

REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

INNOVATIVE EMPLOYMENT FINANCING IN THE AZERBAIJAN INDUSTRY

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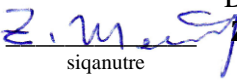
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STUDY OVERVIEW AND BACKGROUND

Relevance of the topic: The high growth of science and technology, as well as the rapid acceptance of technologies in economic activity areas, define the innovation-oriented economy. Scientific and technical achievements have become one of the key indicators that determine the level of development of the countries. In this regard, the government must consider the principles of innovative development when formulating economic policy. The current low level of innovative jobs in the Azerbaijani industry raises questions about how to develop the country's funding mechanisms. Increased innovative jobs in the industry are critical for the country's industrial growth, increasing the competitiveness of the goods produced, and reducing reliance on technology imports. Also, the current development features of the world economy, socio-economic processes and challenges make it necessary for countries to adapt to new conditions. It should be noted that at present, Azerbaijan has entered a new stage of development characterized by reforms in key sectors of the economy.

The economic policy documents having priorities and goals related to the development of industry in the country (“Azerbaijan 2020: Look into the Future” Development Concept, “Strategic Road Map for the Development of Heavy Industry and Machine Building in the Republic of Azerbaijan”, “Strategic Roadmap for the Production of Consumer Goods at the Level of Small and Medium Entrepreneurship”, “State Program on the development of industry in the Republic of Azerbaijan in 2015-2020” etc.) have been already implemented by 2020. During this time, the goal was to grow high- and medium-high-tech industries as well as create a national innovation system. After 2021, the provisions outlined in the Presidential Decree titled "Azerbaijan 2030: National Priorities for Socio-Economic Development" approved in February of that year firmly supports the relevance of this dissertation. The dissertation is also related to the development of a competitive economy, as well as the formation of non-oil industry-based economic growth and the establishment of provisions for the transition to a green economy.

Azerbaijan has also joined the United Nations Sustainable Development Goals since 2015 and established a National Coordinating Council to coordinate the implementation of the responsibilities of government agencies to implement the commitments of the “Transforming our world: the 2030 Agenda for Sustainable Development”. Our country presents updates on the execution of its commitments under the

"Transforming our World: the 2030 Agenda for Sustainable Development" in New York. The measures of rising employment in high and medium-high-tech industries are periodically tracked by countries as part of the Agenda's ninth target. In this regard, the topic maintains its relevance.

Study level of the problem. The first systematic approach to innovative employment financing has been investigated by C.M. Keynes regarding the reduction of unemployment due to innovations brought by the industrial revolution.

Azerbaijani economists who have researched various aspects of the problem in our republic are Abasova S.H., Abbasov V.H., Bagirov D.A., Badalov Sh.Sh., Aliyev T.N., Azizova G.A., Hasanli M.H., Huseynova A.D., Kashiyeva F.S., Kalbiyev Y.A., Manafov Z.N., Mammadov Z.F., Mikayilov F.G., Muradov A.N., Muradov Sh.M., Najafov Z.M., Gasimov F.H., Rzayev Z.S., Salayev R.A., Samadzade Z.A., Yuzbashieva G.Z. and others.

Furthermore, world economists have offered their opinions on various aspects of the research subject. Studies have been carried out in the works written by a) on the impact of technological development on the structure of the industry - K.Marks, J.Shumpeter, J.B.Sey, C.Steuart, D.Bell, P.Stounman, C.Helbreyt, R.Aron, R.C.Gordon, R.Solou, K.Friman, R.R.Nelson, b) on human capital financing - T.V.Shults, Q.S.Beker, L.Turou, R.Lukas, P.Romer, D.Rismen, c) innovation-driven employment - P.İ.Blus, İ.N.Novikova, M.D.Şariqin, T.V.Blinova, S.Q.Zemlyanuxina, O.L.Romanova, L.V.Sankova, E.V.Borisova, İ.N.Qrişunina, L.S.Çijova, B.A.Jankubayev, also, d) on the study of technological intensity in the industry - D.Neumark, D.Reed, N.Ahmad, A. Hoffman, T.Hatzichronoglou, C.R. Baldwin, Q.Cellatly and D.E.Heker.

The dissertation examines issues related to developing job funding processes in emerging sectors, as well as the possibilities for increasing the industry's ability to fund innovative employment opportunities.

The purpose and objectives of the study. The study aims to develop suggestions and recommendations for improving the financing mechanism of innovative employment.

