

AZERBAIJAN REPUBLIC

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**OIL INDUSTRY AND DIRECTIONS FOR
STRENGTHENING THE ECONOMIC SECURITY OF
AZERBAIJAN**

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Applicant: Toghrul Israfil Aliyev

ABSTRACT

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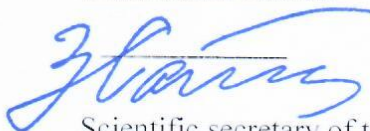
Dissertation work has been performed in the department of "Industrial policy and investment problems" of the Institute of Economics of ANAS

Scientific adviser: Doctor of Economics, professor
Elshan Mahmud Hajizade

Official opponents: Doctor of Economics, associate professor
Anar Fazil Abbasov
Doctor of Economics, professor
Ganimat Asad Safarov
Doctor of Economics, associate professor
Asaf Maharram Gasimov

Dissertation Council of the Higher Attestation Commission under the President of the Republic of Azerbaijan operating under the Azerbaijan State Agricultural University

Chairman of the
Dissertation council:



member of ANAS,
doctor of Economic Sciences, professor
Ziyad Aliabbas Samedzade

Scientific secretary of the
Dissertation council:



doctor of philosophy in economics,
associate professor
Parvin Elman Mukhtarova

Chairman of the scientific
council:



honored agricultural worker
doctor of Economic Sciences, professor
Islam Haji Ibrahimov

GENERAL CHARACTERISTICS OF THE WORK

Relevance and development of the topic In the context of widespread globalization, the gradual depletion of natural resources of the world, the increase in their population, the expansion of the migration process, environmental pollution and so on. has a significant impact on socio-economic development. The security of the Republic of Azerbaijan is conditioned by a set of factors influencing the improvement of its territorial integrity, national interests, sustainable development and welfare of the population. The relevant law adopted in Azerbaijan during the years of independence and the National Security Concept approved by the decree of the President of the country are important normative-legal acts to eliminate these threats. The concept states that policies, measures, principles and approaches aimed at protecting the individual, society and the state from external and internal threats have been formed in Azerbaijan. Among the measures aimed at national interests in the concept are the efficient use of natural resources, sustainable economic development, education, science and technology capacity building, environmental protection, security through domestic and foreign policy, economic and social development, strengthening domestic security, energy security. policy, further expansion of production enterprises, efficient use of existing potentials, improvement of corporate governance, attraction of investments in ensuring sustainable and balanced development, etc. Currently, the country's economy depends on oil revenues. Thus, up to 60% of state budget revenues are provided by the oil sector.

President of the Republic of Azerbaijan Ilham Aliyev stated: "We must use the oil factor very skillfully so that the economy of Azerbaijan develops in all directions and our future generations do not depend on the oil factor." ("Azerbaijan" newspaper, April 17, 2018). All these provisions reflect the urgency of including the use of oil in the subject of scientific research in strengthening the economic security of the country. As noted in the Strategic Roadmap for the National Economy (2016), oil production is projected to decline in the long run. Therefore, changes must be made in the oil industry to implement the strategy to ensure economic security and sustainable

development of the country. It is necessary to consider that the development of the country's oil industry is directly related to the main problems of the modern world economy (demographic, resource, financial, technological, environmental). In the process of forming the oil strategy, complex problems attract attention, including economic growth, macroeconomic balance, technological innovations and their spread, the problems that serve the development of society. To solve these problems, measures in the oil industry must be implemented in coordination with the economic security of the individual, enterprise and industry, the current situation and prospects for development must be comprehensively assessed, the economic course must be based on original, decisive and coordinated decisions. At the same time, in case of unfavorable conditions in international bases, the state should take a number of effective measures to make the economic, political and institutional conditions more favorable in the context of supporting the oil sector and the national economy. Among these measures, the support of business initiatives in the field of investment and innovation, as well as measures aimed at ensuring energy security in the context of ensuring the security of the national economy play an important role. Among them are reducing the cost of 1 ton of oil and 1,000 cubic meters of gas, optimizing non-production and management costs, minimizing risks on ongoing projects, strengthening state control over the economical and efficient use of fuel and energy resources, public-private partnership The formation of the system, expansion of innovation activities, improving the position of Azerbaijan's fuel and energy system in international markets, further strengthening the role of the oil and gas sector in ensuring economic and environmental security of the country and other measures are among the problems to be addressed. Development of the oil industry and related organizational-economic and social problems, the role of the oil industry in economic security, efficient use of economic potential, the impact of the oil industry on the environment, the role of the non-oil sector, investment attractiveness, innovation activity in the national economy have been researched and important recommendations have been given by famous scientifics such as

Z.Samadzade (51, 52), M. Atakishiyev (13, 14, 15), E. Aslanov, E. Hajizade (30-37), M. Meybullayev (43), T.Aliyev (21, 22), T .Huseynov (40), A.Huseynov (38), P.Valiyev (56), S.Mikayilova (44, 45), Sh.Gafarov (18), R.Hasanov (39), A.Nuriyev (47), G. Safarov (50), I. Kerimli (57), A. Shakaraliyev (58), Humdatova SI (41), among foreign researchers L.Abalkin (59), A.Arkipov (71), K..Bezuglova (75), Y.Bukhvald (77), G.Vechkanov (80), D.Gordienko (84), Q.Qudman (85), V.Qusev (87), N. Quskov (88), D.Kuznetsov (90), Y.Loktionova (91), S.Stepashina (98), N.Amstrup (114), M. Ayub (115), E. Krakhman (126), D. Kim (123) and others.

Due to the scientific and practical significance of the research, it should be noted that the role and main directions of the oil and gas industry in strengthening the economic security of Azerbaijan have not yet been comprehensively studied, which has made the chosen topic relevant.

The object of research is the oil and gas industry of the Republic of Azerbaijan, **the subject** of which is conditioned by scientific research and mechanisms of the oil and gas industry's opportunities to strengthen the country's economic security.

