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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

DIRECTIONS FOR INCREASING EXPORT-ORIENTED PRODUCTION IN PROCESSING ENTERPRISES

Speciality: 5311.01- Organization and management of enterprises

Field of science: Economic sciences

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GENERAL CHARACTERISTICS OF THE RESEARCH

Relevance and degree of development of the topic. The deepening globalization processes have brought new challenges and threats to development with them. In this regard, one of the most significant global challenges for our country is the effective integration of the national economy, as well as its strategically important sectors, into the global economic system.

As it is known, the globalization process has given rise to distinctive development trends in the international division of labor. These trend primarily manifest themselves under the influence of key vectors in the formation of a post-industrial society. The formation of a post-industrial society is based on the synthesis of essential elements from both traditional and industrial sectors, as well as the service sector. All of these creates an objective necessity for integrating new vectors of economic development into the national economic cycle in response to globalization's current challenges, essentially realizing a new stage of global transformation.

Based on current realities, it is entirely reasonable to conclude that in the post-oil era, the development of the non-oil industry is becoming both an unavoidable necessity and a significant challenge for oil-producing and exporting countries. This is also explained by the fact that, against the background of deepening globalization processes, the use of renewable energy sources is less capital-intensive. From this perspective, the strategic importance of the non-oil sector in countries where the economy primarily relies on the production and export of fuel-energy resources such as the Republic of Azerbaijan is an undeniable reality. One of the most important priority areas in the non-oil sector in our country is the processing industry. In light of the current challenges of globalization, increasing the export orientation of the processing industry is of strategic importance. The strategic significance of boosting the export orientation of production in the processing industry lies in its ability to substitute imports, reduce dependence on hydrocarbon resource exports, ensure food security, increase foreign currency inflows to the state budget through alternative sources, and enhance

the competitiveness of local agricultural products.

Currently, in order to ensure the adaptation of the national economy to global challenges, the state is implementing necessary measures. For instance, the "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, is considered a crucial program document for enhancing the competitiveness and export orientation of the non-oil sector.[1] In addition, the "Azerbaijan 2030: National Priorities for Socio-Economic Development" approved by the Presidential Decree dated February 2, 2021, holds strategic importance in defining the global perspectives of the industry.[2]

Prompt responses to political and economic processes in the world and fluctuations in global markets are among the key objectives of the "Strategic Roadmap on the National Economic Perspectives of the Republic of Azerbaijan". This program document states that: *"To further reduce dependency on imports in the future and to increase self-sufficiency with domestic products, the Government of Azerbaijan has implemented a number of significant legislative reforms to promote the production and export of competitive non-oil industrial products".* The Presidential Decrees of January 18, 2016, "On Additional Measures for Stimulating the Export of Non-Oil Products" and March 1, 2016, "On Further Measures for Stimulating the Export of Non-Oil Products," will boost export diversification and competitiveness in the country.[3]

Especially in the post-oil era and during periods of low oil prices, the development of the processing industry and the enhancement of its export orientation can play a significant role in both reducing the national economy's dependence on oil and hydrocarbon resources and ensuring sustainable economic growth

[1] Strategic Road Map for the production and processing of agricultural products in the Republic of Azerbaijan // – Baku: December 6, 2016. – 177 pages.
[2] Azerbaijan 2030: National Priorities for socio-economic development. // – Baku: 2021.
[3] Strategic Road Map on the national economic perspective of the Republic of Azerbaijan // – Baku: December 6, 2016. p.25

through the development of the non-oil sector.

Increasing export-oriented production in processing enterprises directly depends on ensuring cluster-based development and the proper organization of components in the region-product-value chain. The optimal solution to these issues is also a relevant problem in terms of implementing large-scale reproduction in the agricultural sector. In many cases, the production capacities of the processing industry do not correspond adequately to the raw material base, and extensive factors still strongly influence the agricultural production process. The lack of adaptation of the infrastructure system to changing realities, the persistence of intensity in delivering competitive agro-processing products to markets, and the backwardness in using innovative digital technologies in the agricultural sector negatively affect the increase of export-oriented production in processing plants.

One of the most pressing issues in increasing export-oriented production in processing plants is the lack of alignment in economic interests and incentives between processing enterprises and agricultural commodity producers, regardless of ownership structure, and the preference of processing enterprises for using imported raw materials. From this perspective, the dissertation research on the topic “Directions for Increasing Export-Oriented Production in Processing Enterprises” arises from an objective necessity.

Among Azerbaijani economist scientists, such as Z.A. Samedzadeh, I.H. Ibrahimov, N.M. Imanov, E.A. Guliyev, B.X. Atashov, T.N. Aliyev, F.A. Ganbarov, E.R. Ibrahimov, G.Z. Yuzbashieva, M.M. Huseynov, A.J. Muradov, N.J. Gafarov, S.I. Valiyeva, A.F. Abbasov, M.J. Huseynov, R.T. Hasanov, H.A. Khalilov, V.H. Abbasov, A.Sh. Shakereyliev, R.A. Balayev, and A.E. Guliyeva, and from foreign countries, V.A. Tikhonov, G.P. Zhuravleva, V.I. Trukhachev, J. Stiglitz, E.S. Ogloblin, A.I. Abalkin, J. Naisbitt, N.P. Borisenko, and P.A. Ignatovski have widely explored the theoretical issues and general problems related to the development of the processing industry and the formation of foreign trade relations, particularly in the agricultural sector. While confirming the significance of these academic works, it is also necessary to note that the problems associated with increasing

export-oriented production in processing enterprises have not been comprehensively studied in the context of modern globalization challenges. Although various scientific research has been conducted on foreign economic relations and the improvement of foreign economic and trade relations in the agricultural sector, systematic studies on increasing export-oriented production in processing enterprises in light of current globalization challenges remain limited.

Object and subject of the research. The object of the research is entrepreneurial entities involved in the production and processing of agricultural products and providing services to them. The subject of the study consists of relations related to the stimulation of production of competitive and export-oriented processing products.

Purpose and objectives of the research. The purpose of the study is to investigate the scientific and theoretical foundations of forming export-oriented production potential in agro-processing enterprises, to analyze the current state and economic development trends in the production of export-oriented processing products, and finally, to develop practically significant proposals for improving scientifically substantiated economic mechanisms for increasing export-oriented production in processing enterprises.