The following issues have been explored to achieve these objectives:

- research of theories on employment financing;
- differentiation and disclosure of mechanisms involved in the financing of innovative employment;
- analysis and comparison of modern workplace features based on industry and international industry policies;

- analysis and evaluation of the existing state funding of jobs in the Azerbaijani economy;
- study of sources and opportunities for financing innovative employment in the country;
- analysis of macro-environmental factors that affect the financing of innovative employment;
- econometric estimation of the possibilities of the key factors affecting the level of innovation in the industry;
- forecasting the development of innovative employment in the country's industry;
- identifying problems in the financial mechanisms for creating innovative employment in the industry;
- preparation of proposals on improvement of financing mechanisms of innovative employment in the industry.

The object of the research is innovative jobs in the industry in Azerbaijan.

The subject of the research is the mechanism of financing innovative employment in the industry.

The main provisions for the defence. According to the results of the study, the main provisions to be defended are the followings:

- Determining the development proportions of innovative and non-innovative industries by improving the overall investment climate in the country to stimulate the development of the industry;
- Introduction of a guarantee mechanism and “negative” deposit rates for commercial banks to target employment and stimulate investment in the real sector as a part of the economic policy of the Central Bank;
- Stimulation of innovative industries by ensuring the regression of income tax rates;
- Supporting the activities of enterprises investing in research and development through the application of the tax credit mechanism in tax legislation;
- Coordination of cross-cutting incentive mechanisms in the economic policy of the state;
- Encouragement of large business and venture capital funding of venture activities to form the foundation of venture operation.

The main scientific innovations of the dissertation are the followings:

- the author's approach to the definition of innovative employment has been proposed;

- a model has been developed to assess factors affecting employment levels in innovative and non-innovative industries;
- in terms of job funding, promising areas have been identified, taking into account the technical strength of the country's industry;
- trends in innovative industry financing have been explored;
- patterns in state funding of new industries have been discovered using observational metrics;
- proposals on improvement of investment incentive mechanisms for financing innovative employment have been developed;

Theoretical and methodological foundations of the research are economists' theoretical views and methodological approaches to relevant research, progressive world experience, relevant legal actions and state programs implemented in Azerbaijan. Research methods such as scientific abstraction, analysis and synthesis, comparisons, economic and statistical analysis, induction and deduction, modelling (econometric analysis) have been used.

The research database for this study includes the statistical publications of the Republic of Azerbaijan's State Statistical Committee, official data from the Ministry of Economy, Ministry of Finance, and Central Bank of Azerbaijan, studies from the Economic Cooperation and Development Organization, the European Commission's Statistical Office, as well as scientific-methodical publications.

The theoretical and practical significance of the research. The theoretical significance of the research is to develop an approach to the definition of innovative employment in the industry, to develop modelling of financing trends affecting the level of employment in the industry and to develop proposals to improve financing mechanisms.

Evaluation of innovative job financing in the industry allows the identification of the country's innovative economy's growth characteristics. Many of the research's findings have practical implications for the country's business, jobs, structure, investment, and financial policy. Industry classification based on technical intensity allows for the identification of innovative and non-innovative industries. Besides, in the research phase, the established model of econometric estimation of factors affecting employment financing is an effective tool in assessing employment prospects in both innovative and non-innovative industries. In terms of investing in industry and promoting the growth of the state's fiscal policy, an innovative workforce financing strategy is strategically relevant.

The results of the research and analysis carried out in the research process can be used in developing state industrial and financial policies,

forecasting employment financing, and developing decision-making mechanisms for the development of sectoral and regional development programs. Besides, the proposed new approach and the practical results obtained can be useful for experts in the field of research and public administration.

Approbation and implementation of the study results. The dissertation's findings and key points have been presented at international scientific-practical conferences. 8 articles and 7 abstracts have been published abroad.

The dissertation has been carried out according to the approved work plan for 2016-2017 of the Institute for Scientific Research on Economic Reforms under the Ministry of Economy of the Republic of Azerbaijan. The obtained scientific-practical results have been adopted by the Ministry of Economy (İN-D/Y-2643/2018) and the Institute for Scientific Research on Economic Reforms (İİETİ-01-10/03).

The scope and structure of the dissertation. The dissertation consists of an introduction (10835 characters), three chapters (205527 characters), a conclusion (11686 characters), a bibliography and appendices. The total volume is 228048 characters.

