investments in total investments, % xüsusi çəkisi, %	46,89	54,84	71,42	64,17	54,11	48,5	46,3	50,4	51,0	45,7	43,3

Note: Prepared by the author based on data from the State Statistical Committee of the Republic of Azerbaijan (SSCRA). https://www.stat.gov.az/

Graph 3 analyzes the dynamics of investments directed toward fixed capital in the agrarian sector and its enterprises in Azerbaijan during the period 2010–2024.



Graph 3. Dynamics of investments directed into fixed capital in the agrarian sector and its enterprises in Azerbaijan, 2010–2024 (million manats)
Source: Prepared by the author based on data from the State Statistical Committee of the Republic of Azerbaijan. https://www.stat.gov.az/

As shown in Graph 3, the volume of investments in fixed capital across all activity areas of the agrarian sector has not been particularly stable between 2010 and 2024. Specifically, this figure stood at 431.0 million manats in 2010, 355.4 million manats in 2015, 769.5 million manats in 2019, and 520.6 million manats in 2020; by 2024, it had decreased significantly to 283.1 million manats. Consequently, the need to improve investment mechanisms for agro-processing enterprises has become a pressing issue, and there is a requirement for more effective measures to be taken in this regard.

We would like to draw attention to the factors surrounding the decline in fixed capital investment within Azerbaijan's agrarian sector. Agriculture holds strategic importance for the diversification of the non-oil sector; however, 2024 saw a sharp drop in the volume of investments directed toward fixed capital in the agrarian sector. The decline in the volume of investment in this sector–which has seen an average annual investment of over 500 million manats in recent years–is primarily linked to the combined impact of economic, structural, and global factors. In the context of optimizing state

budget expenditures, allocations for agriculture in 2024 have been reduced by up to 8% compared to 2023.

It is considered essential to determine the adequacy and efficiency level of investment mechanisms within the agro-processing sector. This requires the preparation of reports reflecting investment attractiveness, as well as the identification of optimal indicators.[13] From a practical perspective, the formula for calculating an integral indicator of an agro-processing enterprise's investment attractiveness can be applied as follows:

$$K_{ig} = \sqrt{\sum_{i-1}^{n} \left(1 - \frac{X_{ik}}{X_{iet}}\right)^2} \quad (2.2.1)$$

Here:

K_{ig} - coefficient of investment attractiveness of an agro-processing enterprise;

n – the number of financial ratios included in the calculation;

X_{ik} – k the value of the i-th financial indicator of the agro-processing enterprise;

X_{iet} – i benchmark (exemplary) value of a financial indicator.

Calculations performed using this formula help form an understanding of an agro-processing enterprise's investment attractiveness and, specifically, establish a benchmark level for financial indicators. This benchmark serves as a composite of optimal or superior performance metrics for any given enterprise. For instance, a system of indicators–or a specific model entity–can be adopted as a benchmark, provided that the metrics it reflects align with recommended or normative standards. The closer an enterprise is to this benchmark, the higher its rating and the greater its investment attractiveness.

Regarding the efficiency and economic impact of state subsidies directed toward the agro-processing sector, it should be noted that the development of agriculture, the assurance of food security, and the intensification of regional development rank among the priority areas of the state's economic policy. Digitized subsidy mechanisms have

[13] Butorina, O. V., Shishkina, I. V. Investment Attractiveness of a Company: Essence and Comparison of Assessment Methodologies // Bulletin of PNRPU. Social and Economic Sciences. 2017. No. 2. p. 215.

been implemented through the Electronic Agricultural Information System, covering the following areas: 1) Subsidies related to crop production; 2) Cultivation subsidies, including those for the production of wheat, cotton, tobacco, and sugar beets; 3) Seed subsidies; 4) Subsidy mechanisms for the livestock sector, including support for artificial insemination and purebred livestock, as well as for beekeeping and sericulture; and 5) Subsidy mechanisms for production inputs and machinery. We believe that the various subsidies provided by the state have a direct, positive impact on the development of the agro-processing sector. Furthermore, agricultural subsidies serve as a vital financial pillar for the sustainability of farmers' operations, reducing production costs (with this reduction estimated at 40–70%).