The objectives of the research include:

- justifying the necessity of increasing export-oriented production and studying its scientific foundations;
- identifying the specific characteristics of increasing production and processing volumes;
- investigating international experience in increasing export-oriented production;
- analyzing the current state of export in products produced by processing enterprises;
- identifying reserves for increasing export-oriented products;
- analyzing the current state of product competitiveness and export stimulation;
- determining the impact of investments on increasing production in processing enterprises;
- identifying directions for improving the financial and credit

mechanisms for increasing export-oriented production in processing enterprises;

- identifying directions for improving the pricing mechanisms for increasing export-oriented production.

Research methods. In the research**,** economic-statistical, generalization, comparative, and analytical methods to explore ways of increasing the export orientation of processing products have been studied. The methodological basis includes scholarly works by economists on the development issues of processing product exports, presidential decrees and orders of the Republic of Azerbaijan, decisions of the Cabinet of Ministers, and other legal and normative documents.

Main provisions submitted for defense. The main propositions submitted for defense in the dissertation include:

- the increase of product exports in the non-oil sector, including the processing industry, has become a research subject due to the modern challenges of globalization;

- the increase in export-oriented production has arisen from the need to ensure alternative budgetary revenue sources;

- the rise in export orientation of the processing industry becomes even more of a necessity in the context of new globalization challenges;

- increasing export-oriented processing products more vividly highlights the need for expanding the volume of competitive product production;

- among the factors influencing the export orientation of the processing industry is the growing need for production modernization;

- the need for research on increasing the export orientation of the processing industry has emerged in the context of diversifying the national economy and exports;

- there is a necessity to approach the increase of export orientation in the processing industry from the perspective of import substitution;

- more efficient use of local agricultural raw materials in the production of export-oriented processing products must be considered from the perspective of national food security.

The scientific innovations of the research include:

- The role of increasing the production of export-oriented processing products in ensuring the country's economic security, increasing the income of domestic producers, ensuring employment, and accelerating socio-economic development in regions have been identified;

- the economic factors affecting the export orientation of the processing industry against the backdrop of global challenges and threats, and determining their role in the development of the non-oil sector have been identified;

- the role of investment, credit, and pricing mechanisms in stimulating exports and enhancing competitiveness in the export of processing industry products have been identified;

- the opportunities and untapped reserves for increasing the export orientation of processing enterprises, taking into account the location and specialization of production in regions have been determined;

- the directions for increasing the economic efficiency of processing industry product production through improving the competitiveness of local agricultural raw materials have been substantiated;

- the reserves for increasing the investment attractiveness of the processing industry and agriculture, and directions for improving credit and pricing mechanisms have been determined;

- the impact of increasing access to capital resource markets on raising the export orientation of processing enterprises have been identified.

Theoretical and practical significance of the research. The substantiated proposals can stimulate the production of competitive and export-oriented processing industry products, contribute to the creation of new processing enterprises and cooperative entities producing marketable goods, and support the sustainable development of the agricultural sector. The recommendations developed may also be used in the preparation of relevant state programs aimed at stimulating the production of competitive and export-oriented processing industry products.

Approval and implementation. The key theoretical, methodological, and practical provisions of the dissertation, as well as the developed proposals and recommendations, have been presented at national and international scientific conferences and published as theses and conference materials.

The main theoretical propositions, findings, and recommendations of the dissertation have been published in 13 scientific articles and theses, including 1 article and 1 thesis published abroad, in reputable local and foreign journals recommended by the Higher Attestation Commission.

The results of the research were accepted for application by the Agricultural Research Center in letter No. 180 dated April 22, 2022.

Institution where the dissertation was carried out: Azerbaijan Cooperation University.

Structure and volume of the dissertation. The dissertation consists of an introduction, three chapters, a conclusion, and a list of 136 references. It includes 19 tables, 3 schemes, and 1 graph, spanning 162 pages typed in 1.5 line spacing. The character counts are as follows - İntroduction – 13 991 characters, Chapter I – 84 896 characters, Chapter II – 70 217 characters, Chapter III – 84 197 characters, Conclusion – 10 443 characters. Excluding tables, schemes, and references, the total character count is 263 744.

THE MAIN CONTENT OF THE RESEARCH

The **Introduction** of the dissertation justifies the relevance and the degree of development of the research topic, defines the object and subject of the study, its aims and objectives, research methods, main theses proposed for defense, scientific novelty, theoretical and practical significance, the approval and application of the research work, the institution where the dissertation was carried out, and the overall volume of the dissertation.

The first chapter of the dissertation is "The Scientific and theoretical foundations of forming export-oriented production potential". In this chapter the necessity of increasing export-oriented production and its scientific basis, explores the features of increasing

export-oriented production in the processing industry, and examines international experience in boosting exports have been investigated. In this context, the research highlights the studies of foreign scholars related to the development of the economy and foreign trade relations, emphasizing the specific aspects of the development of free trade and its role in implementing economic freedoms in the globalization process. At present, foreign trade turnover in every country is viewed as the sum of "export-import" operations. For this reason, countries strive to increase exports in order to bring more foreign currency into their economies.

Currently, increasing the export orientation of production in various sectors of the economy, including the processing industry, holds vital significance for national economic security. The efficient use of export potential, especially through expanding access for competitive products to foreign markets, is of strategic importance for every country.

In developed countries, protectionist measures are sometimes preferred to boost the export orientation of certain industries. Nobel laureate Joseph Stiglitz argued that protectionist measures are inadequate for industrial development and justified the need for gradual implementation of liberalization policies. Analyzing the post-World War II economic development of East Asian countries and Japan, the distinguished scholar notes: *"Following Japan's rapid development in this region, South Korea, Hong Kong, Taiwan, Singapore, and subsequently Indonesia, Thailand, Malaysia, and finally China, achieved steady economic growth. Among these, the industrial development models of Japan and South Korea proved to be particularly productive and effective".*[4]

One of the main reasons for the emergence of this trend's expansion in the fact that the mentioned countries prioritized free competition and the attraction of foreign investment to promote the export orientation of industry.