THE CONTENT OF THE DISSERTATION

Introduction

Chapter 1. Theoretical and methodological bases of employment financing

1.1. Employment concepts and theoretical foundations of employment financing

1.2. Modern financing mechanisms for innovative employment

1.3. Approaches to the formation of innovative employment in industry

Chapter 2. Mechanisms for financing innovative employment in Azerbaijani industry

2.1. Analysis of the state of employment financing in the Azerbaijani industry

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Chapter 3. Directions for improving the financing of innovative employment in industry

3.1. Assessment of prospects for the development of innovative employment in Azerbaijani industry

3.2. Opportunities for the application of modern financing mechanisms for innovative employment in industry: venture financing

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Conclusion

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CONTENT OF DISSERTATION

1. Research of a new approach for the determination of the level of innovative employment in the industry

One of the key research issues is determination of the state's economic policy while taking into account the characteristics of innovation growth. The study of employment concepts, employment finance, and theoretical foundations of existing financing mechanisms has shown that innovative employment financing has many sources of modern financing along with traditional forms of financing. Furthermore, consistent industry and innovation policies in different countries have resulted in current technological advancements in the industry. A new approach to the definition of innovative employment in the Azerbaijani industry has been suggested, taking into account new technical approaches to the definition of innovative employment in industry, based on the aforementioned features and approaches to the general concept of innovation employment. The proposed method is focused on the number of people employed in both innovative industries and science relevant to the industry to measure human resources, who are the carriers of expertise and skills for innovative growth, as well as the general population's level of employment in innovative areas for assessment.

Innovative employment = number of people engaged in education + number of people working in high-tech industries + number of people working in medium-tech industries + number of people engaged in vocational, scientific and technical activities

Innovative employment in industry = number of high-tech industries + number of people working in medium-high-tech industries + number of research and development personnel in the natural, technical and medical sciences

The structure of the Azerbaijani industry on technological intensity is illustrated in Table 1. Assessment has been conducted on job financing in the Azerbaijani industry, employment elasticity against investment shifts, social investment performance, labour productivity differences on industrial and innovative goods, limited impact of innovation multiplier, low cost and investment in industrial technology innovation, and similar topics.

Table 1.
Structure of the Azerbaijan industry on the technological intensity

High-tech industry	Medium-high tech industry
Manufacture of computer and other electronic equipment Manufacture of basic pharmaceutical products	Chemical industry Manufacture of electrical equipment Manufacture of machinery and equipment Manufacture of motor vehicles and trailers Manufacture of other transport equipment Repair and installation of machinery and equipment
Medium-low tech industry	Low tech industry
Manufacture of refined petroleum products Manufacture of rubber and plastics products Manufacture of construction materials Metallurgy industry Manufacture of fabricated metal products	Manufacture of food products Manufacture of beverage products Manufacture of tobacco products Textile industry Manufacture of wearing apparel Manufacture of leather, leather products and footwear Manufacture of wood and woodwork Manufacture of paper and paper products Printing production Manufacture of furniture Manufacture of jewellery, musical instruments, sports goods and medical equipment

Source: It has been developed by the author by the methodology of the Organization for Economic Co-operation and Development (OECD) and the Statistical Office of the European Commission (Eurostat).

The financing of employment in innovative industries and the amount of the related industrial products are decreasing in comparison to previous periods, according to the regional distribution of industrial products by the technological intensity and similar analysis. Based on the proposed approach, it is clear that innovative employment in the industry has declined from 1.0% in 2005 to 0.7% in 2018 (Table 2).

In general, the low rate of innovative jobs in the national economy and industry is due to the sluggish growth of innovative areas in non-innovative sectors, resulting in a constant degree of research and development and low costs for industrial companies to finance innovation.

The structure of spending on technical advancement in the industry from 2003 to 2018 reveals that little was spent on research and development in the industry from 2003 to 2010.

Table 2.
Innovative employment rate and indicators in the overall economy and industry