It should be noted that, in this context, one can distinguish between absolute and relative forms of an enterprise's investment attractiveness. Absolute investment attractiveness pertains to specific investment projects, whereas relative investment attractiveness can be assessed through comparisons against several benchmarks: 1) industry averages; 2) the performance indicators of other enterprises operating within the agro-processing sector; and 3) criteria established by the investor. In this context, a composite set of indicators incorporates various coefficients, presented as weighted averages.

Here, the rating coefficient of comprehensive investment attractiveness (Əic) can be calculated as follows:

$$Э_{ic} = \sum_{i=1}^{n} k_i * P_i \quad (2.2.2)$$

Hhere,

k_i – i – weight of the criterion;

P_i - i – rating assessment of the criterion;

n – number of criteria

The indicators incorporated into the determination of the composite investment attractiveness rating reflect both the operational efficiency of an enterprise and the stability of its financial position, thereby serving as a reliable and robust foundation for the rating itself.

Given the current state of investment mechanisms within the country’s agro-processing sector, certain issues have gained particular urgency. We believe that, first and foremost, efforts must be accelerated to adjust the existing investment mechanisms of our

agro-processing enterprises so that they are better aligned to address the challenges posed by global threats.

The third chapter of the dissertation, titled **"Ways to Improve and Regulate Investment Mechanisms in the Agrarian-Processing Sector in Azerbaijan,"** addresses the strengthening of the legislative framework for improving investment mechanisms, strategies for enhancing the investment attractiveness of the agrarian-processing sector, and methods for regulating investment mechanisms in alignment with the Strategic Roadmap.

It should be noted that the share of various agricultural and agro-processed products in non-oil exports is increasing year by year, placing them among the leading export categories. Implementing investment and innovation projects using the funds of local budgets–or those of local administrative bodies, enterprises, and organizations, regardless of their form of ownership–appears to be quite challenging. Given these circumstances, the implementation of a series of measures has been facilitated within the framework of the "Strategic Roadmap for the Production and Processing of Agricultural Products in the Republic of Azerbaijan," which was approved by the Decree of the President of the country dated December 6, 2016[14].

Based on official statistical sources regarding the "100 investment projects" target set out in the Strategic Roadmaps (2016), it can be noted that the implementation of over 550 projects has commenced to date. To facilitate the financing of these projects, financial and customs concessions have been granted within the framework of 632 investment promotion documents. Currently, approximately 80 projects are in the infrastructure development and technological setup phase. The volume of private investment attracted through these projects amounts to 4 billion manats. Furthermore, the state has provided tax and duty concessions totaling 338 million US dollars to entrepreneurs for the import of technological equipment.

Efforts to improve the existing legislative framework and

[14]Strategic Roadmap for the Production and Processing of Agricultural Products in the Republic of Azerbaijan. Approved by the Decree of the President of the Republic of Azerbaijan dated December 6, 2016. Baku, 2016. – 177 p.