The purpose and objectives of the study. The purpose of the study is to develop scientifically substantiated theoretical and practical proposals and recommendations for strengthening the economic security of the oil industry in the country, the effective use of the oil sector in ensuring economic security. To achieve this goal, a number of tasks have been set:

- study of the concept of economic security on the basis of generalization of concepts on economic security, theoretical-methodological bases of its content, criteria and classification of indicators;

- determining the place and role of natural resources, especially the oil industry, in ensuring economic security;

- assessment of the impact of the oil industry, the enterprise and the sector on ensuring economic security on the basis of official statistical and reporting data and identification of relevant reserve opportunities;

- assessment of the impact of the oil and gas industry on the country's macroeconomic indicators on the basis of mathematical and statistical models;

- identification of opportunities for efficient use of oil and gas resources and economic potential in the context of globalization and deepening integration and their impact on macroeconomic indicators;

- development of a mechanism to ensure the economic security of the country and the industry (enterprise);

- Development of practical proposals and recommendations to strengthen the economic security of the oil industry in the country.

Research methods. Modeling, mathematical-statistical, systematic and complex approach, graphical, structural-functional, comparative, analytical generalization and other economic methods were used during the research.

The main provisions of the defense are followings:

- A set of measures to ensure economic security and the relevant action strategy should be taken into account the sources of internal and external threats to economic security. That is, the system of measures and the mechanism for implementing the strategy must be determined on the basis of these sources of threat. In this regard, real and potential sources of threat that could negatively affect economic security in the Republic of Azerbaijan must be identified.

- To assess the level of economic security, economic security criteria should be applied in practice on the basis of a certain algorithm;

- In order to solve practical problems in the country's industry, it is necessary to clarify the role of mining industry in the national security of the country on a scientific basis. The level of economic efficiency of the extraction of specific minerals must be determined. High and minimum levels of raw mineral resources (for domestic consumption and export) should be determined in the Republic of Azerbaijan. The volume of production and processing of important mineral resources, the volume of exports should be determined here;

- Although a stable supply of a certain amount of oil and gas reserves is a necessary condition for national security, as well as for economic development, it is not a sufficient condition. Thus, there

are many examples in the world that the richness of oil and gas reserves, instead of stimulating economic development, created a "Dutch syndrome" and threatened national security. Therefore, there is a need to constantly improve the proper management and efficient use of oil revenues.

- The formation of a mechanism that ensures the economic security of the country within the field or enterprise is conditioned by the mechanisms of carrying out certain activities on its object. These objects include: source and volume of financial resources, profit, structure of capital assets and cash flow, investment, innovation, financial risks, etc. can be noted. Obtaining accurate information about each of them plays an exceptional role in conducting SWOT-analysis.

- Monitoring of threat factors that negatively affect economic transformation at the state level serves to reduce the impact of these threats and eliminate them completely. From this point of view, the important issue is not only the restoration of the productive resource potential of the territories, but also the provision of a more comfortable life for the population. Summarizing the above, a proposal was prepared to describe the complex measures to ensure the economic security of the country in the form of an appropriate scheme.

The scientific novelty of the research is that the role of the oil industry in strengthening the economic security of Azerbaijan in the formation and development of the base economy was comprehensively analyzed and evaluated, the main directions and mechanisms aimed at ensuring economic security and sustainable development were developed. The provisions of scientific innovation include the following:

- Different studies have been prepared summarizing numerous scientific-theoretical approaches to the essence of ensuring the economic security of the national economy as a specific type of activity and identifying internal and external threats to economic security (pp. 23-26);

- An algorithm for assessing the level of economic security by criteria has been developed (p.35);

- Threats affecting the security of the national economy and their main indicators are classified, a system of criteria and assessment characterizing the safety of mineral resources is proposed (pp. 50-51);

– Mathematical-statistical model of the impact of the oil and gas industry on macroeconomic indicators has been developed (pp. 91-98);

–The necessity and economic importance of creating raw materials → basic products → reproduction value chain on the production of petrochemical products of the country is substantiated (pp. 110-111);

– A different methodological approach to the formation of the mechanism of ensuring the economic security of the oil and gas industry of the country was proposed and the classification of its suppliers was given (pp. 113-120).

– The level of system indicators reflecting the economic security of the state compared to the threshold accepted by international organizations and the competitiveness index were calculated (pp. 130-132).

The theoretical and practical significance of the research is that the main provisions, results, proposals and recommendations of the research can be used to enrich existing research as a different methodological approach to ensuring the national economic security of the oil industry. The practical significance of the research as an alternative source in the development of relevant industry and government programs, strategies and concepts, improving the management mechanism in the oil industry, increasing the production of innovative and high-tech products in cost management, ensuring energy security, personal, enterprise, industry and country can be used.

Approbation and application. The main provisions of the dissertation, methodological and practical proposals were presented at two international conferences and published in bulk. Among them are "Actual problems of science of the XXI century" (Moscow, December 30, 2017), "Implementation of the results of innovative development: problems and prospects" (Samara, January 8, 2018).

The results of the study have been published in prestigious economic journals, a collection of scientific articles recommended by the HAC, as well as three impact factor journals abroad.

The results of the study and the recommendations were submitted to the Absheronneft Oil and Gas Production Department, as well as the Azerbaijan State University of Oil and Industry, accepted for application and use in the management system and educational process, and relevant references were obtained (№ SH-01/42 15.02.2018 and №08-194, 20.02.2018).

Name of the organization where the dissertation work has been carried out: The dissertation work was carried out at the Institute of Economics of ANAS.

The dissertation's overall volume in character, representing the volume of the dissertation's structural units separately. The total volume of the dissertation is 253,340 characters. Including title page and table of contents 1366 characters, introduction 13115 characters, Chapter I 74034 characters, Chapter II 64673 characters, Chapter III 68893 characters, result 12933 characters, list of used literature 18326 characters, tables, pictures, diagrams and list of used literature. The volume of the dissertation, excluding tables, figures, diagrams and a list of references (bibliography), is 203015 characters

MAIN SCIENTIFIC PROVISIONS PRESENTED FOR DEFENSE

1. Summarizing numerous scientific and theoretical approaches to the essence of ensuring the economic security of the national economy as a specific type of activity, different studies have been developed and threats to economic security have been identified, the structure of economic security, basic principles, factors affecting and tightening economic security are systematized. proposals have been developed.