Research shows that in Azerbaijan, the development of industrial sectors was prioritized in the creation of foreign economic

[4] Stiglitz, J.E. (2004). Globalization and Its Discontents. Baku edition, pp. 81–84. (Total: 338 pages).

relations for a long time. However, the development of agriculture-the raw material base for industrial sectors, especially the processing industry-was not considered in conjunction. The specialization of wheat, cotton, tobacco, vegetables, and fruit for export, their development at a modern technological level, and the establishment of related infrastructure were not addressed in accordance with international standards. The country's import-export policy has focused on meeting current demand and maintaining production stability, rather than increasing export-oriented production and improving its efficiency. Therefore, consumer goods have constituted the main part of imports, and this trend still exists.

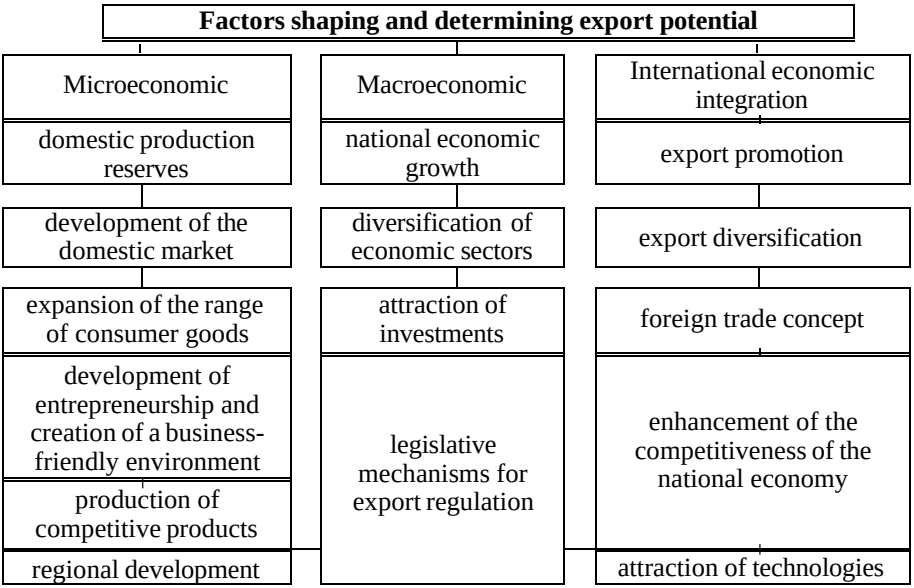
It is true that protectionist policy has significant importance for protecting the domestic market, especially from dumping practices, and for safeguarding young sectors of the economy. However, it should not be overlooked that dumping policies can be restrictive in terms of free competition and attracting foreign investment. It is the successful implementation of measures aimed at attracting foreign capital and supporting a competitive environment in East Asian countries, including the newly industrialized countries of Asia, that has enabled export-oriented activities and the export of knowledge-intensive products to global markets.

Measures to increase the production of export-oriented products in processing enterprises can be implemented through a mutual partnership between the state and the private sector. In our view, this requires the simultaneous implementation of protectionist and liberal policies by the state: stimulating free competition and attracting foreign capital into the agro-processing industry, while also, as Professor I.H. Ibrahimov emphasized, protecting the domestic market from the import of low-quality foreign products.[5]

As a key component of the non-oil sector, increasing the production of export-oriented products in the processing industry enhances the possibility of foreign currency inflows into the state budget from alternative sources. To achieve this, it is essential to focus on the factors that form export potential in the non-oil sector,

[5] Ibrahimov, I.H. (2016). The Economy of the Agrarian Sector: Monograph. Baku, p.173. (Total: 655 pages).

including the processing industry. These factors forming the export potential of the non-oil sector are presented in the following scheme.



Scheme 1. Factors shaping export potential in the Non-Oil sector. *(compiled by the author)*

As seen in scheme 1, each of the factors presented in the classification appears in one form or another as mechanisms of economic policy and instruments of state regulation of the economy within national economic policies.

In our opinion, the conducted research makes it possible to distinguish a group of conditions that act as key factors in increasing the export potential of the non-oil sector:

- sustainable economic development and the diversification of sectors require a systematic approach to problems, the identification of priority economic policy mechanisms, and the definition of strategic goals;

- intensification of the development of the market economy, state support for entrepreneurship, and the preparation and implementation of effective models of priority methods for increasing the efficiency of foreign trade;

- exploration of sectors that can contribute to export potential and identification of mechanisms for their effective utilization;

- improvement of the legislative framework of regulatory mechanisms that intensify and facilitate the organization of an economic and managerial system conducive to increasing export potential, as well as the development of relevant regulations and export procedures;

- objective assessment of the export potential of the non-oil sector in accordance with the strategic development priorities of the economy and optimization of the implementation mechanisms;

- identification of product groups with greater potential for active presence in global markets based on the export capacity of the non-oil sector, and regulation of mechanisms for their inclusion in the overall export potential framework.

According to the vision outlined for the post-2025 period in the "Strategic Road Map for the Production and Processing of Agricultural Products in the Republic of Azerbaijan", "Increasing the production of agricultural products in Azerbaijan will not only meet the local demand for food but will also enhance the opportunities for export to regional and global markets".[6]

In addition to the above, the stimulation and increase of export-oriented product manufacturing should be brought to the forefront in achieving economic growth. In this regard, we agree with the following opinion of Professor G.A. Ganjiev:

- stimulation of exports in the processing industry;
- joint participation of the state and commercial banks in export financing;
- provision of state guarantees to banks that provide loans to local exporters;
- partial compensation by the state of the interest paid by exporters on loans from commercial banks;
- compensation of the difference between international transportation tariffs and national transportation tariffs for exporters;

[6] Strategic Road Map for the Production and Processing of Agricultural Products in the Republic of Azerbaijan // – Baku: December 6, 2016. p. 48 (Total: 177 pages).

- state insurance of exports;
- state insurance of export credits;
- exemption of exporting enterprises from property tax and liabilities related to fixed assets;
- provision of additional benefits to exporting enterprises (including discounts on tariffs for gas, water, electricity, etc.).[7]

Research shows that in order to increase the production of export-oriented agricultural and processed products in our republic and to ensure the sustainable development of the processing industry, the implementation of several measures is essential:

- increasing the production and processing of products in the processing industry using domestic agricultural raw materials based on internal potential;
- developing the production of export-oriented products (including the expansion of high-income crops such as rare plants and fruits, fine-fiber cotton varieties, melons and vegetables, grapes, silkworm cocoons, tobacco, wool, wine, etc.);
- organizing measures to increase the production of import-substituting goods;
- raising the technological and technical level of production to international standards across all stages (cultivation, harvesting, processing, packaging, and storage) to increase the production of competitive products;
- making maximum use of the opportunities provided by international division of labor, cooperation, and economic integration through foreign trade relations (establishment of joint and foreign enterprises, creation of free economic zones, cooperation based on agreements, etc.);
- stimulating foreign investment in the processing industry.