	Intellectual labor (employment in the education field), thousand persons	Employment in high-tech manufacturing, thousand persons	Employment in medium-high-tech manufacturing, thousand persons	Employment in professional, scientific, and technical activities, thousand persons	Innovative employment in the general economy, thousand persons	The share of innovative employment in the population employed in the economy, in percent	Number of researchers in the field of science (nature, technical, medicine), thousand persons	Innovative employment in industry, thousand persons	The share of innovative employment in the industrial population, in percent	Innovative employment in the industry on the economically active population, in percent
	1	2	3	4	5=1+2+3+4	6	7	8=2+3+7	9	10
2005	345.1	2.5	31.3	43.4	422.3	10.4	8.4	42.2	14.4	1
2006	342.8	2.3	30.8	43.9	419.8	10.2	8.53	41.63	13.8	0.9
2007	348.9	2.1	31.2	44.4	426.6	10.2	8.11	41.41	13.3	0.9
2008	355.2	2.1	29.6	45	431.9	10.2	7.93	39.63	12.5	0.9
2009	361	2.3	25.1	45.6	434	10.2	7.87	35.27	11.3	0.8
2010	349.8	2.3	23.5	45.6	421.2	9.7	7.69	33.49	10.9	0.7
2011	349.9	2.3	20.6	46.7	419.5	9.6	8.11	31.01	10.1	0.7
2012	349	1.8	21.3	54.6	426.7	9.6	9.26	32.36	10.3	0.7
2013	366.2	1.9	26.3	56.3	450.7	10	9.47	37.67	11.6	0.8
2014	367.3	1.8	25.5	58.5	453.1	9.8	10.23	37.53	11.6	0.8
2015	373.5	1.6	25.9	59.6	460.6	9.9	9.72	37.22	11.6	0.8
2016	374.8	1.7	23.6	68.4	468.5	9.8	9.0	34.3	10.2	0.7
2017	377.8	1.8	27.1	73.5	480.2	10.0	8.9	37.8	11.0	0.7
2018	380.2	1.8	24.7	74.3	481	9.9	8.5	35.0	9.6	0.7

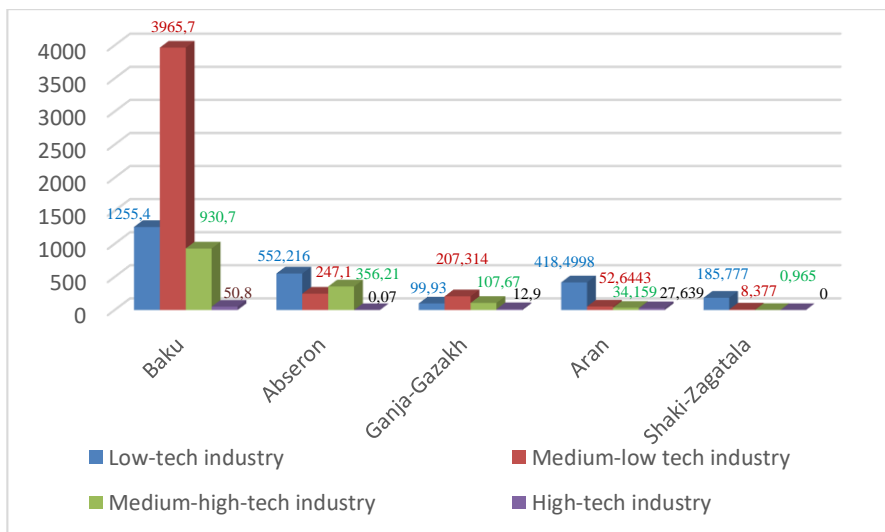
Source: It has been developed by the author based on data provided by the State Statistical Committee of Azerbaijan.

Despite the industry's growth agenda, there is a trend in the industry to reduce research and development costs.

Another important area for increasing innovative employment in the industry is the number of research and development personnel involved. In total, in 2018, 66 per cent (88 units) of the research and development organizations have been in the state, 28.5 per cent (39 units) in higher education, and 4.5 per cent (6 units) in entrepreneurship. And accordingly, 12287 people have been engaged in research and development in state-owned organizations, 7269 in higher education institutions, and 623 in business organizations.

The aggregate costs of technological innovation over the years have increased due to the costs of purchasing machinery and equipment, new products, services, processes and processes, and the acquisition of new technology.

The graph below illustrates the regional scale of industrial production in Azerbaijan in 2018. Activity is observed in the following regions as a result of the classification of areas by the degree of technical complexity at the regional level:



Pict. 1. Regional distribution of industrial products by technological intensity, million manats

Source: It has been developed by the author based on data provided by the State Statistical Committee of Azerbaijan.

High-tech intensive industries are concentrated in Baku (39.1 million manats), Aran (27.9 million manats), and Ganja-Kazakh (13.9 million manats) economic regions, while medium-high technology-intensive industries are concentrated in Baku (968.1 million manats), Absheron (297.3 million manats), and Ganja-Kazakh (87.1 million manats). In this context, we can consider the economic regions of Baku, Ganja-Gazakh, Absheron, and Aran to be involved, while other economic regions (Sheki-Zagatala, Lankaran, Guba, Yukhari Karabakh, and Daghliq-Shirvan) are less active in terms of technological intensity in the manufacturing industry.