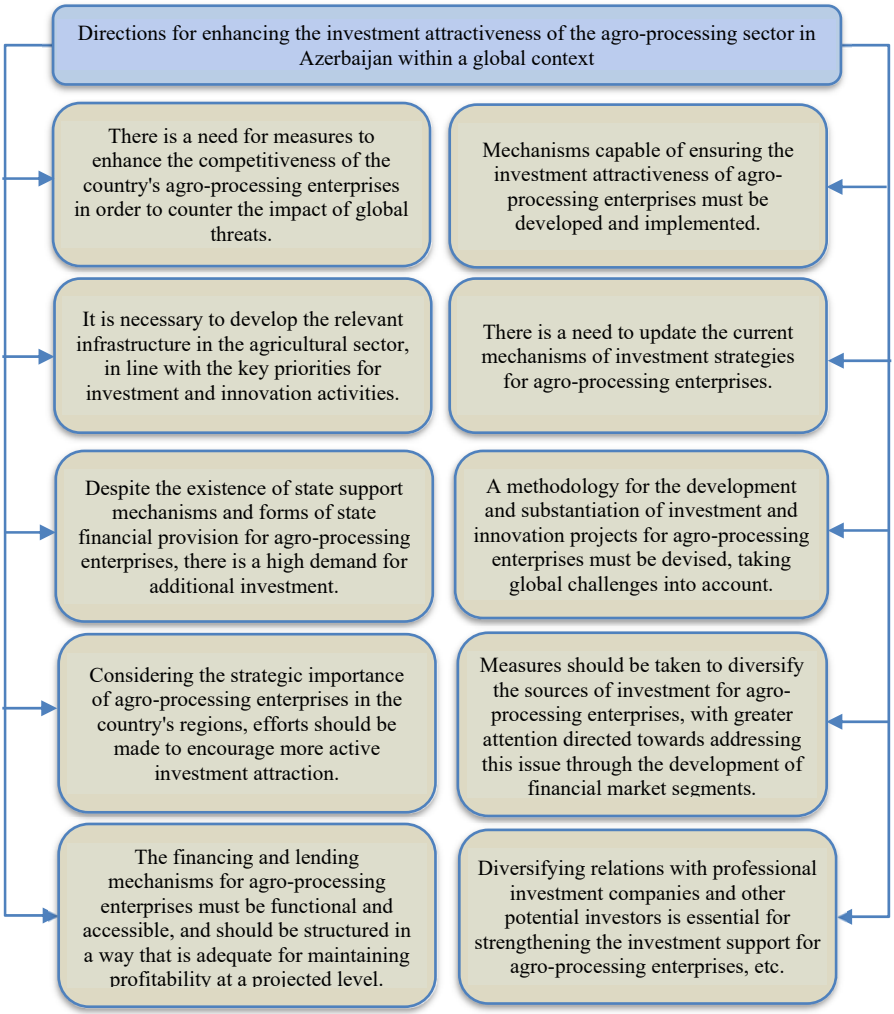
accelerate reforms aimed at enhancing investment mechanisms in the country began as early as the mid-1990s. The implementation of these reforms took place following the adoption of legislative acts concerning agrarian reforms–specifically, the adoption of the Law of the Republic of Azerbaijan "On the Fundamentals of Agrarian Reform" on February 18, 1995[15].

In Scheme 3, we have developed a flowchart outlining approaches to enhancing the investment attractiveness of the agro-processing sector in Azerbaijan within a global context. We believe that the implementation of these approaches and the adoption of effective measures in the near term could positively impact the investment appeal of this sector.

Currently, our country faces new realities and challenges within the geopolitical and geoeconomic landscape. Following the great victory in Karabakh, two new economic regions–the Karabakh and East Zangezur economic regions–were established in the territories liberated from occupation. Strategic goals have been set for the development of these economic regions; we believe that fostering the agricultural sector–specifically through the creation of competitive agro-processing enterprises–is of strategic importance to our country. Integrating the liberated territories into the national economy necessitates a revision of the economic regional divisions, as well as a more precise and rational allocation and distribution of productive forces and resources.

Each economic region possesses its own distinct areas of specialization and unique characteristics. In this context, various factors–including geographical, natural, and economic considerations–carry significant weight. Key prerequisites include the specific nature of local employment, regional customs and traditions, the ethnic composition of the population, the planned and systematic management of these economic regions, the development and implementation of essential priority projects, and the establishment and application of financial and investment mechanisms by the state.

