

REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

INNOVATIVE DEVELOPMENT DIRECTIONS OF THE NON-OIL SECTOR OF THE REPUBLIC OF AZERBAIJAN

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GENERAL CHARACTERISTICS OF THE WORK

The actuality of the research and the degree of problem development. Modern and promising economic development of the Republic of Azerbaijan is already changing the traditional approach. In particular, the approaches to the development of the non-oil sector are becoming more important. Also, Azerbaijan's 44-day victory substantially specifies new directions of development of this sector. One of the most important directions in the development of the relevant sector is its construction on an innovative basis and its transformation into a major driving force of the economy. The results of the last ten years show that significant reforms are being carried out in these areas by increasing the focus on socio-economic development in our country. Such a positive development is already highly valued at the international level.

"Azerbaijan 2020: Vision for the Future" Development Concept puts forward modern views on the development of the economy and the non-oil sector. The "Strategic Road Map for the National Economic Perspective of the Republic of Azerbaijan" is based on the importance of organizing the development of the non-oil sector in accordance with modern requirements. Provisions such as increasing attention and supporting the development of the non-oil sector are also included in the "Strategic Roadmap for the production and processing of agricultural products in the Republic of Azerbaijan", "Strategic Roadmap for the production of consumer goods at the level of small and medium enterprises in the Republic of Azerbaijan", "Azerbaijan It is expressed in the Strategic Roadmap for the Development of Heavy Industry and Mechanical Engineering in the Republic of Azerbaijan and other such important documents. Such an important approach is also put forward in the "State Program for the Development of Industry in the Republic of Azerbaijan for 2015-2020" and "State Program for Socio-Economic Development of the Regions of the Republic of Azerbaijan for 2019-2023."

An important point in all these and other important legal and strategic documents is more clearly observed. Thus, in these approaches, the formation of the development of the non-oil sector

on the basis of innovation factors is especially emphasized. The Presidential Decree "On ensuring coordination in the field of innovative development in the Republic of Azerbaijan" should be taken as the main confirmation of this important point.

Theoretical and practical research on innovative development attracts attention with its different approaches. In particular, innovative development, innovation activity and its research in a specific area of the economy are also noticeable.

Preliminary research on innovative activities and innovative development is reflected in the works of classical economists. Thus, A.Smith, F.Kene, K.Marks and others paid more attention to this topic in the context of scientific and technical progress and the use of its results. Among Western economists, the researches of M. Porter, I. Schumpeter, F. Kotler with their in-depth researches in this field attract attention. They conducted more research on innovation and its extensive study in economic and social life.

The research of Russian economists on innovation and innovative development is also important. Especially, N.D. Kondratev, N.I. Antipina, E.A. Baklikova, V.P. Baranchev, L.R. Batukova, D.B. Griбанov, O.G. Golichenko, G.G. Elechkikh, K.A. Zadumkin, Y.B. Kravchuk, Y.Y. Kovalev, V.N. Makaveva, and others. Their research most appreciates the processes of development in this area in the last century and their benefits from an economic point of view from a theoretical and practical point of view.

The research of Azerbaijani scientists, such as A.F.Musayev, A.Kh.Nuriyev, I.M.Abbasov, T.N.Aliyev, Sh.T.Aliyev, B.Kh.Atashov, E.A.Guliyev, M.J.Huseynov, I.H.Aliyev, Y.A.Mammadov, M.A. Abdalova and others puts forward modern approaches to the essence of innovative development, and its research on the problems of economics and regional development is in the center of attention.

All such research in the field of innovative activity and development should be considered important. Along with all this, it is important to pay special attention to one important issue. This is due to a different approach to innovative development in the light of recent developments in the world and in the country. Because its

important relevance is the transformation of the non-oil sector into a key industry leading for our country and ensuring its development in accordance with modern requirements for innovative development. The acceleration of the development of the non-oil sector and its implementation on the basis of innovative development brings to the fore more concrete and in-depth theoretical and practical research in this area. The relevance and conduct of the dissertation work is determined on the basis of all such important provisions.

The object and subject of the research. The object of the research is related to the non-oil sector of the Republic of Azerbaijan and its innovative development activities. The current state of innovative development in the non-oil sector, its research and development, putting forward practical proposals in this field have been defined as the main subject of the dissertation.

Goals and tasks of the research. The purpose of the dissertation is to assess the level of innovative development of the non-oil sector in the country, to put forward proposals and recommendations that are important from a theoretical and practical point of view. Relevant tasks related to achieving the goal of the dissertation work have been identified:

- research of theoretical bases of innovative development of economy;
- identification of features of innovative economy;
- evaluation of modern experience in the field of innovative development;
- study of the environment created for the innovative development of the non-oil sector;
- analysis of the current level of development of the non-oil sector in Azerbaijan;
- assessment of the state of innovative development of the non-oil sector.

Research methods. Statistical, analytical, comparative and systematic analysis and evaluation, logical research and other methods were used in the preparation of the dissertation work. The main information base of the research work is made up of the reports of the State Statistics Committee of the Republic of Azerbaijan, the

Ministries of Economy, Finance and other relevant state bodies, the Central Bank, and the information of international financial institutions.

The main provisions defended:

➤ The foundations of the innovative development of the economy include classical and modern views.

➤ The development period of the innovative economy is notable for its differences in stages.

➤ The experience related to innovative development shows that there are contradictions in terms of country, territory and environment in this field.

➤ Accelerating the development of the non-oil sector in Azerbaijan has its importance.