2. Modeling of factors affecting employment levels in innovative and non-innovative industries

The low investment in job financing in innovative industries is causing a decline in innovative employment. A variety of macro-environmental factors influencing investment in the country have been examined in this regard, as well as the effect of these factors on the implementation of investment opportunities. In addition to macroeconomic financing processes, the effects of the most significant microenvironmental variables that directly or indirectly affect the number of jobs have been modelled to completely reflect the sectoral characteristics of financing innovative employment. Let us use an econometric assessment of innovation financing for jobs to assess the effect of the above variables on the number of people working in the sector, taking into account technological intensity. (Econometric estimates are processed in the E-views 7 software package).

Low-tech industry. The factor that has a significant impact on employment levels in these industries is the investment in fixed assets and the volume of products produced. An increase of funds in the low-tech industry by thousands of manat reduces the number of employed by about 0.2 units. An increase of labour productivity by 1 manat per employee leads to a decrease in the number of employed by 0.9 unit. While labour productivity increases as a result of technological advances, there is a decline in the number of employed people. The model has a positive effect on labour productivity, industrial output and fixed capital investments, suggesting that the technological factor is significant in the number of low-tech industries. That is, increasing the number of goods requires more employees, while increasing the volume of existing fixed assets hurts the number of employees involved.

$$\begin{aligned} \text{EMPLOYMENT} = & 47.8 - 0.0002 * \text{MAIN FUNDS} + 0.0176 * \text{INDUSTRIAL PRODUCTS} - 0.9241 * \\ & \text{LABOR PRODUCTIVITY} + 0.0360 * \text{FIXED CAPITAL INVESTMENTS} \\ R^2 = & 0.81 \quad DW = 0.9 \quad P = 0.0007 \end{aligned}$$

Medium-low tech industry. The model shows that in the mid-low-tech industry, the impact of industrial production and investment in fixed assets on employment is positive. However, compared to low-tech industries, the impact of investment in fixed assets is relatively weak. In these technologically intensive industries, labour productivity growth is less than that of low-tech industries, while fixed assets have more positive effects.

$$\begin{aligned} \text{EMPLOYMENT} = & 28.3 - 0.0007 * \text{MAIN FUNDS} + 0.0114 * \text{INDUSTRIAL PRODUCTS} - 0.3143 * \\ & \text{LABOR PRODUCTIVITY} + 0.0004 * \text{FIXED CAPITAL INVESTMENTS} \\ R^2 = & 0.86 \quad DW = 1.7 \quad P = 0.0001 \end{aligned}$$

Medium-high-tech industry. The effects of coefficients in the models vary according to the changes in technological intensity conditions. Thus, only productivity growth in industries with medium to high technological intensity harms the number of employed. Increased labour productivity in comparison with the above-mentioned models will lead to a decline in those employed in mid-high-tech industries. At the same time, unlike the previous two models, the growth of existing fixed assets has a positive impact. Analysis of the model reveals that the increase in investment in fixed assets is characterized by a relatively low impact on these types of industries.

$$\text{EMPLOYMENT} = 28.4 + 0.0040 * \text{MAIN FUNDS} + 0.0575 * \text{INDUSTRIAL PRODUCTS} - 1.7265 * \text{LABOR PRODUCTIVITY} + 0.0036 * \text{FIXED CAPITAL INVESTMENTS}$$

$$R^2 = 0.76 \quad DW = 0.6 \quad P = 0.0021$$

High-tech industry. In this model, investment in fixed assets harms the number of people employed in the country by the level of development of high-tech industries. The growth of existing fixed assets and industrial output positively affects the number of employed. As in other models, increased labour productivity results in a negative impact.

$$\text{EMPLOYMENT} = 2.2 + 0.0050 * \text{MAIN FUNDS} + 0.0306 * \text{INDUSTRIAL PRODUCTS} - 0.1037 * \text{LABOR PRODUCTIVITY} - 0.0863 * \text{FIXED CAPITAL INVESTMENTS}$$