The dissertation explores the features of increasing production in the processing industry. Characteristics that define specialization and product exchange are classified into nine groups. These characteristics are distinguished according to internal and external environmental factors in organizing the production and processing

[7] International economic relations: Textbook / G.A. Ganjiev, A.R. Alakbarov, A.M. Aliyev [et al.] – Baku: Azerbaijan Cooperation University, – 2010. pp. 154–155 (Total: 396 pages).

process, and their consideration in the territories liberated from occupation is substantiated.

The dissertation provides broad coverage of international experience in increasing export-oriented production. In this context, incentives provided to exporters and investors in the United States, as well as export-oriented production practices in China, South Korea, Germany, Turkey, the Netherlands, and other countries, are examined, and suggestions are made regarding how to benefit from best practices in the context of Azerbaijan.

Chapter II of the dissertation is "The Current State of Export-Oriented Production and Analysis of Economic Development Trends." This chapter analyzes and evaluates the state of export of processed products, the reserves for increasing exports, ways of enhancing the competitiveness of products in the processing industry, and the stimulation of exports. The dissertation states that increasing the economic efficiency of utilizing existing production capacities in processing enterprises under the new economic conditions, first and foremost, requires the revision and further study of the theoretical and methodological aspects of the use of available potential. This is because the new economic relations differ significantly from the centrally planned economic system, and the economic mechanisms aligned with market economy principles require scientifically substantiated solutions through progressive methods.

Despite the formation of new production relations, privatization of land and property, the creation of a legal and economic foundation for entrepreneurship development, and the promotion of various forms of economic activity—all of which have contributed to creating a favorable environment for this sector—certain problems still persist, and its organization needs to be aligned with modern requirements.

One of the main reasons for the low level of export orientation in the processing industry is the inadequacy of integration relations between agriculture and processing enterprises in meeting the requirements of the modern era. The dynamics of product output in the processing industry are presented in the following table.

Table 1.

Production of major types of products in the processing industry

Product name	2010	2015	2021	2022	2023	Change in 2023 compared to 2015 (% and times)
Sausage products, thousand tons	2,1	5,0	26,7	29,7	30,2	**+6,04 times**
Butter, thousand tons	20,9	23,9	27,0	25,9	27,0	**+13,0**
Cheese and curd, thousand tons	43,3	48,5	59,3	57,9	55,1	**+13,6**
Wheat flour, thousand tons	1320,0	1507,0	1498,2	1365,1	1328,0	**-11,9**
Bread and bakery products, thousand tons	1162,0	1198,0	1278,1	1245,9	1195,8	**-0,2**
Condensed, unsweetened milk, tons	61,1	992,3	2011,2	3901,7	11155,1	**+11,2 times**
Cream with fat content of 6–29%, tons	4230,0	5132,0	9126,0	8192,0	9047,5	**+76,3**
Vegetable oils, thousand tons	88,7	106,7	72,9	67,9	56,4	**-47,1**
Fruit and vegetable preserves, thousand tons	137,1	147,9	216,1	237,8	234,4	**+58,5**
Sturgeon caviar, tons	0,3	0,1	0,6	0,9	0,8	**+8 times**
Confectionery products, thousand tons	43,5	55,9	88,0	77,9	89,2	**+59,6**
Salt, thousand tons	11,6	39,5	71,5	77,4	73,3	**+85,6**
Iodized salt, thousand tons	8,5	36,3	69,5	75,5	71,3	**+96,4**
Ice cream, thousand tons	0,4	1,0	3,4	5,7	5,1	**+5,1 times**
Margarine, thousand tons	20,2	24,9	47,6	59,4	47,0	**+88,8**
Pasta products, thousand tons	13,0	9,2	20,0	26,3	25,8	**+180,4**
Sugar and granulated sugar, thousand tons	335,5	335,6	340,6	379,9	287,1	**-14,5**
Fodder, thousand tons	4,8	12,8	192,9	187,1	165,2	**+12,9 times**
Tea, thousand tons	10,9	6,2	10,2	12,0	11,6	**+87,1**
Vodka, thousand decaliters	884,9	770,7	1783,8	1609,1	1438,8	**+86,7**
Grape wine, thousand decaliters	1170,0	1035,0	1011,6	1080,0	1282,1	**+23,9**
Champagne wine, thousand decaliters	27,9	4,5	0,6	1,1	29,4	**+6,5 times**
Whiskey, cognac, thousand decaliters	81,4	3,8	33,5	95,9	331,9	**+87,3 times**
Beer, thousand decaliters	3771	4196,5	4707,3	4683,5	5263,3	**+25,4**
Non-alcoholic beverages, thousand decaliters	19866,0	24884,7	38550,6	41417,5	48220,0	**+93,8**
Cigarettes and cigars, billion pieces	2,2	2,0	15,3	13,3	16,0	**+8 times**
Tobacco, thousand tons	2,0	1,7	4,3	4,2	2,3	**+35,3**
Cotton yarn, thousand tons	7,6	9,1	22,5	14,1	13,0	**+192,9**
Cotton lint, thousand tons	11,4	6,6	92,5	91,0	87,9	**+42,9**

Source: *The table was compiled by the author based on the Statistical Yearbook of Agriculture of Azerbaijan (Baku, 2024. 701 pages, pp. 428–429).*

Despite the presence of a pandemic in recent years, significant growth has been observed in the volume of production of processed industrial products. If the production of food industry products is

competitive, it promises higher export orientation based on the demand of both domestic and foreign markets.

The efficient functioning of the processing industry requires the increase of export-oriented production and the enhancement of the competitiveness of agriculture. Approximately one-third of the funds allocated for the production and processing of agricultural products are directed towards maintaining the fertility of the land at a stable level-rarely towards increasing it-while the remaining portion is spent on land reclamation measures. It should be noted that, despite the growing volume of investment in this area year after year, land fertility continues to decline, and the area of saline and eroded lands is expanding.