➤ The level of innovative development of the non-oil sector necessitates the introduction of deeper reforms in this area.

➤ It is necessary to develop a strategy related to innovative development.

➤ An innovative development policy should be prepared based on the requirements of the modern era.

➤ It is necessary to determine the directions of innovative development of the country's non-oil sector.

Scientific novelty of the research - is mainly due to the fact that as a result of the research, views were expressed that will accelerate the innovative development of the non-oil sector, and suggestions and recommendations were made for the development of this area.

The main scientific innovations of the dissertation are:

➤ proposals for the development of an innovative development strategy have been put forward. The periodicity (periods) and stages of this strategy, the goals and objectives for its implementation, and the target areas to be included are set out here.

➤ mechanisms and measures to be implemented to stimulate innovative development have been identified.

➤ the basics of developing an innovative development policy taking into account modern requirements, its goals and

objectives, target directions were proposed.

- the main directions of innovative development have been identified. Such forms of cooperation between the state-subject and the science-education system, as well as the main measures to be taken to transition to an innovative development model have been put forward.

Theoretical and practical significance of the results of the research. The analysis and assessments carried out in the dissertation work, the results obtained on the research help to determine the modern development directions of the non-oil sector in the country and to increase the innovative development of these areas creates a wide range of opportunities. The results of the study will have a significant impact on improving the activities of industries and entities in the non-oil sector in the country, taking into account modern requirements, increasing the activity of their innovation activities. The materials of the dissertation can be used in the preparation of legal and regulatory documents related to the acceleration of innovative development in the country and the formation of a favorable environment in this regard, as well as the development of relevant teaching aids.

Approbation and application of the research. Materials were published by the author at 3 scientific-practical conferences organized in Azerbaijan and abroad in connection with the dissertation work: State Statistical Committee of the Republic of Azerbaijan, Center for Scientific-Research and Statistical Innovations, Materials of the Scientific-Practical Conference "Application of Innovations in Economic and Statistical Research" (Baku, 22.11.2019. pp. 66-71); Belarusian Cooperative Union Educational Institution, Belarusian University of Cooperative Consumer Trade Economics, materials of the international conference "Prospects of economic and legal development of society, the state and consumer cooperatives" (Gomel, March 31, 2021. p. 81-84) and the Ministry of Education of the Republic of Azerbaijan "Doctoral students and materials of XXIII Republican Scientific-Practical Conference of Young Researchers (Baku, 2019. p. 234-236). 6 scientific articles related to the main results of the dissertation were published in the country and abroad:

Azerbaijan Cooperation University, Cooperation scientific-practical journal (No. 3 (54)-2019. pp. 100-105); News of ANAS, Journal of Economy Series (2020, No. 4. p. 71-76); Azerbaijan Cooperation University, Scientific and practical journal of Cooperation (No. 4 (63)-2021. p. 91-100); News of ANAS, Journal of Economics Series (2021, No. 1. p. 150-158); Journal of Economic Sciences (Moscow 2021. No. 11 (204). p.194-198); News of ANAS, Journal of Economy Series (2021, No. 4. p.209-217).

Name of the organization where the research is carried on.
Azerbaijan Cooperation University.

The total volume of the dissertation with a sign indicating the volume of the structural sections of the dissertation separately.
The logical basis of the dissertation was determined according to the subject, object, goals and tasks of the research. The structural composition of the dissertation consists of an introduction, three chapters, nine paragraphs, results obtained, and a list of sources and literature. Chapter I of the dissertation consists of 76,700, chapter II 68,800, and chapter III 68,200 characters, the dissertation consists of 236,600 characters in total. Dissertation consists of 167 pages, 5 pictures, 3 tables, 22 graphs have been prepared according to the logic and essence of the work.

THE MAIN CONTENT OF THE RESEARCH

In the introductory part of the thesis, the relevance of the topic is substantiated, the goals and tasks of the research, methods are characterized, the main propositions defended are explained, the scientific innovations, theoretical-practical significance and approval of the work are reflected.

In the **first chapter of the dissertation, called "Innovative development of the non-oil sector and its foundations"**, the theoretical foundations of the innovative development of the economy are examined, the innovative economy and its features are rounded up, and the main priority is given to the study of modern experience in the field of innovative development. Although the views on the essence of innovative development are different, they are presented more broadly in modern times. Such views in

themselves are related to the theoretical foundations of economic development, and also act together with its main principles and provisions. On the other hand, innovative development, whether economic or social in nature, involves qualitative change and technological progress. Some economists pay special attention to the qualitative factors of economic development in innovative development.¹ Ideas such as the formation of the national innovation system and its connection with the factor of accelerating economic development are also observed. In such approaches, the attitude towards innovative progress at the level of the economy of a single country is expressed². Such views give reason to think about the broad nature of innovation-oriented development. In the studies of I. Schumpeter and N. D. Kondratev, the factor of innovative development is "more justified as the scientific and technical progress of society and the economic system".³

They also pay attention to it from the point of view of enterprise and product production⁴. M. Porter puts forward "innovation (improvement) as a fundamental change of the product or production process, expansion of their access to markets based on a new marketing approach."⁵ Such conceptual views on innovative development are still relevant from both the theoretical and practical point of view. A. Smith and D. Riakrdo, one of the classical

¹ Shinkevich, M.V. Methodology of institutionalization of sustainable innovation development of economic systems. Ph.D. econom. наук / M.B. Shinkevich. - Kazan, 2011. - 422 p. s. 34.