$$R^2 = 0.9 \quad DW = 1.1 \quad P = 0.0075$$

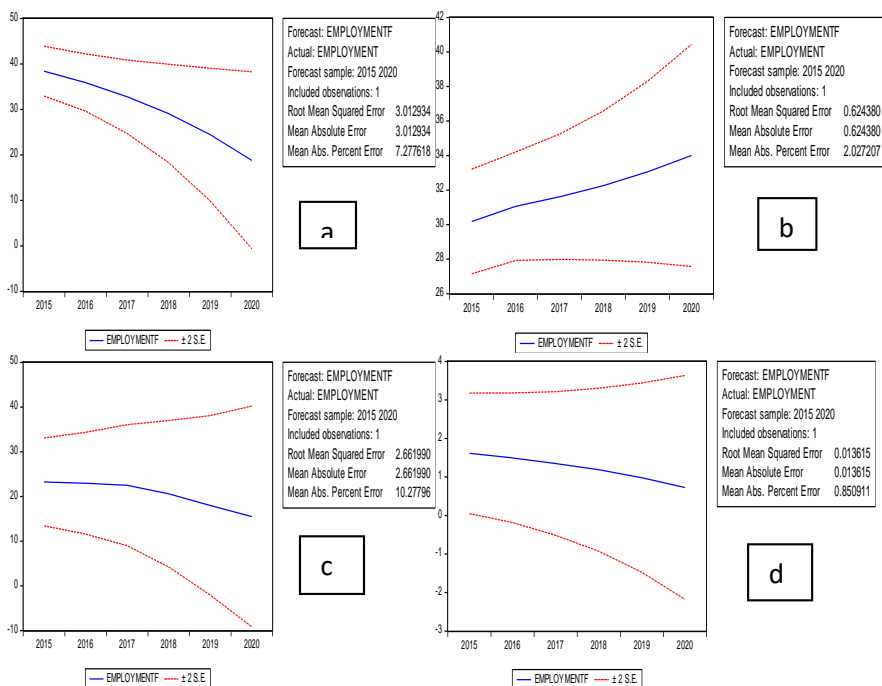
Taking into account the technical intensity, the effects of existing fixed assets, industrial goods, labour productivity, and fixed asset investments in the industrial sectors, it becomes clear that:

- An increase in labour productivity in any area leads to a decrease in employment and industrial production growth. Labour productivity in the country industry has the effect of reducing the number of medium-high tech workers.
- There is a positive impact of existing fixed assets on the high and medium-high tech industries, and a negative effect on the number of people employed in low and medium-low tech industries.
- Investments in fixed assets have a more positive impact on the number of people engaged in low tech industries (0.04 units) than others.

3. Identification of promising areas in terms of employment financing based on the characteristics of the industry's technological intensity

The economic policy of the state identifies promising areas of the industry, taking into account the traditional features of the industry, and encourages the application of a discount mechanism in this regard. However, it is important to remember that long-term technological

innovations in the structure of the industry have led to the emergence of an innovative and non-innovative industry. To this end, we predict employment flexibility based on technological intensity in the industry. Predictability models, based on the current level of development of the Azerbaijani industry, show that the number of people engaged in low, medium and high-tech industries in the country tends to decline. It is expected that there will be an increase in the number of people employed only in medium-low tech industries. Based on the projected results, we can highlight medium-low-tech industries in terms of prospects for 2018-2020 (Table 3). However, it is important to develop employment financing proposals in medium-high and high-tech industries, intending to increase innovative employment in the industry in the coming years. Oil products, rubber and plastic products, construction materials, metallurgy, and finished metal products, except machinery and equipment, are medium-low tech industries that are expected to expand in terms of jobs.



Pict. 2. Workplaces forecasted in industry

Note: a) Low-tech industry; b) Medium-Low Technology; c) High-tech industry; d) High-tech industry.

Source: It has been developed by the author based on data provided by the State Statistical Committee of Azerbaijan.

The interrelationships between the elements of the financial system, the dynamics of the overall economic relationship between them, and the difficulties associated with financing innovative jobs in the industry, as well as the promising industries, must all be considered when determining the financing patterns of innovative industrial sectors.

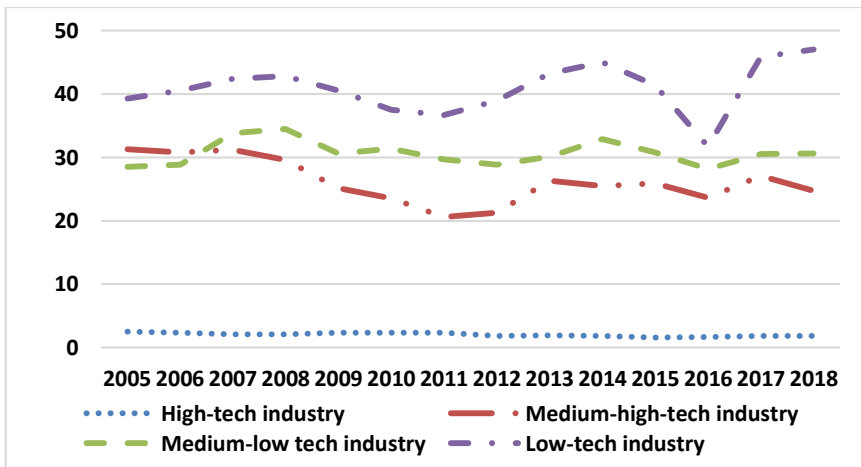
Table 3.
Projected number of workplaces, thousand units

Years	Low-tech industry	Low-medium tech industry	Medium-high-tech industry	High-tech industry
2018	29,1	32,3	20,6	1,2
2019	24,4	33,1	18,0	1
2020	18,8	34,0	15,5	0,7

Source: It has been developed by the author based on data provided by the State Statistical Committee of Azerbaijan.