Summarizing the content of the research of Azerbaijani and foreign scientists, it can be concluded that the structural elements of economic security of the state include technological, raw materials, currency and credit, energy, information, food, environmental security and other such elements. In order to ensure the economic

security of the state, it is necessary to protect the vital interests of each of these elements.

In general, security must first and foremost ensure the vital interests of citizens, the state and society as a whole, and ensure that their needs are met more fully and reliably. To ensure economic security, enforcement agencies must comply with a number of principles. These principles include: fairness and efficiency, discussion and agreement, and special attention to threats; transparency, constant monitoring of events and assessment of threats; support for international practice to ensure economic security, as well as respect for international law. In general, ensuring national economic security means a system of unified and adequate measures aimed at ensuring the economic interests of the relevant governmental and non-governmental organizations, as well as potential internal and external threats. The main factors that determine the economic threat such as economic, organizational, legal, social, trade, etc. are classified as internal and external factors in differential form:

In order to solve the task of ensuring economic security of the Republic of Azerbaijan in modern times, it is very important to identify real and potential threat factors in a timely manner, to implement purposeful and effective measures. These are sources of internal and external threats that negatively affect the economic security of the Republic of Azerbaijan.

There are many approaches in the scientific literature to express the content of economic security in relation to internal and external contradictions. However, the role and importance of the oil industry based on natural resources has not been taken into account.

Based on the analysis, we conclude that the concept of economic security is characterized by an economic situation that ensures high sustainability of economic growth, efficient meeting of economic needs, controlling the movement and use of national resources, and protection of national interests at the international and national levels.

During the study, a system of criteria and internal and external indicators of economic security was defined, giving preference to

a systematic approach, and an algorithm for their assessment was developed.

In order to ensure economic security, it is important to study the necessary potentials and classify the real threats and to determine the allowable threshold values for each potential threat. The determination of such threshold values is carried out by different methodologies. Comparison of relevant economic indicators with thresholds can determine the degree of economic security.

The current situation in economic security is determined by a system of objective criteria and indicators.

The current situation in economic security is determined by a system of objective criteria and indicators. It is through them that the importance of the functioning of the economic system is assessed. Indicators of economic security mean more important problems that give an overview of the country's economic system as a whole, its stability and flexibility. The Great Economic Encyclopedia, edited and authored by Academician Z. A. Samadzadeh, is considered expedient to calculate and analyze about 25 indicators to assess the level of economic security of the country. In addition to the above indicators, economic security criteria should be defined to assess the level of economic security. Their algorithm is shown in Figure 1.

In the context of declining oil production, changes occur in domestic and foreign markets, prices fluctuate, and additional income decreases. In this case, the state must take a separate approach to economic efficiency and security.

Economic security strategy For the safe functioning of the Azerbaijani economic system, it is necessary to develop an economic security strategy to be implemented in the short and long term.

The state strategy of economic security must first of all take into account national interests. The goal of Azerbaijan's economic strategy is to achieve economic growth. Growth goals and directions are developed within the framework of structural policy as part of macroeconomic regulation.

Achieving economic security requires appropriate economic, political, legal, geopolitical, geostrategic conditions, protection of vital interests of the country in terms of protection and use of

resource potential, balanced and dynamic growth, social development and environmental security.

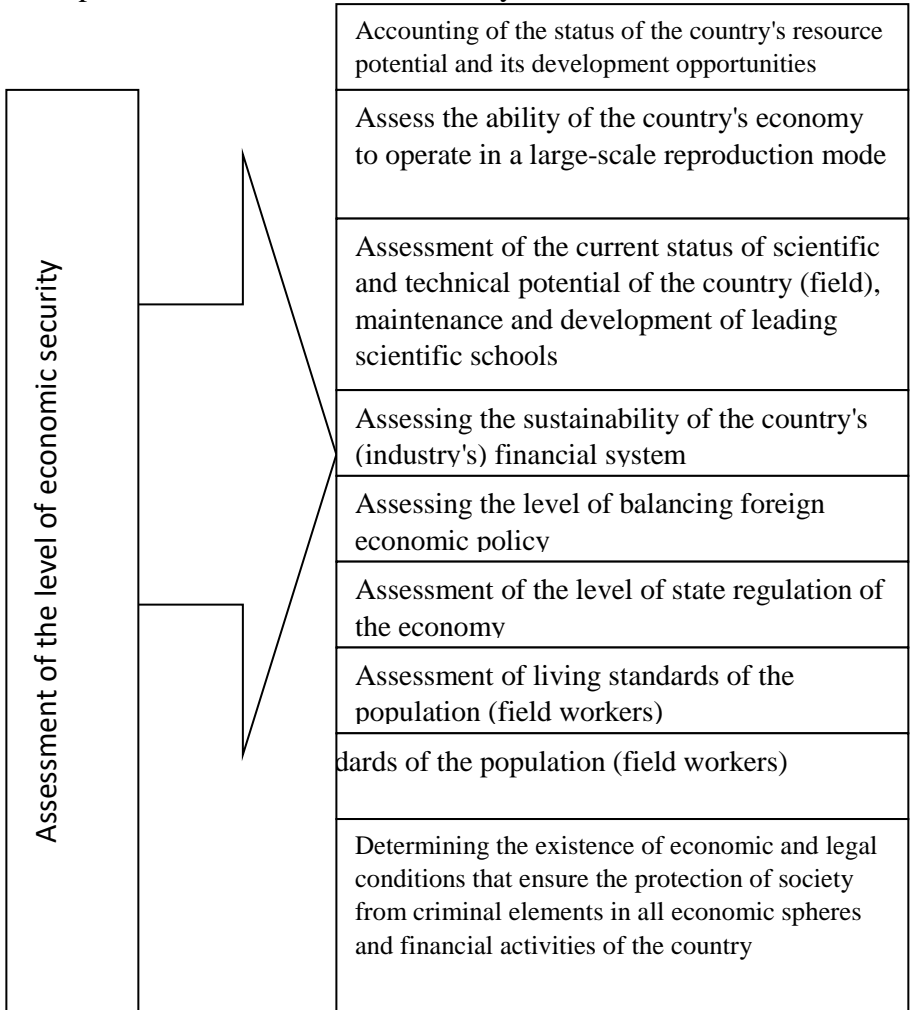


Figure 1. Algorithm for assessing the level of economic security by criteria ¹

Ensuring the economic security of the country requires the

¹ Source: Prepared by the author.

creation of appropriate infrastructure. This infrastructure must be able to penetrate all executive and legislative bodies. In the context of taking into account all the factors of ensuring economic security, the successful implementation of the "science-education-production" chain can eliminate the existing technical, technological, organizational and economic backwardness in the economy.