At the same time, the development of fields such as grain production, viticulture and winemaking, fruit and vegetable canning, and livestock farming is among the essential prerequisites for increasing the production of export-oriented products. In our view, in order to develop agriculture and increase the production of export-oriented goods, one of the key conditions should be the improvement and optimization of the structure of investments. A crucial prerequisite for solving this issue is the planning of investment allocations by identifying their most effective directions. The main objective in planning investments is to ensure the complex and balanced development of production and processing by effectively utilizing the potential for agricultural production and processing, as well as restructuring storage, transportation, marketing, quality processing, prevention of raw material losses, timely delivery of products to producers, and environmental protection based on the principles of a market economy. From this perspective, we believe that in order to increase processing and export in agriculture through efficient use of production potential, it is necessary to develop a comprehensive program at the state level that defines the volume and directions of investments in the production, processing, and sale of priority products across all types of farming enterprises.

In the dissertation it is notedthat the country’s export potential is still not being fully and efficiently utilized, and insufficient attention is paid to the production of import-substituting goods. Therefore, processing raw materials and export products within the country and exporting them as competitive final goods to global markets should become one of the main strategic directions of

economic development. We believe that the development of the Great Silk Road and the opening of the Zangezur Corridor can have a major impact on the country's economic development and the efficiency of economic activity. This is because the development of the processing industry is directly dependent on the development of transportation infrastructure.

It should also be taken into account that the specialization directions and economic traditions of the liberated territories can significantly influence the development of the processing industry. Moreover, the development of cotton growing, tobacco cultivation, vegetable production, tea growing, and poultry farming and the modernization of processing activities in these fields in accordance with modern technology can provide opportunities to increase the volume of exported products. Although our republic is rich with raw materials and labor resources, the volume of exported agricultural and processed industrial products remains very low. From this point of view, the economic essence of increasing the export orientation of the processing industry lies in the fact that it facilitates significant inflows of foreign currency into the country and stimulates the growth of domestic production. Therefore, favorable conditions should be created for the establishment of joint ventures and consortia with foreign investors. In doing so, not only will the production capacity of local enterprises increase, but the challenge of identifying sales channels for the products will also become easier to address.

Based on the above, it can be concluded that the development of the agrarian market infrastructure should be prioritized in the socio-economic development of the regions. It should be noted that a significant portion of agricultural production is carried out by the private sector. The number of modernized processing enterprises in our republic is gradually increasing. Currently, there are 641 enterprises producing food products, 182 producing beverages, 162 producing garments, 102 producing textiles, 21 producing tobacco products, and 33 producing leather and leather goods.[8]

It is known that, our republic used to export wine and grape products, table grapes, tobacco, cotton, and fruit and vegetable preserves. By the help of export activities, the country received

[8] https://www.stat.gov.az/

substantial volumes of material and technical resources and foreign currency, which played an important role in Azerbaijan's socio-economic development. Therefore, we believe that under current conditions of entrepreneurship development, the main focus in agriculture should be directed toward the development of these sectors. For this, the financing of measures outlined in the State Program on the Socio-Economic Development of the Regions and in the Strategic Road Maps should be resolved as one of the key requirements. The dissertation systematizes the existing problems in the processing industry and in increasing export volumes.

In recent years, the country's economic relations have intensified not only with neighboring countries but also increasingly with distant countries. In Azerbaijan's trade turnover, economic relations with Italy, Turkey, Israel, the USA, China, Russia, Germany, Georgia, Ukraine, and Iran have been more prominent compared to other countries. In 2023, 30.6% of the country's foreign trade turnover was with Italy, 14.9% with Turkey, 8.5% with Russia, 6.1% with China, 3.6% with Germany, 2.8% with Israel, 2.8% with India, 2.7% with Greece, 1.8% with the United States, 1.7% with Spain, and 1.7% with Georgia. Regarding exports, 44.9% was to Italy, 15.8% to Turkey, 4.1% to Israel, 4.0% to Greece, 3.6% to India, 3.6% to Russia, 2.7% to Germany, 2.3% to Spain, 2.2% to Georgia, and 2.0% to the Czech Republic. [9]

Research indicates that in recent years, the volume of foreign economic relations in agriculture and the processing industry has expanded, and there has been a dynamic increase in both imports and exports.

Compared to 2010, the volume of agricultural product imports in 2023 increased by USD 2.34 billion, representing a 163.7% rise. The most significant growth was observed in products of animal origin and textile materials. During the same comparative period, the volume of exports increased by USD 523.1 million, or 1.8 times. This growth was achieved through more efficient utilization of the agricultural sector's potential.

In the year 2000, the share of food and livestock products in the import structure was lower compared to 2023. Based on the

[9] https://www.stat.gov.az/

analysis, it can be concluded that special attention should be paid to the establishment and improvement of a state regulation mechanism for the production of export-oriented agricultural products in Azerbaijan.

Table 2.

The share of imports in total product consumption

Product groups	2005	2010	2015	2021	2022	2023
Grain and grain products, thousand tons, share in total (%)	1006,1	1330,0	1353,1	1148,1	1293,0	1175,3
	35,4%	52,3%	48,6%	40,0%	43,5%	42,1%
Potatoes, thousand tons, share in total (%)	41,9	65,0	139,2	226,9	211,8	186,7
	4,3%	7,3%	15,6%	21,3%	18,2%	17,3%
Vegetables and Melons, thousand tons, share in total (%)	24,3	84,9	42,0	64,0	54,6	58,4
	1,7%	7,5%	3,7%	4,2%	3,5%	3,7%
Fruits and grapes, thousand tons, share in total (%)	33,2	166,2	88,4	189,8	191,2	194,9
	8,7%	21,4%	9,6%	15,7%	15,6%	16,8%
Meat and meat products, thousand tons, share in total (%)	37,1	36,0	17,6	56,9	61,5	66,8
	19,9%	13,0%	4,6%	13,8%	14,5%	15,1%
Milk and dairy products, thousand tons, share in total (%)	186,3	647,2	366,0	417,5	489,9	474,6
	13,0%	30,1%	15,3%	16,0%	18,2%	17,6%
Eggs, million pieces, share in total (%)	17,9	25,7	5,3	17,3	1,3	1,3
	2,0%	2,2%	0,3%	0,9%	0,07%	0,06%

Source: *The table was compiled by the author based on the Statistical Yearbook of Agriculture of Azerbaijan (Baku, 2024. 701 pages, pp. 447–457).*

As can be seen, certain structural changes have occurred in the composition of imported products over the past 13 years. Due to the development of processing enterprises and agriculture in the country, as well as the establishment of enterprises based on new technologies, the import of some products decreased in 2023 compared to 2010. Nevertheless, the export of certain products related to processing and food consumption has increased. During the period under review, the export of potatoes, fresh fruits and vegetables, fruit and vegetable preserves, tobacco, wine, cotton lint, and fruit and vegetable juices increased significantly.