² Kazakov, VV To the structural characteristics of the national innovation system. - M: Management and business administration. - 2013. - № 4. - p. 188.

³ Кондратьев, Н. Д.: Crises and forecasts in the light of the theory of long waves. A look of modernity. - M.: «Teacher», 2017. - 384 p. http://www.inecon.org/docs/2017/Kondratjev_book_20170924-28.pdf. Schumpeter, I. Theory of economic development. Capitalism, socialism and democracy / I. Schumpeter. - Москва, Издательство: Эксмо, - 2007, - 864. С. С. 56.

⁴ Mezentseva, O.E. Development of high-tech production in the world and in Russia. / O.E. Mezentseva // Fundamental Studies. - 2015. - №7. - С. 176-181.

⁵ Porter, M. International competition: competitive preferences of the country /M.Poreuk - M .: International relations, 1993. - 896 p. C.123.

economists, show that the evolutionary process plays an important role in economic development, justifying the contributions it can make.⁶

In modern scientific views, innovative development at the global, regional and country level is studied, and their quantitative and qualitative aspects are evaluated with special sensitivity. The views of Azerbaijani economists on innovative development are more modern. A. Muradov emphasizes the deep connection between innovative development and knowledge economy.⁷ T. Aliev's researches in this field are notable for their importance in this field.⁸ In the researches of A. Musayev, the study of the relationship between innovative development and scientific and technical progress and the tax burden is more pronounced. Quite evolutionary trends are observed in the studies related to innovative development. Some kind of enterprise, country level aspects are more prominent in these studies.⁹ Deepening economic processes and global development trends require a broader view of innovative development.

Post-industrial regions, where modern technologies and electronic devices are widely developed, are already forming in different countries. As a clear example of this, it is possible to show the Silicon Valley of the United States or Singapore. At the same time, another environment and conditions are observed with their presence. In the neighborhood of regions and countries with a high level of innovative development, there are states and territories in a state of

⁶ Kravchuk Yu.B. Fundamentals of economic theory. Kharkiv: KHNUVD, 2014.341 p. http://dspace.univd.edu.ua/xmlui/bitstream/handle/123456789/378/osnovy_ekonomicheskoy_teorii_uchebnoe_po.pdf?sequence=2&isAllowed=y

⁷ IS (S) I - 2015 Liberal potential of the economy. Institute of Economics of ANAS, Baku: Science and Knowledge Publishing House, 2017. 236 p. [http://economics.com.az/images/fotos/Kitablar/IS\(S\)I_2015_kitab.pdf](http://economics.com.az/images/fotos/Kitablar/IS(S)I_2015_kitab.pdf)

⁸ Aliyev, T.N. Clusters: international experience and innovative development. (Monograph). - Baku: "Science and Knowledge", 2019, 536 p. http://economics.com.az/images/fotos/Kitablar/2019/terbiz_klaster.pdf

⁹ Musayev, A. Income tax. Monograph. /A.Musayev, A.Musayeva, Y.Mammadov. - Baku: "ELM ve BILIK" publishing house - 2020, 176 p. <http://economics.com.az/images/fotos/Kitablar/2020/gelirvergi.pdf>

poor development. It should be noted that Hanan (Haiti), a number of regions of China are among the most polluted and unclean areas according to the level of development and condition.¹⁰ Of course, all these are two different poles of a global world, and this is an undeniable fact. In the context of accelerating innovative development in the world, numerous problems are already becoming one of the main causes of spatial polarization. The current situation creates deep differences between the economic and innovative development of countries. In particular, cases such as the increase in global competition, the intensification of struggles for power, the increase of profits, and the struggle for the improvement of well-being are also the result of such problems. In today's world, the intensification of competition between regions, countries, and companies shows itself in an era of accelerated innovative development. Such competition between the USA and China, including companies belonging to developed countries, is gradually causing serious consequences. Countries that are distinguished by their high development from an innovative point of view (USA, Western Europe, China, South Korea) show a tendency to use new means of competition in order to maintain their advantage in various fields. In this regard, even the cases of embargoes, restrictions, financial and trade sanctions against each other are expanding.

In our modern era, innovative development attracts attention with its unique characteristics.¹¹ In today's world, science-intensive industries and service areas act as the main driving force of global and regional development. Especially in most cases, the share of these areas in the GDP and the number of employed people is constantly increasing. The share of science-intensive industries and services in the GDP of the United States is more than 40%, and in

¹⁰ Griбанov, D.V. Innovation and modernization in life, economics and law: the conceptual apparatus / D. B. Griбанov // Business, Management and Law. - 2012. - № 1. С.52-61.

¹¹ Kovalev, Yu.Yu. Innovative sector of the world economy: concepts, concepts, development indicators. M in education and science Ros. Federations, Urals. federation. un-t. Yekaterinburg: Izd in the Urals. un ta, 2016. 180 p. https://elar.urfu.ru/bitstream/10995/40670/1/978-5-7996-1736-3_2016.pdf

Australia, Great Britain, Japan and the Republic of Korea - more than 30%. In the economy of most developing countries, the specific weight of these areas is attracting attention due to its continuous increase. Thus, in some countries such as China, Brazil, India, Mexico, it is observed that the share of innovative industries in the GDP is 20%, and in Turkey it is 23%. In South Korea, the share of high-tech company "Samsung" in the country's GDP is close to 11%. In Europe, the main development strategies in this field have been determined, and here the innovative development of Central and Eastern European countries justified.¹²