Admittedly, it is difficult to consider a competitive environment at the level of enterprises, companies and firms operating in Azerbaijan. Without a quick solution to the problem of industrial competitiveness, economic security will depend on product imports and high demand for currency. In order to eliminate the above-mentioned internal threats, the work on the non-oil sector should be intensified.

1. As a result of the research, the threats affecting the security of the national economy in modern conditions and their main indicators were classified, and a system of criteria and evaluation characterizing the safety of mineral resources was proposed.

The importance of improving the existing budget system, developing the stock market, keeping inflation in single digits, implementing more effective measures to eliminate the shadow economy and corruption in order to achieve operational security was noted, and the author's relevant recommendations were formulated.

The dissertation explores the place and role of natural resources in ensuring economic security, proposes a scheme reflecting the importance of the oil and gas industry in ensuring the economic security of the country, the "Treaty of the Century" and its implementation in the socio-economic development of the country. , importance in strengthening the export potential, the formation of sustainable foreign exchange reserves.

From the point of view of the theory of national security, ensuring the safety of national raw materials depends on the required amount of mineral resources required in various systems of criteria and assessments that allow to characterize the whole national economy, the volume of resources produced in domestic enterprises, etc. is characterized.

High and minimum levels of raw mineral resources (for

domestic consumption and export) should be determined in the Republic of Azerbaijan. The volume of production and processing of important mineral resources, the volume of exports must be determined here. In this regard, the system of three indicators is particularly noteworthy: external economic, general economic, sectoral internal (see Table 1). In order to objectively assess the level of national mineral security, the area of world trade must be taken into account.

The export of mineral raw materials meets the requirements of national security to the extent that these products do not harm students within the country. In this regard, a balanced policy between supply and demand should be implemented.

Table 1. Criteria and evaluation system characterizing the safety of national mineral resources ²

Foreign economic indicators	General economic indicators	Intra-field indicators
The place of different types of natural resources in the world	Indicators of mineral resources in absolute terms and per capita	Production costs in various fields
Provision of necessary mineral resources	Share of mineral raw materials in GDP	Volume and dynamics of investments
The volume of world trade by industry	Number of employees in mining and ancillary industries	The level of profitability of individual industries
Price of mineral raw materials	Production capacity and availability of communications	

As a result of the research, it is necessary to take measures in the following areas in terms of economic security in our country:

- Increased attention to food security (more serious fight against biological and genetic threats);
- training of highly qualified personnel in the country, mastering and creating new technologies;
- Achieve a position and prestige in the international arena by developing national entrepreneurship institutions;
- to achieve the transformation of tourism and other sectors, as

² Source: Prepared by the author.

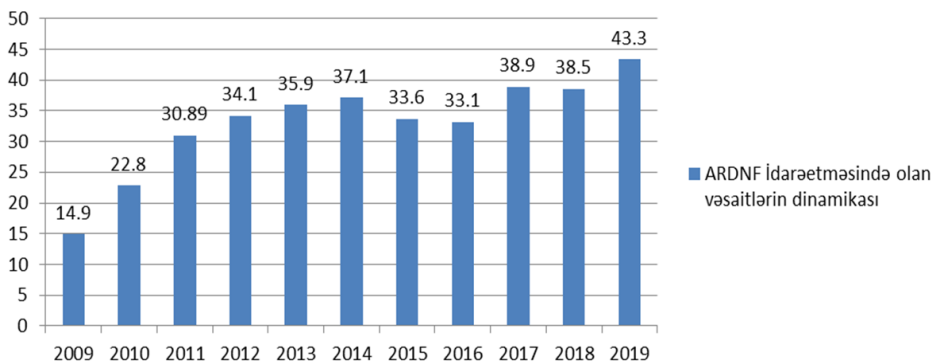
well as the non-oil sector as a whole, into high-income sectors;

- Gaining new positions in the world economic system by more actively joining the integration process with the protection of national interests, etc.

1. In the dissertation, on the basis of many statistical and reporting documents, Azerbaijan's economic security was assessed in general, the state of use of existing hydrocarbon resources, the implementation of the national oil strategy and its economic security factors (oil and gas reserves, their production, their export pipelines). transportation, investment in the oil industry, the structure of export products, etc.), a mathematical-statistical model of the impact of the oil and gas industry on the country's macroeconomic indicators was established.

According to expert estimates, Azerbaijan has 6.0 trillion cubic meters. m of gas and 4.6 bln. tons of oil reserves. Of the 81 oil and gas fields discovered in the country, 59 produce hydrocarbons. 67.8% of all deposits are onshore; 32.2% are located in the sea area. During the period since the start of industrial production of oil, 2.1 billion. tons of oil and 900 bln. cubic. meters of gas was produced. Exploitation of the Azeri-Chirag-Guneshli and Shah Deniz fields, operated under the Contract of the Century, has allowed the country to substantially increase oil and gas production and export most of them to foreign countries via pipelines. The share of mineral fuel, oil and oil refining products in the structure of export products in Azerbaijan is more than 90%. Proceeds from the sale of oil and gas produced in Azerbaijan are concentrated in the State Oil Fund. The current assets (foreign exchange reserves) of this fund increased 2.9 times in 2009-2019 and amounted to 43.3 billion manat. dollars (see graph 1).