In the research work, along with the qualitative assessment of export-oriented products, a quantitative evaluation was also carried out using a number of economic indicators. For this analysis, the Excel and Python software tools were used. The independent variables included investments in fixed capital, investments by ICT

enterprises, per capita product output, value of processed industry products, and credits allocated to the economy, while the dependent variable was defined as the volume of exported products.

The quantitative evaluation was based on statistical data covering the period 2005–2023. For the quantitative analysis, a multiple linear regression formula was applied:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\cdots+\beta_nX_n+\varepsilon$$

Where:

Y – dependent variable;

$X_1, X_2 \ldots X_n$ – independent variables;

β_0 – constant coefficient (intercept);

$\beta_1, \beta_2 \ldots \beta_n$ – regression coefficients of the independent variables;

ε – error term (residual value).

The weights (coefficients) obtained from the multiple regression analysis are presented in Table 6.

Table 3.

Regression coefficients obtained from the quantitative evaluation of multiple variables

Variable	Coefficient	Standard error	t-Statistic	p-Value
Intercept	3.45	9.21	0.375	0.0414
Investments	0.9	1.037	0.932	0.0368
Per capita product output	8.0519	3.494	2.305	0.038
Value of processed industry products	0.0484	2.495	0.019	0.0485
Credit allocations	0.6038	0.714	0.846	0.0413
ICT investments	4.339	0.431	0.288	0.0378

***Source**: Table compiled by the author based on the results of calculations.*

As can be seen from the table, when all independent variables are equal to zero, the dependent variable equals 3.45. A one-unit increase in investments leads, on average, to a 0.9-unit increase in the dependent variable. Similarly, a one-unit increase in per capita product output results in an increase of 8.0519 units; the value of processed industry products contributes 0.0484 units; credit

allocations contribute 0.6038 units; and ICT investments lead to an increase of 4.339 units. The fact that the p-values for these indicators are less than 0.05 indicates that they are statistically significant.

The coefficient of determination (R-squared) obtained from the regression analysis is 0.656. This means that the independent variables used in the model explain approximately 65.6% of the variation in the volume of exported products. The fact that p-values are less than 0.05 confirms the statistical significance of the data.

Now, let us conduct a separate (bivariate) regression analysis between the volume of exported products and each independent variable.

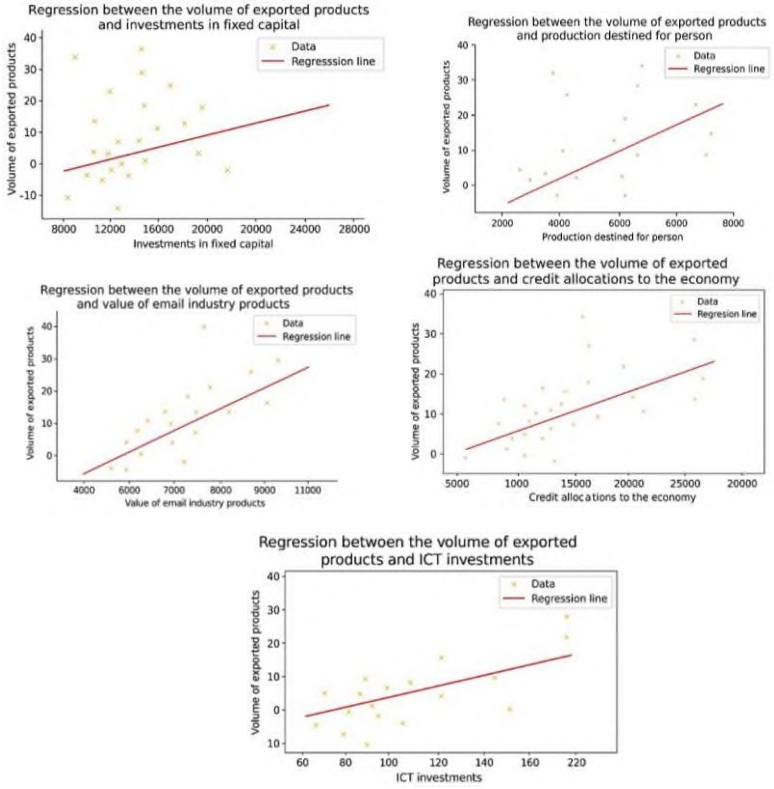


Figure 1. The relationship between exported products in the Republic of Azerbaijan and other independent variables

Source: *The graph was calculated and compiled by the author using the Python software.*

The coefficient of determination between investments in fixed capital and exports is $R^2 = 0.112$; between per capita product output and exports, $R^2 = 0.52$; between the value of processed industry products and exports, $R^2 = 0.48$; between credit allocations to the economy and exports, $R^2 = 0.112$; and between ICT investments and exports, $R^2 = 0.137$. This means that the influence of the independent variables on the dependent variable amounts to 11.2%, 52%, 48%, 11.2%, and 13.7%, respectively.

This leads to the conclusion that among the selected indicators, the strongest relationship is observed with per capita product output ($R^2 = 0.52$), while the weakest is associated with credit allocations ($R^2 = 0.112$). The results suggest that special attention should be paid to the development of the processing industry and per capita product output to enhance export capacity. Meanwhile, strategies related to the ICT sector should be revisited.

Chapter III of the dissertation is "Improving the Economic Mechanism for Increasing Export-Oriented Production in Processing Enterprises". This chapter explores the improvement of investment, financial-credit, and pricing mechanisms for boosting export-oriented production. The dissertation emphasizes that increasing the export orientation of the processing industry is directly dependent on the scale of investment directed toward the modernization of enterprises in this sector.