It should be noted that the increase in the number of employees is expected in the medium and low-tech industries - the production of petroleum products, rubber and plastic products, construction materials, metallurgy, production of finished metal products other than machinery and equipment.

The interrelationships of the elements of the financial system, the characteristics of general economic relations between them, and the defined



Pict 3. Dynamics of the number of employees in the industry, by thousand people

Source: It has been developed by the author based on statistical data provided by the State Statistical Committee of Azerbaijan Republic.

In connection with the study of the topic, the forecast data is calculated for 2018-2020. To check the forecast data for the period since the development of the topic, we can provide the following graph based on the actual statistics.

As in the forecast, employment in medium and low-tech industries has increased. The relevant forecast submitted in 2018 was 90 per cent accurate.

4. Investigation of innovation industry financing directions and a study of observation indicators to determine the direction of public funding

Note that the financing strategy should be based on sound financial sources. In this regard, the volume of savings, which is the main source of investment in the country, has been considered. There are more investment opportunities for sources with high savings (in our case, state and non-financial institutions). This allows targeting public financing as an entity with major investment opportunities in the financing mechanism. While the volume of credit investments in the economy has increased, the use of loans in households has increased. Due to the use of the mentioned sources of financing, it is important to apply innovative financing in the country's industry through the coordination of existing fiscal and monetary mechanisms. Research has revealed that the monetary and fiscal policy mechanisms in the country are limiting the use of investment opportunities. In this regard, the Central Bank has indicated constraints on maintaining a high discount rate relative to previous years (15 per cent as of 22.06.2017, 13 per cent on 12.02.2018, and 10% on 14.06.2018) and conducting auctions to raise funds from commercial banks, as well as anti-inflationary policies. The monetary policy of the Central Bank provides for the reduction of the money supply in the economy and at the same time the profitable operation of commercial banks. Focusing on the fiscal policy mechanism reduces budget spending on fixed capital investments. Limited spending on both monetary and fiscal policies results in lower funding opportunities for resources.

Prospective sectors in terms of employment levels in the national industry in the medium-low tech industry (production of oil products, production of rubber and plastic products, building materials, metallurgical industry, production of finished metal products, except machinery and equipment), have been during the forecast period, 2018-2020. In recent years, it is important to support medium-high and high-tech industries in

terms of innovative employment growth. By considering the dynamics of financial policy (discretionary monetary and fiscal policies) as well as the prospects for industrial growth, we can determine two measures toward financing creative industries. The second phase, namely the growth of high-tech and high-tech sectors in the post-2030 era, is envisaged in the first phase, namely the priority of financing low and medium-low tech industries in 2021-2030.

Currently, many decisions are being made regarding the development of modern financing mechanisms and the legislative framework in this area. However, it is important to bear in mind that ensuring the effectiveness of modern forms of financing will not be so flexible at the current level of development. In this regard, it is important to expand the use of existing traditional financing opportunities.

Note that public financing will also stimulate private sector investment in these areas. In this regard, it is necessary to note several tactical activities when determining the direction of financing innovative industries. In this regard, there should be changes (increase/decrease) of the following indicators for small and low and medium-low tech industries at the micro and meso levels, where government funding is proposed for 2020-2025:

- Change in profit margins by industry
- Changes in capital investments
- Changes in industrial output
- Changes in labour productivity
- Changes in the number of people engaged in industries

At the same time, macro-level financing opportunities and other indicators have been proposed to be monitored to assess impacts in other areas:

- Distribution of savings by sources
- Changing the profit rate by sectors of the economy
- Inflation level
- Changes in employment by economic activities
- Increase or decrease in imports of technology
- Changes in interest rates on loans

Several steps need to be identified for the next phase of innovative industry financing, taking into account several conditions for financing mechanism and observed indicators. If production, investment in capital assets, and income in industries increased while the number of people working in these areas decreased, then taking into account imports

technology for the next level, middle-high tech, and high-tech would identify promising areas of the industry. At the same time, the increased demand for money due to investment activities of financing sources will have an impact on interest rates. This will show the importance of encouraging the private sector to fund the mechanism if the government's specific weight on the sources of savings is reduced. One of the main objectives of improving the funding mechanism is also to keep in mind that it has an impact on other sectors of the economy while supporting employment in innovative industries. This is possible by the following structural changes in employment rates and employment by economic activity in the country.