Part of the funds is transferred to the state budget. If we take into account SOCAR's payments to the state budget and the SSPF, the degree of dependence of the budget on the oil factor varied between 47.0% and 68.5% only in 2010-2018.



Graph 1. Dynamics of assets under SOFAZ's management

Table 2. Allocations to the state budget from the sale of oil and gas³

Years	Revenues of the state budget mln. AZN	Transfers from SOFAZ to the state budget mln. AZN	Payments of SOCAR, mln. AZN		The degree of dependence of the state budget on oil factors, %
			to the state budget	to SSPF	
2010	11403	4915	1263	138	55,4
2011	15701	6480	1335	134,5	50,6
2012	17281	9905	1427	157,5	66,5
2013	19159	11350	1575	162,2	68,5
2014	18384	9337	1855	173,4	61,8
2015	17498	10388	1500	139,3	68,9
2016	17515,7	7615	1396	144,4	52,2
2017	16516,7	6100	1511,3	156,0	47,0
2018	22508,9	9216	1604,5	172,5	48,8
2019	24199,6	11364	1409	173,6	53,5

At the expense of the fund and the company, a number of joint ventures, gas stations, as well as numerous social infrastructure facilities (pipelines, terminals, stadiums, schools, etc.) in the country and abroad to ensure economic security and sustainable development. treatment and diagnostic centers, etc.) were built and put into operation, the implementation of targeted programs was

³ Source: Statistical indicators of Azerbaijan. Baku, "SSC" 2016, p 404; 2017, s.405;
SOCAR 2010-2016annual reports

ensured.

5. Mathematical-statistical model of the impact of the development of the oil and gas industry on macroeconomic indicators was developed, its role in economic growth was assessed.

As a result of the successful implementation of the oil strategy, more than half of foreign investment in the country's economy falls on the oil and gas sector. Therefore, it is necessary to regularly study the impact of these funds on economic development as a whole and on any area of economic activity. For this purpose, the impact of the oil and gas sector on a number of macroeconomic indicators was studied in the dissertation and an appropriate mathematical and statistical model was developed. In this case, calculations were performed using the EVIEWS software package. According to the database, oil revenues (X1), foreign direct investment in the sector (X2), oil and gas production (X3; X4), the value of fixed assets in the sector (X5), taking into account their GDP (S1), per capita income (S3), the correlation between the impact on employment and the level of poverty (S2; S4) has been identified

Table 3

Correlation between GDP and some indicators of the oil and gas industry *

	S1	X1	X2	X3	X4	X6	X7
S1	1	0.95622630...	0.80132230...	0.96838757...	0.96586805...	0.91286736...	0.98187717...
X1	0.95622630...	1	0.69768780...	0.87552201...	0.90770287...	0.94749606...	0.94005795...
X2	0.80132230...	0.69768780...	1	0.89697709...	0.91593490...	0.69750580...	0.71754162...
X3	0.96838757...	0.87552201...	0.89697709...	1	0.97741174...	0.87479647...	0.93793601...
X4	0.96586805...	0.90770287...	0.91593490...	0.97741174...	1	0.87435897...	0.91661847...
X6	0.91286736...	0.94749606...	0.69750580...	0.87479647...	0.87435897...	1	0.92058648...
X7	0.98187717...	0.94005795...	0.71754162...	0.93793601...	0.91661847...	0.92058648...	1

* Note: Calculated by the author through the EVIEWS software package

Using the results of the table, the model of the relationship between GDP and oil revenues can be described as follows:

$$\bar{S1} = 1662.664 + 2.1684 * X1 \quad (1)$$

The calculations show that the calculation of the correlation between the amount of per capita income and oil and gas revenues

gives the result that the correlation coefficient between these two indicators is quite strong and is described in the formula $R = 0.7582$ and the following formula:

$$\tilde{S}_3 = 364.3270 + 0.1358 \cdot X_1 \quad (2)$$

Statistical analysis of the correlation between the level of poverty in Azerbaijan and some indicators of the oil and gas industry:

$$\tilde{S}_4 = 44.5194 - 0.0017 \cdot X_1 \quad (3)$$

The mathematical statistical correlation between budget expenditures and oil and gas revenues was positive and reflected in the following formula

$$\tilde{S}_5 = -413.7172 + 0.6894 \cdot X_1 \quad (4)$$

Thus, in assessing and forecasting some macroeconomic effects of the oil and gas sector, it can be noted that oil and gas revenues have a positive impact on GDP, per capita income and state budget revenues.

6. The necessity and economic significance of the creation of a chain of raw materials \rightarrow basic products \rightarrow recycling \rightarrow value added for the production of petrochemical products of the country is substantiated. The directions of efficient use of oil and gas resources in ensuring economic security have been identified.

In our opinion, for the uninterrupted formation of this value chain, the EP-300 plant of Azerkimya PU, as well as polypropylene and high-density polyethylene plants must be continuously supplied with raw materials, deep chemical processing of products produced at Petkim and Sumgayit Chemical Industrial Park. Involvement and integration processes between the assets of the park should be strengthened. In order not to break this chain, it is important to implement the following number of practical measures:

- ▶ Development and implementation of a targeted investment-innovation project to bring the existing oil and gas refineries to the project capacity and modernize them, taking into account their importance for the chemical industry;

- ▶ Organization of processing of chemical products exported as raw materials in the system of “Azerkimya” PU with the condition of construction of new facilities in the territory of SKSD;

- ▶ Expansion of the production of commodity plastics in the territory

of SKSP to improve the supply of raw materials to the economic activities of the country;

- ▶ Increasing the volume of export-oriented polymer production to increase the level of net plastic flow;

- ▶ Establishment of a recycling area for all types of plastic waste in SKSP and organization of production of technical plastic containers (containers, cassettes, bags, molds, mats, etc.) there;

- ▶ Restoration and development of synthetic detergent production;

- ▶ To meet the needs of the country's population in pharmaceutical products made from natural plants, to establish joint ventures with one of the countries of Turkey, Ukraine-Poland, Germany in order to produce import-substituting products of the same name;

In order to implement the above recommendations, a targeted mechanism should be developed to optimize the cost of selling crude oil and gas, as well as oil and petrochemical products. This mechanism can be reflected in the Strategic Master Plan of the oil industry.