In current conditions, mortgage financing serves as a key investment source for establishing processing enterprises. In developed countries, enterprises that produce or process agricultural products can obtain large-scale, long-term funding through mortgage schemes. According to the author, the expansion of leasing activity is one of the essential tools that enables efficient large-scale reproduction, particularly given the limited financial resources of processing enterprises.

Such investment efforts may help limit the volume of imported processed products and support an import substitution strategy, while also enabling the export of high-quality processed products to foreign markets.

One of the priority directions for increasing the export orientation of processing enterprises is the enhancement of the financial-credit mechanism. It is noted that after gaining independence, Azerbaijan undertook a series of measures to promote agricultural development, including the provision of budget subsidies for agricultural commodity production. In addition, agricultural producers were exempt from all taxes except land tax. However, the dissertation highlights that there is no evidence of government support in the form of budget subsidies for processing industry enterprises. It is argued that providing necessary budget subsidies, along with export credits and export subsidies, can create favorable conditions for boosting the export orientation of processing enterprises in the short term.

The dissertation also supports investment approaches where funds directed at commodity producers are allocated in national and foreign currencies, in-kind assets, or mixed forms, including through the use of public savings as a source of finance. It justifies the formation of an investment climate and the need to enhance investment efficiency.

The study shows that improving the pricing mechanism, as a key component of the economic mechanism, plays a significant role in increasing export-oriented production and the export capacity of processing enterprises. Targeted pricing is crucial for ensuring the continuous development and competitiveness of agriculture and processing industry products. Such prices enable the coverage of production costs based on normative regulations and regional wage levels.

However, the dissertation notes that targeted pricing mechanisms are not effectively utilized in the current agricultural policy framework of the Republic of Azerbaijan. The study argues that these mechanisms could have a significant impact on solving existing problems in agriculture. Research reveals that targeted pricing is actively used in developed countries such as the United States, Canada, and EU member states. These prices create favorable conditions for ensuring the profitability of agricultural and processed

products. Procurement prices, in particular, play an important role in the development of the processing industry.

Furthermore, the dissertation proposes the establishment of support mechanisms (such as subsidies, grants, and aid) to address price disparities between agricultural and processed products, as well as between agricultural producers and the industrial sector supplying them with technical and technological goods. It also justifies the use of indirect measures to stimulate export-oriented production and improve the price formation mechanism.

CONCLUSION

The theoretical generalizations and research conducted within the framework of the dissertation allow us to draw the following conclusions:

- the limited financial capacity of agricultural and processing enterprises hinders the acquisition of modern technologies and equipment, adversely affecting the efficient use of production potential.

- in order to enhance production, competitiveness, and export capacity in agriculture and the processing industry, it is essential to align agrotechnical and processing technologies with international standards. Therefore, the modernization of fixed assets must be prioritized.

- based on the multivariate dependency analysis, it is concluded that particular attention should be paid to the development of the processing industry and per capita product output to increase exports. Strategies related to credit policy and the ICT sector should be reviewed.

- the development and effective use of the potential of the agricultural sector and export-oriented processing industry necessitates the implementation of scientific and technological progress and new technologies. While economic growth in developed countries is based on science, the allocation of less than 1% of GDP to science in Azerbaijan limits progress.

- mechanisms for stimulating agricultural production, processing, and exports do not sufficiently drive growth and lag

behind market economy requirements. These mechanisms need to be renewed based on market principles.

- in recent years, the state has implemented important measures to accelerate the development of agriculture and the processing industry. The "Strategic Roadmaps" (2016) and "Azerbaijan 2030: National Priorities" (2021) documents play a strategic role in increasing the competitiveness of these sectors.

- the development of agriculture and the processing industry requires the establishment of a complex technical-technological system, increasing the role of the machinery industry. The application of such a system necessitates structural reforms and quality changes in the supply of production tools.

The research identified a number of problems in increasing the production of export-oriented products in agricultural processing enterprises in Azerbaijan, which can be grouped as follows:

1. **Instability in raw material supply**: Local raw material reserves sometimes fail to meet demand, necessitating imports and increasing production costs.

2. **Outdated technological equipment**: Many processing enterprises use old and inefficient technologies, impacting product quality and competitiveness.

3. **Limited access to financial resources**: Processing enterprises have restricted access to concessional loans and other financial sources, hindering their production capacity expansion.

4. **Logistics and transportation issues**: Efficient logistics and transport infrastructure are critical for exports, but these are underdeveloped in some regions, leading to high transportation costs.

5. **Problems with international certification and quality standards**: Many processing enterprises struggle to obtain the international certifications required for export market acceptance.

6. **Lack of skilled personnel**: A shortage of professionals, technologists, and engineers slows the development of production processes.

7. **Limited state support and incentives**: Economic mechanisms supporting export-oriented production, especially in terms of credit, tax concessions, and state support, are not yet fully

effective.

8. **Weak innovation and R&D activities**: Investment in innovation and the development of new products and technologies lags behind current demand, limiting competitiveness.

9. **Competitive environment and domestic market constraints**: The dominance of large companies in the domestic market restricts the export activities of small and medium enterprises.

10. **Weak promotion and branding in export markets**: Azerbaijani products lack recognition in international markets, necessitating more strategies and investment in marketing and promotion.

The recommendations derived from the dissertation findings can be classified as follows:

1. In the context of modern globalization, the development of the processing industry is of strategic importance for ensuring economic security and increasing the income of local producers. Greater export orientation reduces imports, and modernization of production enables the export of high-quality processed products, potentially increasing state budget revenues.

2. The renewal of export-oriented processing enterprises is a continuous process stemming from socio-economic development needs. Establishing perfect production mechanisms in new enterprises is challenging, especially in seasonal fruit and vegetable production. During modernization, local features must be considered, and improvements made in production methods, transport speed, storage, energy, and building insulation. Environmental protection, effective management, and continuous review of workforce capabilities are also essential.

3. Many agricultural products are exported either unprocessed or semi-processed. Historically, cotton, tobacco, wine, wool, and other agricultural products have been exported as raw materials, mainly to Turkey and Russia. However, these products could be processed and exported as finished goods. Therefore, modernization of fruit-vegetable, canned food, cotton, wine, and tea processing plants is necessary. Their development requires investment in new

technology from both domestic and foreign sources. Despite meeting international standards, the full potential of the country remains underutilized.