In the structure of employees operating in innovative fields, highly educated persons and scientific personnel are particularly dominant. Expenditures for scientific research and experimental design work in high-tech fields exceed the funds allocated for research in other areas of economy and industry many times over. There are significant differences between enterprises operating in this field. Continuous and purposeful qualification and knowledge improvement trainings of employees working in science-intensive and innovative fields are focused on. A significant share of innovative investments (16% of world GDP) falls on the share of expenditure on relevant training. In terms of countries, the highest indicators of these expenses are observed in the United States (23% of GDP), Great Britain (21%), and Singapore (20%).¹³

In today's era, mutual trade in both high-tech products and various intellectually oriented services is expanding. Export and import transactions of related products and services exceeded four trillion US dollars. 60% of them fall into the share of high-tech goods and 40% of intellectual services trade. The position of China, the USA, Germany, France, Taiwan, the Republic of Korea, and Singapore as

¹² Directorate for Science, Technology and Innovation Committee for Scientific and Technological Policy 2019 EC / OECD Science, Technology and Innovation Policy Survey.

[https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/STP\(2019\)17&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/STP(2019)17&docLanguage=En)

¹³ Science & Engineering Indicators / Elementary and Secondary Education / <https://nces.nsf.gov/indicators/states/indicators>.

the largest exporters of high-tech products is particularly different.¹⁴ Most countries continuously increase the volume of financial and capital investments to support innovative development and ensure the development of scientific and technical progress. The level of capital investments in the field of scientific and technical progress has been observed with an increase in the world in the last twenty years. Thus, the costs of capital investment in this direction have been observed with a more than two-fold increase in this period. The corresponding financial investments are also manifested in the increase in terms of state investment costs.¹⁵

In the **second chapter** called "**The level of innovative development of the non-oil sector and its assessment**", the environment created for the innovative development of the non-oil sector in the country is studied from various aspects, the modern level of development of the non-oil sector is analyzed and the state of innovative development of that sector is evaluated. Acceleration of economic development and noticeable progress in this field can be clearly observed in Azerbaijan in the last ten years. However, high results have not yet been achieved in the development of the non-oil sector in the country. Inequality is observed in capital investments in non-oil sector areas. Thus, compared to 2010, in 2020, the volume of investments directed to fixed capital in agriculture increased by 21%, in the construction sector by 29 times, while in the field of transport, this indicator decreased by 20%, and in the information and communication sector by 14% (table 1).

The non-oil industry with the highest level of development among the areas belonging to the non-oil sector is particularly distinguished. The role of innovative areas in this industry has also increased. During this period, the volume of medical products increased 7 times (7.2 million manats), production of computers and other equipment

¹⁴ Kovalev, Yu.Yu. Innovative sector of the world economy: concepts, concepts, development indicators. M in education and science Ros. Federations, Urals. federation. un-t. Yekaterinburg: Izd in the Urals. un ta, 2016. - 180 p. https://elar.urfu.ru/bitstream/10995/40670/1/978-5-7996-1736-3_2016.pdf

¹⁵ Global Innovation Index 2019

https://www.wipo.int/edocs/pubdocs/ru/wipo_pub_gii_2019_keyfindings.pdf

Table 1.

Non-oil sector capital investments (million manats)

Years	Industry	Agriculture	Construction	Transportation	Information and communication	Others
2010	4276,2	431,0	113,8	2449,1	212,0	2423,6
2015	8499,9	355,4	2123,5	2199,9	335,3	2443,0
2016	9949,8	325,1	2831,8	1392,3	199,4	1074,4
2017	10610,1	617,8	2746,0	1777,7	171,9	1506,8
2018	8497,2	764,4	3721,4	1926,6	441,5	1893,8
2019	9258,0	769,5	3550,4	2190,7	547,1	2223,8
2020	9065,3	520,6	3178,5	2092,6	185,5	2183,6

Source: <https://www.stat.gov.az/source/finance/>

1.4 times (75.5 million manats), production of electrical equipment 2.9 times (215.4 million manats), and the production of machines and other equipment attracted attention with an increase of 17.2 times (262.1 million manats).¹⁶ But along with such positive changes, one important point should be specially noted: the specific weight of innovatively oriented fields in the non-oil industry is quite low (5%). The volume of investments in fixed capital in industrial areas has been observed to increase in the last ten years. In the last ten years, the volume of investments in fixed capital in the mining industry increased by 1.9 times and amounted to 5.6 billion manats. This indicator for the processing industry increased by 5.2 times and amounted to 2.6 billion manats. Looking at other industries, there have been no significant changes in this area. The share of the mining industry, mainly the oil sector - 62%, the processing industry - 29%, and other sectors - 9% in the specific weight of investments in fixed capital in the industry of our country attracts attention. It is necessary to pay special attention to one point: the large-scale investments in the oil sector and some industries consist of foreign investments received with state funds and state guarantees. In the

¹⁶ Information of the State Statistics Committee of the Republic of Azerbaijan. <https://www.stat.gov.az/source/industry/>.

processing industry, the situation is completely different. So far, the main role in investments in this area belongs to the enterprises themselves. It should be noted that if in 2010 the volume of investments per enterprise in the field of processing industry was 267,155 manats, in 2020 this indicator increased by 4 times to 1038,170 manats.¹⁷ Such growth is not considered acceptable for the development of enterprises in this field according to modern innovative requirements and standards.