7. A different methodological approach to the formation of the mechanism of ensuring the economic security of the oil and gas industry of the country was proposed and the classification of its suppliers was given.

The organic part of the economic security strategy is the mechanisms of ensuring the country's economic security, ensuring the vital and vital interests of citizens by all state authorities and bodies through legal, economic and administrative measures, the country's participation in the international division of labor, integration into the global economic system. In matters of technical cooperation, it is important to eliminate the country's dependence on foreign countries. The main elements of the mechanism to ensure the economic security of our country in the context of globalization can be classified as follows:

- regulation and development of foreign trade and foreign economic relations taking into account the strategic interests of the republic;

- Improving the sectoral structure of foreign trade by developing export potential, as well as restricting imports and completely replacing them with domestically produced products, preventing the strengthening of the excessive position of imports from the sectoral structure of the country;

- to support high-tech producers in the country, as well as to stimulate their export activities in order to bring more competitive products to world

markets and strengthen their position;

- increase the activity of state and regional governing bodies, improve the system of state regulation to protect the economic security of the Republic of Azerbaijan from internal and external threats;

- implementation of a well-thought-out protectionist policy through well-accepted and effective procedures to protect the position of national producers in the domestic market;

- implementation of measures to stabilize the exchange rate of the national currency manat, as well as the creation of conditions and opportunities for repayment of debts to foreign countries on more favorable terms;

- establishment of operative and timely relations with foreign markets, creation of information and communication sector for optimal and efficient organization of flow of goods and services in the domestic market;

- Stimulation of increase of scientific-technical, production, educational, technical-technological potential of the country, as well as improvement of living standards and quality of life of the population.

In our opinion, this mechanism should be implemented with the help of appropriate subsystems in oil and gas production and refining enterprises. They include: relevant tools, system of indicators, regulators, as well as legal, regulatory, information, personnel, financial, logistics, scientific and technical, organizational management, etc. aiddir

In order to ensure economic security in the oil and gas industry, the management system: reserve, protection, recovery and regulation mechanisms must be implemented in a comprehensive manner. In all cases, the philosophy of economic security is the harmonization of the basic parameters of the system to form the results to be obtained under conditions of uncertainty of the external environment within the selected boundaries. In order to comply with it, first of all, the limits of economic security - normal, high, low and crisis - must be determined from functional elements (organization, planning, accounting analysis, diagnostics, control and coordination) and management tools (economic-administrative), as well as other target elements. reliability, real availability of facilities, sustainability of the

managed system, accurate information on operations), as well as the above-mentioned supply elements should be used. In the work, these mechanisms and tools, subsystems are reflected in the schemes and pictures developed by us. Classified administrative tools include legal regulation, licensing, quotas, standardization, setting limits, and so on. As tools of direct administrative influence: government order, targeted funding, subsidies; as indirect instruments of influence: tax rate, concessions, deferral of payment, leasing, securities transactions, exchange rate, investment security, customs duties, concessions, etc.

We believe that in order to ensure the economic security of the country, the economic security of oil and gas companies must be ensured. For this purpose, a number of practical proposals have been formed in the work, and the classification of the main elements of internal and external economic security mechanisms is reflected in specially designed figures and schemes.

The formation of a mechanism to ensure the economic security of the country within the field or enterprise is conditioned by the implementation of certain activities on its facilities. These objects include: source and volume of financial resources, profit, structure of capital assets and cash flow, investment, innovation, financial risks, etc. can be noted. Obtaining accurate information about each of them plays an exceptional role in conducting SWOT-analysis.

We consider the following methodological approach to the formation of a mechanism to ensure economic security appropriate:

- study of the business characteristics of the oil industry enterprises, its market position and assessment of the level of the main technical and economic enhancers on the basis of various analysis methods;
- to analyze internal and external factors threatening the economic security of oil industry enterprises, to collect necessary information on the emergence of crisis conditions;
- to determine the availability and suitability of existing information-technical, intellectual, economic, legal, formal and informal security tools;

- coordination of the mechanism of ensuring economic security, the amount and structure of expenditures with the head of the enterprise;
- organization of control over the implementation of the economic security mechanism created in the enterprise;
- assessment of the effectiveness of the economic security mechanism;
- Improving and correcting the developed economic security mechanism.

It is important to take into account the following when forming the mentioned economic mechanism:

- specific features of oil industry enterprises;
- the level of involvement of the enterprise in the global information sphere;
- the degree of influence of the internal and external environment on the activity of the oil industry enterprise;
- prompt and adequate response to potential danger (prevention);
- strategy development and planning;
- efficient use of oil and gas resources and its optimal distribution.

7. System indicators characterizing the economic security of the state are calculated comparable to the threshold accepted by international organizations and the competitiveness index.

Thoughtful and systematic reforms implemented in the Republic of Azerbaijan have ensured effective and dynamic economic development aimed at improving the welfare and quality of life of the population, protecting their material, social and cultural interests. At that time, modern social infrastructure was formed in the country, the course of innovative development of the countries was consistently continued, new non-oil industries producing refined products were created, energy and resource-saving technologies were applied. Despite the high achievements, the country's economy has not been fully sensitive to modern challenges in the world, and the global economic and financial crises have had a negative impact on the economy in one form or another. The fall in oil prices on the

world market, along with the reduction of its exports, has led to a significant reduction in sales revenues.

The actual level of these indicators, which characterize the economic security of the state, as well as the oil industry, shows that they differ significantly from the threshold referred to in international practice.