The directions mentioned above of strategic economic policy also require reconciliation of restructuring and expansionist stages of fiscal and monetary policy. Thus, as expenditure restrictions restrict investment, it is possible to mitigate the impact of "compression" of fiscal policy investments, as well as the introduction of costly monetary policy in the expansion of fiscal policy investments.

5. Development of proposals for improving investment incentive mechanisms to finance innovative employment, as well as for the formation of the basis for venture activities

Taking into account the results of the research, we can propose the following measures by the possible directions of improvement of the investment incentive mechanism for employment financing:

1. Applying a differential and phased approach to public investment in the processing industry, as well as encouraging private investment.

2. The Central Bank offers concessions to commercial banks that provide loans for investment in priority industries (taking into account the duration, amount, regional distribution, number of jobs to be created and coverage of national content, etc.) and stimulates the activity of investment banks. The concessions also include application of "negative" or "0" per cent to deposits of commercial banks;

3. Ensuring the regression of income tax rates in innovative industries.

4. Application of the investment tax credit mechanism to industrial enterprises investing in research and development.

5. Incorporating the growth of new industries into the state's economic strategy, as well as ensuring that innovation and investment policies are coordinated.

6. Encouraging major corporations and venture capital firms to participate in venture capital activities.

Taking into account the advanced world experience, our analysis shows that the importance of venture companies and their funds in the financing of innovations is growing.

The lack of a legal framework for venture capital in Azerbaijan, as well as the lack of requirements for venture companies and funds to be established makes it necessary to improve the legal framework in the first place to establish new mechanisms in this area. In this case, the legislation should include provisions on both the registration and status of the relevant organizations, as well as benefits for them. As funds act as a non-profit organization when registering funds by the existing legislation in the country, they can engage in entrepreneurial activities only if this activity serves to achieve them by the goals set during their establishment. Also, funds for entrepreneurial activity can create or participate in economic societies.

Taking into account the existing international experience, we can offer the following main directions to form the basis of venture activity in the country:

The legal and regulatory framework is defined and accepted at the first stage, defining the key contours of venture operation (innovation activity, venture company and fund, legal status and operating principles of the fund, the description of basic concepts such as venture infrastructure organizations, main venture company operations, authorized research areas), as well as coordination mechanisms;

The second step is to differentiate the functional operating frameworks of the developed legal system;

A comparative analysis of the current legislation's concessions to venture operation and risky capital investment companies will be undertaken at the third stage, if it is accepted that differentiated venture activity meets the criteria of the adopted legislation on infrastructure organizations;

The fourth stage entails determining tactical actions that are relevant to the outcomes of the comparisons made as a result of coordinated teamwork;

The fifth stage entails hastening the commercialization of current venture operation frameworks' outcomes;

The establishment of a monitoring framework for venture operation mechanisms is covered in the sixth level;

Based on the key outlines of the venture operation, the seventh stage decides the assessment of the success of the centralized management or coordinating structural unit of the current structures;

The eighth stage focuses on the preparation and participation of venture activities in the creation of a national innovation process based on assessment findings.

A number of factors contribute to the slow growth of venture capital. The opportunities for large-scale study of factors influencing venture financing are limited due to a lack of access to these factors, as well as statistical data on many of the above stages for sub-sectors of the industry, as well as a clear statistical database on venture activities.

The study of the structure of expenditures of companies and organizations in the processing industry shows that research expenditures account for 0.7 percent of total expenditures, according to statistics issued by the State Statistical Committee of the Republic of Azerbaijan for the last two years. Goods expenditures account for 6.7% of total expenditures. Since the manufacturing industry's companies and organisations are more focused on business activities than technical growth, there is a 9-fold gap in costs.

This is due to the fact that commercial sales are more practical and available. It's also because they do not spend risky money in their current operations to boost the goods they make. Another significant consideration is that the high and medium-high-tech industries lag behind the growth of the medium-low and low-tech industries, as shown by the technical strength of these businesses.

The following scientific articles and abstracts were published on the main scientific results of the thesis:

1. Alvan Suleymanova, Elnur Alakbarov. Evaluation of technological intensity of the manufacturing industry. XVIII International Scientific and Practical Conference "Building of information society: resources and technologies". Kyiv, September 19-20, 2019.
2. Alvan Suleymanova. An audit of innovation in the provision of innovative employment. Actual problems of audit regulation in modern conditions (International scientific-practical conference). April 5-6, 2016, Baku, Azerbaijan. Page 118-119.
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