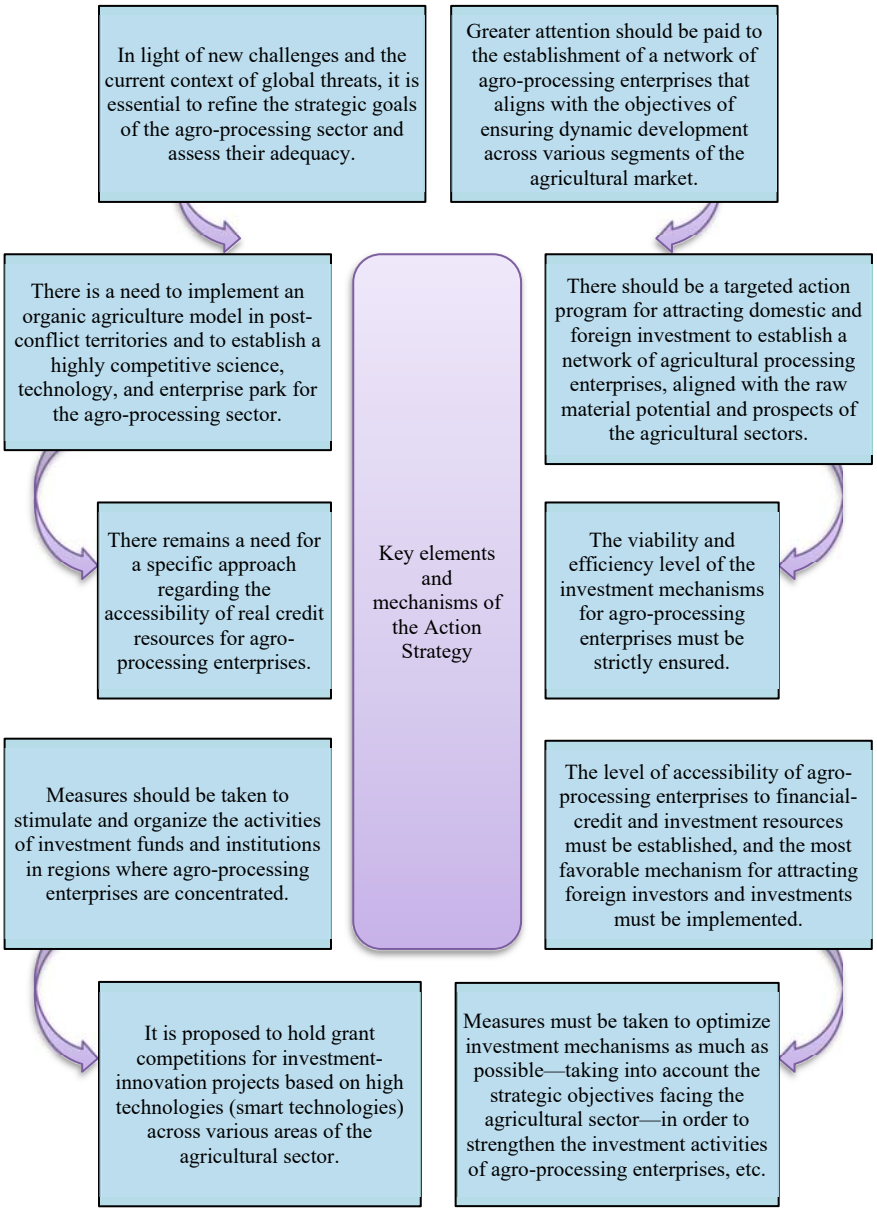
[15]Law of the Republic of Azerbaijan on the Fundamentals of Agrarian Reform // Baku: – February 18, 1995, No. 976.



Scheme 3. Block diagram of the directions for enhancing the investment attractiveness of the agrarian-processing sector in Azerbaijan within a global context

Source: Prepared by the author.

In Scheme 4, we have provided the important constituent elements and mechanisms of the Action Strategy on the regulation and improvement of the investment mechanisms of the agro-processing sphere.