Table 4. Bottom and actual levels of indicators reflecting the economic security of the state in Azerbaijan 4

N	Indicators	Level of indicators %		Deviation, %
		Bottom level	Actual	
1	According to the average GDP per capita (on Big Seven)	50,0	19,0	-31,0
2	The share of investments to the country's economy in GDP	25	32,4	+7,5
3.	The share of foreign direct investment in domestic investment	15,7	54,1	+38,4
4	Depreciation rate of fixed assets (in oil and natural gas production)	30-35	28,6	-1,4
5	The share of the processing industry in the production of industrial products	70	21,9	-48,1
6	The share of the general machinebuilding industry in the production of industrial products	20	1,12	-18,8
7	The share of imported products in domestic demand	30,0	31,0	+1,0
8	Unemployment rate according to international standards	7,0	5,0	-2,0
9	Annual inflation rate according to international standards	20,0	10,3	-9,7
10	Average life expectancy of the population	70	71,1	+1,1
11	The share of foreign debt in GDP	50,0	22,8	-27,2
12	Foreign debts of the state in relation to budget revenues	30,0	41,8	+11,8
13	The share of the state budget deficit in GDP	5,0	0,28	-4,72
14	The share of science expenditures in GDP	2,0	0,2	-1,8
15	The share of investments in fixed assets in GDP	25,0	12,7	-12,3
16	The share of innovation in the total industrial output	15,0	0,06	-14,9
17	Monetization - the ratio of the mass of money aggregate M2 to GDP	50,0	18,4	-31,6
18	Differences between the 10% of the population with the highest income and the 10% of the population with the lowest income	8 dəfə	12,8 dəfə	+4,8
19	The share of the population with incomes below the subsistence level	7,0	15,0	+8,0

⁴ Source: The table was compiled and calculated by the author based on the official data of the SSC of the Republic of Azerbaijan and the recommendations of international organizations.

As can be seen from the table, the actual level of 7 out of 19 indicators characterizing economic security and calculated by us exceeds the threshold; According to 12 indicators, the threshold is too low and the country is in a dangerous zone. Therefore, in the coming years, Azerbaijan will focus on its areas of economic activity: the renewal of existing fixed assets; to increase the volume of products of the processing industry, to revive the machine-building industry; reduce inflation; to minimize public debt; to substantially increase expenditures on science; to increase monetization; substantial increase in the volume and range of industrial innovation products; increase the volume of competitive export-oriented and import-substituting non-oil industrial products to improve the material well-being of the low-income population.

Success in solving these problems and ensuring economic security depends on the level of management: information-analytical, regulatory and direct impact measures should be implemented. The Competitiveness Index was calculated to assess the level of economic security of the country, described in the form of a classification scheme covering the member component of these measures. This indicator reflects the ratio of GDP per capita to the subsistence level (K1), the share of expenditures on science in GDP (K2) and the sum of the human development index (K3), which characterizes the state of the country's labor force and can be mathematically described as follows :

$$Ika = 0.33 K1 + 0.33 K2 + 0.34 K3 \quad (5)$$

Here, using the official data of ARDSK for 2018, K1-0.02; K2 -0.21 and K3 \approx 0.766 were accepted and the final result was determined at 0.336, which is considered satisfactory.

In addition to the above, at the end of the dissertation the results of the study were summarized, practical proposals and recommendations were made to strengthen the economic security of the country, taking into account the oil factor:

A comprehensive study of the role and importance of Azerbaijan's oil and gas industry in strengthening the country's economic security has enabled the development of the following scientifically substantiated proposals and recommendations:

1. An improved normative and legal framework for ensuring the economic security of the Republic of Azerbaijan has been formed. They are based on the Constitution of the Republic of Azerbaijan, the Law on National Security, National Security and Development Concepts "Azerbaijan 2020: vision for the future", relevant state programs and the Strategic Roadmap for the development of the oil and gas industry.
2. Taking into account the presence of elements in the structure of economic security of the state: technological, production, raw materials, energy, information, currency - credit, intellectual and personnel, food, environmental security, etc., the basic principles of ensuring economic security Classification of factors and conditions, principle schemes of interaction of economic security system with internal and external environment in industrial areas have been developed.
3. Based on international experience, we have clarified the classification of economic security criteria and indicators (indicators), compared these indicators with the threshold recommended by international organizations, indicated the extent of deviations, as well as the reasons, proposed an algorithm for assessing the level of economic security.
4. As a result of the assessment of the impact of the oil and gas industry on the country's macroeconomic indicators based on a mathematical-statistical model, it was determined that GDP has a positive impact on per capita income and the formation of the state budget. The strategic task ahead is to develop the non-oil sector at the expense of the oil factor. In this regard, the main focus should be on the development of the processing industry. One of the problems awaiting solution is the diversification of production in this area and the strengthening of innovation activities there.
5. Given that the main goal of the country's economic security system is to regulate potential threats, the study presents the main schemes, which differ in content, reflecting the direction of management of the country's economic security system, the classification of strategic goals and mechanisms.

6. Research has shown that it is impossible to guarantee the economic security of the country without ensuring the economic security of enterprises involved in the oil and gas industry. From this point of view, it is considered expedient to form the following main directions of the mechanism of ensuring the economic security of the enterprise and its subsystems, as well as on the basis of internal and external economic mechanisms:

- Ensuring the energy security of European countries using the potential of oil and gas export pipelines can contribute to the preservation of Azerbaijan's international image and the strengthening of economic security through the oil factor;
- Increasing the number of SOCAR's representative offices, joint ventures and refueling networks abroad may allow it to generate additional income by expanding its export opportunities;
- The search for new forms and methods for organizing the sale of oil and gas, oil refining and non-oil industrial products in traditional and new markets should be continued;
- High economic efficiency can be achieved by increasing Azerbaijan's exports of oil refining, chemicals and petrochemical products, fertilizers and other non-oil industrial products to the CIS countries;
- Cooperation with foreign multinational corporations should be expanded in order to produce a wide range of new, import-substituting products in the fields of chemistry, petrochemistry and pharmaceuticals by attracting foreign direct investment to Azerbaijan;
- Implementation of the following measures to increase the production of innovative and high-tech products based on the application of technologies of technological groups V and VI in the system of Azerikimya, Azerigas PU at the Sumgayit Chemical Industrial Park, Baku Oil Refinery named after H.Aliyev:
 - involvement and increase the role of scientific organizations in the solution of issues of state importance, implementation of projects;
 - increasing efforts to create innovation and production infrastructure in the country to organize the application of high technologies;