The country's banks are still very weak in the financial and credit provision of enterprises and entities represented in the non-oil sector. The volume of loans provided by these organizations for the relevant sector at the expense of their own resources is not more than 10% of the total loans. The regional development of the non-oil sector, especially our non-oil industry, is always in the center of attention. However, the position of Baku city and several economic regions (Absheron-Khizi, Aran, etc.) attracts attention due to its economic indicators in this sector (table 2).

In the development of our non-oil industry, in the last ten years, innovative factors have been further advanced as a new direction. In the distribution of fields of science in Azerbaijan, special attention should be paid to directions close to innovative fields in the number of persons defending to receive the scientific degree of doctor of philosophy.

In the last ten years, 15 people in technology, 12 in agriculture, and 23 people in economics have defended their Ph.D. dissertations and received scientific degrees in our country. During this period, he defended his dissertation on the doctorate of economic sciences, and the number of scientific degree recipients increased 8 times and reached 8 people. In the field of technical sciences, this indicator increased by 2 times - 4 people, and in the field of agriculture - 4 people increased by 4 times.¹⁸ It is impossible to evaluate such growth trends in scientific personnel training as high indicators on

¹⁷ Information of the State Statistics Committee of the Republic of Azerbaijan.
<https://www.stat.gov.az/source/industry/>.

¹⁸ Information of the State Statistics Committee of the Republic of Azerbaijan.
<https://www.stat.gov.az/source/education/>

Table 2.

Production level of the main product by region (2020, billion manats).

	Industry	Agriculture
Baku	3	0,1
Nakhchivan	1,1	5,5
Absheron-Khizi	2,7	0,3
Mountainous Shirvan	0,1	0,4
Ganja-Dashkasan	0,7	0,3
Karabakh	0,1	0,9
Kazakh-Tovuz	0,4	1,1
Guba-Khachmaz	0,3	0,8
Lankaran-Astara	0,2	0,8
Central Aran	0,6	0,8
Mil-Mugan	0,4	0,8
Sheki-Zagatala	0,4	0,7
Eastern Zangezur	0,002	0,008
Shirvan-Salyan	0,7	0,6

Source: <https://www.stat.gov.az/source/regions/>

the scale of innovative development of our country. Training of scientific staff and scientists in the relevant areas, most of the defended dissertations are theoretical in nature. On the other hand, their application in the fields of practical economy, including for the purposes of innovative development, is not so high.

In the last ten years, the number of organizations carrying out scientific research and such work in the country decreased by 14% to 127. Until now, the state acts as the main financier of scientific researches. In the last year, the amount of funds allocated from the budget for science and similar research increased by 1.6 times and amounted to 143.6 million manats. The amount of funds allocated to science is very low, it is 0.2% of the GDP and 0.5% of the budget expenses.¹⁹ As in the CIS, in Azerbaijan, the level of science and

¹⁹ Information of the State Statistics Committee of the Republic of Azerbaijan.
<https://www.stat.gov.az/source/education/>

innovation-oriented expenses, as well as their financing, is not observed with its high development. Despite all this, in the last ten years, the volume of internal expenses for scientific research and this type of work has increased by 1.7 times (163 million manats) due to various sources. The cost of funding and equipment and other basic resources used in a scientific research organization operating in the country is not distinguished by its high value. Currently, the level of funding for such a research enterprise, taking into account various sources, is 1.3 million manats, and the cost of the equipment and basic funds used here does not exceed 1.3 million manats.²⁰ These indicators once again prove that these organizations do not have a strong potential for new product production and innovative development. In the last ten years, the special weight of scientific researchers in the staff working in such fields is more than 70%. Also, 60% of those working in this field work in the public sector, 36% in higher education institutions, and only 4% in the private sector. Most of the researchers and scientists working in the public sector and higher education institutions are dominated by social and humanitarian directions. The number of researchers engaged in scientific product production and innovative activities in direct accordance with modern requirements is still very low in our country. Currently, the low level of scientific, research and other professional personnel working in the private sector (4%) cannot be considered satisfactory. In the last ten years, the volume of applied research and work has decreased by two times and amounted to 10.1 million manats. Although there are some positive developments in the growth of all performed scientific and other research-oriented works, it is appropriate to pay special attention to some important factors here:

First, the volume of scientific and other similar research studies carried out in the country so far is very low compared to both developing and developing countries;

-Secondly, such studies and investigations contain fundamental,

²⁰ Information of the State Statistics Committee of the Republic of Azerbaijan.
<https://www.stat.gov.az/source/education/>

to be more precise, the share of theoretical work is higher, close to 60%;

-Thirdly, the volume of research works capable of creating a scientific product and with an innovative orientation is 23%, but it is still not notable for its high level;

-Fourthly, in the last ten years, the volume of all applied researches and researches performed in the country has halved.

In Azerbaijan, in the last ten years, there have been significant changes or a 2.7 times increase in the volume of newly introduced products, their value has reached 11.8 million manats. The share of such products that can be considered as innovative products (subject to significant changes or newly applied) in GDP is 0.02%, and in non-GDP - 0.03%. On the other hand, the share of these types of products in the general industrial product is very small - 0.03%.²¹ In the last ten years, some upward trends have been observed in the volume of improved products in the country. In the last ten years, the volume of such oriented products has increased 8 times, their volume has reached 16.8 million manats. The production of this type of innovative products is also considered to be very small in terms of the country. Because the share of products considered improved in GDP is 0.02%, 0.04% in non-oil GDP, and 0.04% in general industrial products.²² According to the types of innovations in the industry, the differences in the level of development of expenditures directed to technological innovations are clearly manifested. In the last ten years, spending on product innovation has been observed with a higher weight. In the last ten years, the volume of expenses directed to such innovations has increased by 2.5 times - 20 million manats. During that period, the funds spent on process innovations increased 80 times and amounted to 15.9 million manats.²³ (picture 1).