4. SOCAR’s carbamide plant is one of the country's major fertilizer producers, relying primarily on natural gas. Long-term supply contracts and exploration of alternative gas sources are necessary. Cooperation between universities and the plant should be strengthened to train qualified personnel.

5. Efficient agricultural activity in a market economy depends on several factors: proper location and specialization of production, establishment of links between production and processing structures, development of effective use mechanisms, optimal sectoral structuring, and the application of innovative technologies and scientific-technical progress. Organizing exhibitions and business forums could accelerate the resolution of these issues. Economic mechanisms should be tailored to regional characteristics and directed at the efficient use of production and processing potential.

6. It is advisable to develop a targeted program and implement comprehensive measures to stimulate and increase the quality, competitiveness, processing, and export of agricultural products.

7. The current analysis indicates that the main goal of the processing industry is to process agricultural raw materials using innovative technologies that meet international standards, enhance global competitiveness, and expand the production of semi-finished and finished goods. In viticulture, the production of wine, brandy, vinegar, and other products should be expanded using new technologies and improved infrastructure.

8. The development of processing enterprises relies on attracting investments to expand competitive production and access foreign markets. Investment in agriculture should be phased and consider existing problems. Key areas for stimulation include financial resource allocation, strengthening agro-market infrastructure, supporting investment projects, promoting export-oriented production, and creating favorable conditions for investors.

9. To gain competitive advantages in global markets, investment in high-tech equipment is necessary. The adoption of new

technologies in the processing industry is crucial to produce high-quality, standard-compliant, and export-ready products.

10. Successful export requires products to meet international quality and safety standards. Certified products that comply with standards such as ISO 22000 (Food Safety Management Systems) and HACCP (Hazard Analysis and Critical Control Points) enjoy greater credibility, expand export opportunities, and achieve higher value.

11. Simplifying export procedures facilitates easier access to international markets, enhancing the competitiveness of processing enterprises, increasing export volumes, and positively impacting the national economy. Optimizing customs duties and licensing processes reduces business costs and strengthens the processing sector’s participation in global trade. According to the World Bank's "Trade Facilitation Index," optimizing export procedures can increase international trade turnover by an average of 15-20%.

12. Improving investment and financial-credit mechanisms can accelerate the development of high export potential processing enterprises. Necessary steps include providing tax incentives for export-oriented products, concessional credit schemes, state support for technological modernization, and simplifying export procedures. Additionally, hosting international investment forums, expanding public-private partnership mechanisms, and legal reforms for export market diversification are important.

13. One of the key challenges for processing enterprises is the limited availability of capital and financial resources. Investments from foreign and domestic investors can address this gap. According to the World Bank, foreign direct investment (FDI) plays a vital role in developing countries' real sectors and can positively impact annual GDP growth by 2-3%.

The main content of the dissertation work was published in the following scientific works of the author:

1. Bagirzadeh, A.G. Directions for regulating export potential in the non-oil sector // Baku: materials of the international scientific-practical conference on 94th anniversary of national leader Heydar Aliyev, 04-05 may, – 2017. – p. 506-511.

2. Bagirzadeh, A.G. Enhancing the legal support for sustainable development of the agricultural sector in the Republic of Azerbaijan // Baku: materials of the Republican scientific-practical conference "Strategic economic reforms: proactive tax policy" 12 october, – 2017. – p. 199-205.

3. Bagirzadeh, A.G. Improving the management of urban municipalities in organizing processing and service activities // – Baku: "Audit" Journal, 2017. № 4. – p. 97-103.

4. Bagirzadeh, A.G. The socio-economic development strategy and import-export priorities in Azerbaijan // Baku: materials of the Republican scientific-practical conference "Strategic road map for the prospective development of the national economy: priority directions for the formation of Human Capital", – 2018. – p. 458-468.

5. Bagirzadeh, A.G. Directions for increasing the country's export potential // Baku: materials of the international scientific-practical conference on 95th anniversary of national leader Heydar Aliyev. 05 march, – 2018. –p. 64-65.

6. Bagirzadeh, A.G. Development trends in export-oriented product manufacturing // – Baku: materials of the international scientific-practical conference on "Azerbaijan Democratic Republic and development directions of modern Azerbaijan". May 3, 2018-p.443-448.

7. Bagirzadeh, A.G. Directions for improving state policy on the formation and strengthening of export potential // – Baku: international scientific-practical conference on "Global economic challenges: the main directions of social economic development in the liberated territories of Azerbaijan" 6 may, – 2021. – p. 298-303.

8. Bagirzadeh, A.G. Main directions of increasing the production, processing and export formation of agricultural products

// – Baku: “Cooperation” scientific-practical Journal, 2021. № 4, – p. 204-211.

9. Bagirzadeh, A.G. Directions for improving state policy to form and strengthen the export potential of agricultural products. // – Ukraine: The Economic bulletin of Donbass, – 2021. № 4, – p. 19-24.

10. Bagirzadeh, A.G. Current situation of exports processing products and directions for increasing exports // – Baku: “Audit” Journal, 2021. № 4, – p. 110-123.

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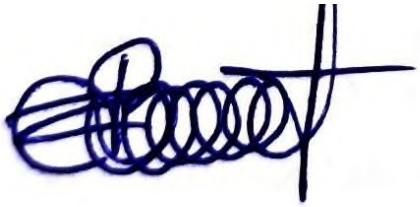
12. Bagirzadeh, A.G. Ways to increase the economic efficiency of investments in the processing industry // Baku: materials of the international scientific-practical conference on 99th anniversary of national leader Heydar Aliyev. 4 may, – 2022. – p. 434-439.

13. Bagirzadeh, A.G. The directions of increasing the export potential of marketable and competitive agricultural products // – Baku: “Cooperation” scientific-practical Journal, 2022. № 3, – p. 68-76.



The defense will be held on 04 june 2025 at 13^{00} at the meeting of the BED 1.10 of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at the Institute of Economics of the Ministry of Science and Education of the Republic of Azerbaijan.

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The dissertation is accessible at the Institute of Economics of the Ministry of Science and Education of the Republic of Azerbaijan.

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