Scheme 4. Key components and mechanisms of the Action Strategy for the regulation and improvement of investment mechanisms in the agrarian-processing sphere

Source: Prepared by the author

It is well established that measuring the efficiency of investment mechanisms in the agricultural processing sector requires the use of not only financial indicators but also operational, resource-based, and socio-economic metrics specific to this field. It should be noted that the agricultural processing sector is characterized by high risk, seasonality, and a direct dependence on raw materials. The ROI (Return on Investment) model measures the net profit generated relative to the total invested capital. The NPV (Net Present Value) method allows for the determination of the difference between the present value of an investment project's future cash flows and the initial investment costs. The PP (Payback Period) method, meanwhile, relates to the time required for an investment to be recouped–that is, it measures how many years it will take for the invested capital to be recovered.

Furthermore, numerous new challenges arising from global influences necessitate different approaches, bringing issues of reliability, agility, and efficiency to the forefront. Under these circumstances, there is a significant need for measures aimed at improving and regulating investment mechanisms within the agricultural processing sector. In recent years, these mechanisms have been adjusted to some extent in line with strategic roadmaps; however, as previously noted, the pandemic has negatively impacted the deepening of these processes.

At the same time, the reconstruction and revitalization efforts underway in the liberated territories–involving large-scale operations, the development of extensive infrastructure networks, and the consequent significant increase in the role of agro-processing enterprises within the national economy–necessitate the comprehensive optimization of investment mechanisms for these enterprises.

In light of the above–with a view to improving the operations of the agro-processing sector, as well as optimally defining and implementing the constituent elements of its operational strategy–we have identified a set of measures and mechanisms:

− First and foremost, taking into account priorities derived from strategic goals set in recent years, we believe there is a need to readjust and improve investment mechanisms within the agro-

processing sector, specifically in the context of current global challenges;

− In light of new conditions and emerging challenges, the development issues facing agro-processing enterprises in the country–along with existing investment mechanisms–must be re-evaluated, and state support instruments in this sector should be updated;

− Processes aimed at developing import-substituting sectors and increasing the production of export-oriented goods must be accelerated–through the expansion of agro-processing operations and the more active implementation of investment projects–and effective measures must be taken to support these efforts;

− Given the significant role of domestic and foreign investment in productively utilizing the natural and economic resource potential of the agricultural sector in the liberated territories, it is essential to implement measures that ensure investment mechanisms for this sector–and its agro-processing enterprises–are as incentivizing as possible.

Thus, we believe that the approaches and mechanisms outlined in the proposed Action Strategy will prove beneficial for organizing the operations of the agro-processing sector more efficiently, enhancing the investment attractiveness of enterprises within this sector, and improving the effectiveness of the investment mechanisms that serve as the basis for developing related investment strategies.

In the "Conclusion" section of the dissertation, proposals and recommendations of scientific and practical significance, derived from the essence of the research, are presented:

1. Based on theoretical and methodological aspects and approaches, the updating and improvement of existing investment mechanisms within the country's agro-processing enterprises–ensuring they align with the demands of the modern era–must be carried out without delay. Greater attention should be focused on resolving issues related to the regulation of investment mechanisms for agro-processing enterprises–which play a vital role in the development and competitiveness of the agricultural sector, a key area of economic activity in our country–and on identifying the most

effective operational strategies in this regard.

2. The mechanisms and elements of the national investment policy must be refined in the context of global economic challenges. Furthermore, the establishment of investment funds and associations–with a regional structure–and the promotion of their active engagement should be viewed as a strategic priority for the near future. Such measures would expand access to financial and investment resources for economic entities, including agro-processing enterprises.

3. To address the challenges of improving investment mechanisms in the agro-processing sector, greater attention must be paid to several key issues: 1) an investment strategy model covering the long term–based on the raw material and resource potential of agro-processing enterprises–should be developed and implemented; 2) optimal investment programs and mechanisms, aligned with the production and export potential of these enterprises, should be introduced; and 3) it would be beneficial to attract specialized international companies–including investment funds and organizations–to participate in the process of improving investment mechanisms for the country's agro-processing enterprises.