²¹ Information of the State Statistics Committee of the Republic of Azerbaijan. <https://www.stat.gov.az/source/industry/>.

²² Information of the State Statistics Committee of the Republic of Azerbaijan. <https://www.stat.gov.az/source/industry/>.

²³ Information of the State Statistics Committee of the Republic of Azerbaijan. <https://www.stat.gov.az/source/industry/>.

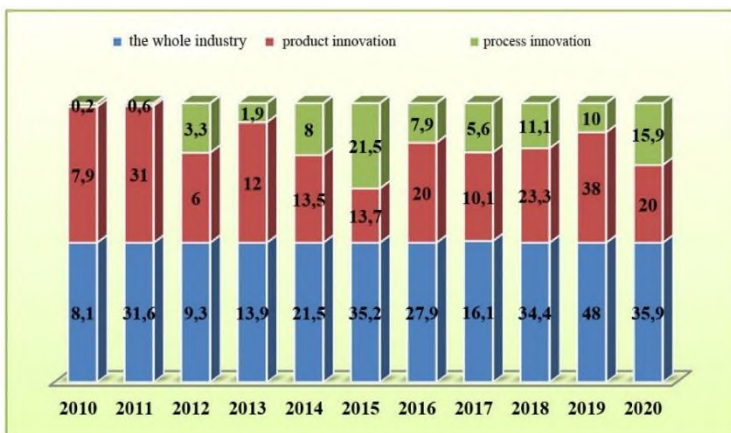


Figure 1. Development dynamics of expenditures on technological innovations in industry in terms of types of innovations (million manat).

Source: <https://www.stat.gov.az/source/industry/>.

According to the types of innovations in the industrial sector, 97% of the benefits of technological innovation (product and process innovation) went to the manufacturing industry, and only 3% to the mining industry (Figure 2).

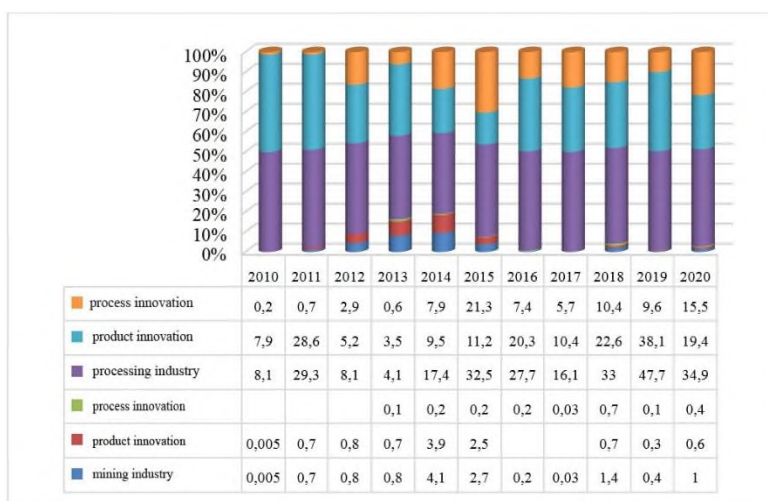


Figure 2. Development level of expenditures on technological innovations in the mining and processing industries (million manat).

Source: <https://www.stat.gov.az/source/industry/>.

Despite the fact that the volume of innovative-technological expenses in Azerbaijan is not so high, the level of other important expenses is also noticeable. In the last ten years, the volume of costs for the introduction and development of new product (service) processes has increased by 2.8 times and amounted to 7 million manats. In this period, the costs of purchasing machines and equipment related to technological innovations increased 3 times - 15.3 million manats, the costs of purchasing new technologies increased 3.4 times - 1.8 million manats, the costs of purchasing new software increased more than 100 times - 8.5 million manats, design and other costs for the production of new products (modern service and method application) increased 10 times and reached the level of 3 million manats. However, although the volume of other important expenses, as mentioned in relation to the production costs of new products and process technologies, increased more than 20 times in the compared period, this indicator was at a very small level, i.e. - 2.1 million manats.²⁴ Of course, modern marketing - research, scientific work, professional staff training, advertising and other costs remain at a very small level, making it impossible to organize the production of new innovative products to be exported to domestic and foreign markets in our country.

The **third chapter** of the dissertation work is called "**Innovative ways of development of the non-oil sector in Azerbaijan**". In this chapter, the necessity of defining a strategic approach to ensuring innovative development is substantiated, justified views are put forward regarding the preparation of the innovative development policy in the country and the determination of the main directions of the innovative development of the non-oil sector. The establishment of socio-economic development in Azerbaijan on the basis of innovation should be defined as a necessity. The complete and radical reconstruction of our territories freed from occupation, the organization of the economy to be formed here on an innovative basis, necessitates a strategic approach in this area. The innovative

²⁴ Information of the State Statistics Committee of the Republic of Azerbaijan.
<https://www.stat.gov.az/source/industry/>.

development of our non-oil sector requires, first of all, the identification of important strategic directions in this area, their goals and objectives with a clearer nuance. Keeping the trends and challenges of international development in focus, it should be considered important to develop a strategy that ensures innovative development for our country. In such an important strategic document, it is necessary to reflect the organization of science and innovative oriented production (service), highly qualified and scientific personnel, transition to the knowledge economy, deepening of international cooperation and other directions. The innovative development strategy of our country should directly include different (medium, perspective) periodicity. It will be based on innovative development - our non-oil sector should not only embody the development of new and modern fields. It should also be related to the development of traditional fields and the adaptation of their activities to the changing demands and effects.