- Accelerate the implementation of the state innovation policy of the national economy focused on high technologies based on the use of new materials, NANO technologies and ICT;
- creation of a multi-level management system for the widespread dissemination of intellectual creativity and innovative entrepreneurship;
- creation of an effective mechanism to coordinate the development of the national innovation system in the country and the CEC;
- organization of full sales of oil refining, chemical, petrochemical products accumulated in the warehouses of refineries and increasing in number due to the effective organization of marketing research and activities;
- to increase the share of funds allocated from the state budget in GDP from 0.2% to 1.0% for the effective organization of scientific, scientific-technical and innovation activities;
- Establishment of business incubators and small organizations carrying out innovative activities in the technoparks created in Sumgayit Chemical Technology Park and other cities, industrial service districts;
- Creation of field clusters and technological platforms that unite science, education and production organizations as a new form in the management and economic practice of Yek;

7. We believe that the country's current economic security strategy should include:

- Characterization of external and internal threats affecting the economic security of the Republic of Azerbaijan, threatening the interests of the individual, society and the state: identification of factors undermining the stability of the socio-economic system of the state in the short and medium term;
- Identification of criteria and parameters in the field of economy that meet the requirements of economic security of the Republic of Azerbaijan and allow to characterize national interests;
- Formulation of public policy, implementation of institutional changes and implementation of mechanisms that allow mitigating and eliminating the impact of factors that undermine the stability of the national economy.

8. The following can be identified as real and potential sources of threats and dangers that have a negative impact on economic security in the Republic of Azerbaijan:

- Excessive threshold of public debt (especially to foreigners) and financial (debt and government guarantees) threshold;
 - Inefficient operation of the budget-tax system, increase of budget deficit, decrease of budget revenues;
 - Inflation is normal and impossible to eliminate;
 - Existence of structural (economic and regional) disproportions;
 - Outflow of intellectual capital, material and financial resources;
 - Low level of application of technological-innovative innovations in the economy;
 - Insufficient development of infrastructure;
 - Problems of free competition in a monopolistic economic environment;
 - Strengthening the shadow economy, increasing economic crime, etc.
 - Insufficient demand for products produced in the country in foreign markets, sometimes non-economic mechanisms and factors exceeding economic factors, discrimination against goods of Azerbaijani origin, etc.

9. Research on improving the development of oil and gas production and refining industry has shown that the main directions here are related to the rational use of oil and gas resources.

For this purpose, the study substantiated the need and economic importance of the creation of a value chain in the production of petroleum products and petrochemical products: reproduction of basic raw materials.

In our opinion, for the uninterrupted formation of this value chain, the EP-300 plant of Azerkimya PU, as well as polypropylene and high-density polyethylene plants must be continuously supplied with raw materials, deep chemical processing of products produced at Petkim and Sumgayit Chemical Industrial Park. Involvement and integration processes between the assets of the park should be

strengthened. In order not to break this chain, it is important to implement the following number of practical measures:

10. The mechanism for ensuring the economic security of enterprises in the oil and gas industry should be based on the global information environment and make extensive use of modern ICT in all managed and managed systems. For this purpose, a schematic diagram of this mechanism has been proposed in the study.

11. 1 ton of oil and 1000 cubic meters in our country. year-on-year increase in the cost of gas, loss-making operation of many oil and gas departments, continuation of the negative environmental impact of FEZ, supply of raw materials in the chemical sector, the existence of the problem, maintenance of imperfect management logistics system, etc. emphasizes the importance of developing an improved mechanism to strengthen economic security. The methodical approaches to the formation of this mechanism, its components and suppliers have been identified in the study.

12. The logical conclusion of the analysis and assessment is conditioned by the identification of key areas for strengthening economic security in the oil industry as a whole and its impact on the country. For this purpose, the study provides a classification of complex measures to ensure the economic security of the country, depending on the level of governance. In order to assess the level of formation of the country's economic security, the competitiveness index was calculated and practical recommendations were developed to ensure that security in managed systems, the application of which can result in a high synergistic effect.

The main content of the research is reflected in the following scientific works published by the author:

1. Aliyev T. I. Oil and gas resources of Azerbaijan as an important factor of economic security // Scientific works of the Institute of Economics of ANAS N4, Baku "Science", 2014, p.104-112.

2. Aliyev T.I. The role of investment policy in ensuring economic security and improving taxation // Azerbaijan Tax Journal N5 (119) Baku 2014, p. 135-143..

3. Aliev T.I. Organizational and economic mechanisms of industrial management as the main tool of economic security of the Republic of Azerbaijan // Economics and Entrepreneurship №8, Moscow, 2014, p. 99-109..
4. Aliyev T.I. Modern directions of ensuring economic security in Azerbaijan // Scientific works of the Institute of Economics of ANAS N4, Bakı, "Science", 2015 p.94-102.
5. Aliyev T.I. Problems of modern economic security // Silk Road magazine N4, Baku 2015, p.131-139
6. Aliev T.I. Basic theoretical approaches and categories of economic security // Scientific Review, №1, Moscow, 2015, p.175-184.
7. Aliyev T.I. "Assessment of some macroeconomic effects of oil and gas revenues" // Scientific works of the Institute of Economics of ANAS N6, Baku, 2017, p.11-16.
8. Aliev T.I. "The role of the oil industry of Azerbaijan and the provision of its economic security" Materials XXVIII International NPK "Actual problems of science of the XXI century" part 1, Moscow, 2017, p.52-56.
9. Aliev T.I. "Possibilities of effective use of oil and gas resources of Azerbaijan in the conditions of deepening integration" Materials of the International NPC "Implementation of the results of innovative development: problems and prospects" Samara, 2018, 2018.
10. Aliev T.I. "Effective use of oil and gas resources - the basis of ensuring economic security of Azerbaijan" International Scientific Journal "Theoretical Applied Science" Philadelphia, USA, 2018, p.p. 201-208.

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Address: 450 Ataturk Avenue, AZ 2000, Ganja city, Azerbaijan

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