4. It should be noted that the flow of investment into non-oil sectors–including the agricultural sphere and its agro-processing enterprises–remains weak. Among the various reasons for this, there are gaps in legislative acts and policy documents; consequently, it is essential to improve the existing incentive mechanisms.

5. The practice of state regulation of investment policy and activity through economic mechanisms warrants particular attention; we have summarized these approaches as follows: 1) targeted state investment; 2) directing investments toward specific areas of activity; 3) attracting investments for particular sectors or for the rehabilitation of large, systemically important enterprise complexes; 4) generating investments through credit financing from various sources; 5) the use of leasing; 6) organizing investments through financial market operations; 7) directing investments via planning and programming; and 8) channeling investment flows through the stimulation of entrepreneurship or through direct state entrepreneurship.

6. Mechanisms for state support–aimed at stimulating and

incentivizing investment–must be further refined and implemented in a manner that is fully responsive to the current demands of the times.
3. The accessibility of financial, credit, and investment resources for agro-processing enterprises must be prioritized to the fullest extent, with a focus on strategic approaches.

7. The mechanisms and approaches governing the utilization of state-directed capital expenditures and targeted public investments must be updated to align with current, emerging challenges.

8. We believe that, given the new realities of the post-pandemic era and the liberation of our territories from occupation–and in the context of high-priority objectives linked to the establishment of the Karabakh and East Zangezur economic regions–greater effectiveness can be achieved through several key actions. These include: developing a targeted action program and strategy to promote and organize investments in the country (with a particular focus on attracting foreign investment); introducing and justifying new approaches to regulating investment mechanisms within the agro-processing sector; implementing a functional mechanism in this regard; maximizing the incentive-driven nature of established concessions; and intensifying efforts to present these opportunities to potential investors.

By examining the nature and content of the issues relevant to the subject matter, we hope that the proposals we have put forward–concerning key components and appropriate mechanisms for an Action Strategy to regulate and improve investment mechanisms in the agro-processing sector–will prove useful, at least to some extent, in practical implementation processes.

The main content of the dissertation has been published in the following scientific works:

1. Problems and Directions for Regulating Investment Mechanisms in Agro-Processing Enterprises // – Baku: “Scientific Works” Journal (Institute of Economics, ANAS), 2018, No. 01. – pp. 200–207.

2. Ways to Improve Investment Mechanisms for Agro-Processing Enterprises // – Baku: “Scientific Works” Journal (Institute of

Economics, ANAS), 2018, No. 02. – pp. 168–172.

3. Problems of Improving Investment Mechanisms in Agro-Processing Enterprises in the Contemporary Period / Proceedings of the International Scientific-Practical Conference on “Ensuring Food Security for the Independent State of Azerbaijan and Enhancing the Competitiveness of the Agrarian Sector,” dedicated to the 100th Anniversary of the Azerbaijan Democratic Republic. Baku, June 1, 2018. – pp. 542–547.

4. The Importance of Improving Key Mechanisms for the Investment Attractiveness of Agro-Processing Enterprises in Azerbaijan // – USA, Philadelphia: Technology and Science. International Scientific Journal "ISJ Theoretical & Applied Science," – 2018, 07 (63). – pp. 206-215.

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16. Formulating Investment Policy in Agro-Processing Enterprises Based on Innovative Approaches // – Baku: Proceedings of the International Scientific-Practical Conference on “Economic and Social Development of Azerbaijan under New Realities: Problems, Challenges, and Perspectives,” December 6, 2025. – pp. 557-562

17. Innovative Modernization of Investment Policy in Agricultural Processing Enterprises // – Baku: “Kooperasiya” (Cooperation) Scientific-Practical Journal, – 2026, No. 01. – pp. 74-80.



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