Developing a strategy for innovative development in our country also justifies evaluating the results of reforms and our economic development from this point of view. When determining the innovative development strategy of our country, the determination of the goals and objectives here should not be connected only with trends and changes in modern conditions. Especially in the medium and long-term targeted periods, the level of development of our country, the changes that may occur in the available resources and potentials are the main indicators of the processes going on in the world. The goals of Azerbaijan's innovative development strategy should be clearly defined (organization of the regulatory system in this field; creation of a legal framework for ensuring innovative development; determination of a unified state policy related to innovative development, etc.).

First, in the preparation and implementation of such an important strategy, it is considered appropriate to draw up a number of options and corresponding scenarios.

Secondly, the appropriate strategy should be drawn up for implementation periods and specific directions and measures for these periods.

Such an approach will create opportunities to predict long-term development trends of innovative development, and to make important additions and changes in this area as necessary. Although the scenario approach to innovative development differs in its diversity, these scenarios should be based on the option that will be considered the most acceptable for the country and the full implementation of its level of implementation. It is also possible to look at the scenarios applied in modern practice as a different option in the innovative development strategy.

It is important to define the justified innovative development policy of Azerbaijan with its concreteness. It is of particular importance to have a unified approach in the preparation of such a policy and to substantiate it from a scientific and practical point of view. It is correct to express the basics of the policy concept on innovative development as follows:

- The innovative development policy acts as a part of the economic and social policies of our state;
- Determination of development directions of innovation and science-oriented activities in the country;
- Specification of supporting measures for the innovative development of the economy, including the non-oil sector;
- Organization of production of innovative and science-intensive products (services);
- Justification of goals, tasks and mechanisms of innovative development;
- Mobilization and use of existing innovative and scientific potentials.

Innovative development policy should play one of the main roles in creating a unified national innovation system that resonates with modern requirements. The development of our non-oil sector from this point of view should achieve their unification around a single state policy by determining the directions of innovative development of the related fields. This policy should support scientific-research and innovative-oriented research of subjects entering the private sector, and should further improve their environment for the production of new products.

The implementation of the innovative policy should be coordinated with the directions of the measures to be implemented in this area. In the innovative development policy, a special approach to our non-oil sector should be defined. It is necessary to reflect such conceptual provisions in the main goal of innovative development policy: determination of innovative development directions of the economy; ensuring the formation of innovative development in social and public life; determining the directions of influence on the production and export of science and innovative products. It is correct to attribute such points to the tasks of innovative development policy:

State, business and science-education taking into account national interests

- of effective cooperative relations between institutions in their fields;

- Creation and development of a single innovative development system in the country;

- Determination of support mechanisms for the implementation of projects that will accelerate innovative development in the economic and social fields;

- Determining the necessary measures to increase the competitiveness of the products to be produced in the country and to export them;

- Creation of a modern infrastructure system that will accelerate innovative development in the country, etc.

In the innovative development policy, there should be a special approach to the use of opportunities and resources of the state budget and extra-budgetary funds. It is important to pay more attention to regional aspects of innovative development policy. The issue of determining the implementation mechanisms of the innovative development policy should also be resolved with its own importance.

There is a need to expand measures to gradually build the export model of the country's economy from a raw material orientation to an innovative development model. The acceleration of innovative development should bring to the agenda the solution of such important issues:

- Creating a national innovative system in the country that keeps pace with global competition;
- Organization of the system and environment suitable for innovative development in the domestic market (technological development, science and innovation-oriented product production, advanced management, marketing);
- Extensive teaching of modern knowledge in educational systems and instilling necessary practical experiences in this regard;
- Expansion of innovative research in scientific and educational institutions and provision of their results to various markets, etc.

It would be more appropriate to connect the innovative development directions of our country with such target results:

- Increasing labor productivity based on modern innovative and technological capabilities;
- Ensuring people's standard of living and intellectual development;
- Continuous improvement of labor activity based on new knowledge and experience;
- Expanding the opening of innovative and science-intensive workplaces, etc.

Based on the current conceptual views and goals of long-term development (economic and social), it is important to increase attention to such points in stimulating innovative development:

- Determination of stimulating mechanisms related to innovative development at the level of the country and regions;
- Formation of a favorable economic and legal environment in areas aimed at innovative and scientific-practical results;
- Increasing support for the creation of modern infrastructure in innovative fields;
- Applying a systematic approach to stimulating and supporting innovative activity, increasing the market orientation of intellectual property results.

Stimulating measures and support system for innovative development and activity in our country should fully cover economic

subjects in this oriented activity. The role of the state in such support and stimulating measures should be chosen more actively. Relevant measures can include both administrative-economic and legal measures at the state level. As state-level economic measures, concessions in tax, customs, credit-investment fields, targeted and purposeful application of certain-term exemptions will be more important. For the purposes of innovative development of our economy, tax incentives should be applied comprehensively and justified, and the following should apply to them:

- The direction that can gain priority and importance and stimulation of research to be carried out in terms of fields;
- Promotion and implementation of innovative programs and projects stimulation;
- Organization of innovative and scientific potential and implementation of concessions related to infrastructure;
- Stimulation and support measures for carrying out innovation-oriented scientific and marketing research;
- Supporting and stimulating scientific research and innovative projects of universities.

The innovative development of Azerbaijan actualizes the determination of priorities (direction) in this field (development of nanotechnology and systems industry; acceleration of transformation of areas with little material and fund capacity into areas with science and innovative capacity; ensuring the development of the digital service sector; raising the position and rating of local enterprises in foreign markets, etc.).

The application of tax and other benefits to scientific and innovative enterprises (subjects) should be implemented according to systematic and justified criteria. When identifying such subjects, their innovative and scientifically oriented activities and results should be formalized. When forming the accounting-registry system to apply tax-oriented and other benefits to subjects, it should be considered important to take into account their quantitative and qualitative indicators in this direction. Such an approach will really lead to the timely solution of issues such as the identification of subjects to be selected for their original innovative activity and their

stimulation. In order to have a stimulating effect on the acceleration of innovative development, the correct choice of incentive objects in these areas of activity is also considered important. That is, it is more necessary to classify such objects in terms of their essence and goals in this way:

- Enterprises working directly and indirectly with scientific research and innovative activity;
- Corresponding groups of innovative activity-oriented subjects (based on the direction of activity, location characteristics, special
- tax regime should be applied according to innovative subjects, etc.);
- Subjects who will implement the development of the most important areas of innovative and scientific activity;
- Types of property of innovative entities in terms of activity (funds involved in scientific and innovative, technological and new product-service activities) etc.

As one of the directions of ensuring innovative development: there should be close cooperation between the state-private sector and the science-education system, the directions of joint activity in this field should be determined. It is necessary to create the legal and economic mechanisms of the existing welfare system in our country. In terms of innovative development, it is also necessary to prepare modern legal bases for cooperation between the state - private sector - science and education systems. Such grounds can be implemented primarily at the contractual - legal level. Such mutual cooperation agreements, which are applied in a broad sense, should define both the economic and financial interests and material and social security of the participating parties. Basically, in such contracts, the duties and obligations of the parties, the objectives of the work to be carried out or the activities to be carried out, the benefits of the results to be achieved should be reflected with their concreteness. To assess the level of innovative development at the country level, it is important to use a system of necessary indicators (the volume of state funding in the field of innovative development; the share of innovative development areas in GDP (non-oil GDP); the level of investments

in innovative and scientific development from various sources; innovative and volume of science-intensive product (service) production; share of innovative and science-intensive products (services) in export, etc.).

The **Conclusion section** of the dissertation contains suggestions and recommendations of scientific and practical importance arising from the nature of the research:

1. Research on innovative development makes it possible to come to the following conclusion: the concept of innovative development is directly connected to the foundations of innovation theory. Innovative development involves the commercial application of the innovation process. Innovation service has not reached the required level of development in Azerbaijan as well as CIS countries. In the modern world, the increase in the demand for science-oriented innovative services brings serious development in this field to the fore in Azerbaijan.

2. In the modern era, mutual trade in high-tech products and various intellectually oriented services is expanding. Export and import transactions of related products and services exceeded four trillion US dollars. In order to create an innovative economy in Azerbaijan, the relations between science and production should be strengthened, and the necessary mechanisms should be created to conduct applied scientific research in accordance with market demand.

3. Although there has been an increase in the value of fixed assets and investments directed to fixed capital in Azerbaijan in the last ten years, this has been more evident in the mining industry. Innovation-oriented development is observed in the industrial sectors of the country (inventory, production of computers and other equipment, production of electrical equipment, etc.) Although concessional credit guarantees for the non-oil sector are implemented through the state line, Aran, Absheron with their high share in the distribution of these loans, Baku, Guba-Khachmaz and Ganja-Kazakh regions stand out.

4. The regional development of the non-oil sector in the country, mainly the non-oil industry, should always be kept in the center of attention. From the point of view of the development of economic regions of the country, differences are observed in this direction. It is necessary to develop an innovative development strategy of the country. Azerbaijan's innovative development strategy should include medium and long-term periods. Stimulation of innovative activity and implementation of necessary mechanisms in the field justify the complex use of regulatory measures aimed at tariffs, customs, taxes and antimonopoly.

5. It is possible to prepare an analysis of GZIT (strengths, weaknesses, opportunities and threats) in the field of innovative development in Azerbaijan based on the conducted research and the current situation in the field of innovative development in the country. The country's innovative development policy should be determined by its concreteness. It would be more appropriate to prepare a unified and justified policy on innovative development that will determine socio-economic development. On the basis of innovative development policy, measures such as acceleration and stimulation of production of science and innovative products (services), wide application of high technologies and production of such technologies should find their place.

6. The implementation of the innovative policy should be accompanied by the directions of the measures to be implemented in this area. Such measures are reflected in a number of road maps, programs and other conceptual documents adopted in the country. It is necessary to implement extensive measures to gradually build the export model of the country's economy based on the innovative development model from raw materials. The introduction and improvement of stimulating support mechanisms in the tax system related to innovative development should be applied taking into account the activity area and characteristics of taxpayers.

7. In order to have a stimulating effect on the acceleration of innovative development, the correct choice of incentive objects in these areas of activity is also considered important. One of the main directions of achieving innovative development should be close

cooperation between the public and private sectors and the science and education system, as well as the determination of joint action directions in this field.

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

1. Aghayev, Y.A. Basics of innovative development of modern enterprises and economic entities. // - Baku: Azerbaijan Cooperation University, Cooperation scientific-practical journal, №3 (54) -2019. S.100-105. www.aku.edu.az

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