
ҚАЗАҚСТАННЫҢ ИННОВАЦИЯЛЫҚ ЖӘНЕ ПОСТИНДУСТРИАЛДЫҚ САЯСАТЫН ЖҮЗЕГЕ АСЫРУ ТИІМДІЛІГІ

ЭФФЕКТИВНОСТЬ РЕАЛИЗАЦИИ ИННОВАЦИОННОЙ И ПОСТИНДУСТРИАЛЬНОЙ ПОЛИТИКИ В КАЗАХСТАНЕ

EFFECTIVENESS OF IMPLEMENTATION THE POST-INDUSTRIAL AND INNOVATION POLICY IN KAZAKHSTAN

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The features of financial support of the innovative development in Almaty region

The article considers the role of the State program of industrial and innovative development of Kazakhstan in modern conditions. The main types of the systems of financial support of innovative development are determined: the market; state and corporate; cluster; meso-corporative. The composition of expenditures on technological innovation and the level of innovation activity in the regions of Kazakhstan are analyzed. The main tasks of business and industrial-innovative development of Almaty region are determined. Recommendations related to the formation and development of innovation infrastructure in Almaty region are offered.

Key words: innovation, financial support, financial system, innovative activity, innovative infrastructure

The level of development of the country and its competitiveness on the world market depends on the innovation activity of the national economy. The current stage of development of world economy is characterized by an accelerated pace of technological progress and the growing intellectualization of the basic factors of production.

Under these conditions, the development of productive forces takes place in close cooperation of science and new technologies, creation and innovation implementation and is a major factor in the success of the state in modern conditions.

Currently, Kazakhstan has a state program of industrial-innovative development of Kazakhstan for 2015–2019 years, developed in accordance with the long-term priorities of the Strategy «Kazakhstan-2050» [1].

The program is a logical continuation of the State program for accelerated industrial-innovative development of Kazakhstan for 2010–2014 years (SPAIID) and takes into account the experience of its implementation. The program is part of the industrial policy of Kazakhstan and is focused on the development of the manufacturing industry with a concentration of efforts and resources on a limited number of sectors, regional specialization using the cluster approach, and effective regulation of the industry.

In the course of SPAIID funding covered a wide range of industries, which led to a shortage of funds in the financing of measures to support the sector and of the projects. However, lack of funding was largely due to the underdeveloped domestic financial market infrastructure, which would have formed foundations of «long» money and attract long-term investments.

In the absence of adequate financing from commercial financial institutions this niche on the Kazakhstan market was taken by the state through a system of national holdings and development institutions. Development institutions system was expanded and adjusted to meet the needs of industrial and innovative develop-

ment. Various instruments of support of industrial development have been tested: interest rate subsidies, reimbursement of expenses and the provision of grants for innovation and implementation of technology, reimbursement of expenses of subjects of industrial and innovative activities, loan guarantees, and so on.

The key barriers include high loan burden of existing manufacturing enterprises and the lack of the latest available liquid assets for debt financing:

- lack of access to financial resources for the formation of the share capital;
- lack of access to long-term loans;
- the cost of credit resources.

Currently the stock market in Kazakhstan is assessed as not fully developed institution, since it has not yet become part of one of the financial industry, serving as a source of replenishment of the share capital. In addition, the lack of development of this mechanism is largely constrains the use of the financial resources of the Single accumulative pension fund for the needs of industrialization.

In world practice the scientists determine four main types of systems of financial support of innovative development:

- market;
- state-corporate;
- cluster;
- meso-corporate [2–4].

The differences between them are determined by the peculiarities of national economies, the mode of economic development, and depend on the achieved level of scientific and technological development of the country, the development of market institutions and human capital intensity of economic growth, the scale of the economy and the type of the financial sector.

The market system of financing innovation is used in the USA, UK, Canada, Ireland, Australia and Israel. This system contributes to the pioneering and innovative development strategy is focused on non-linear process of innovation, as a system of innovative achievements with feedbacks between all its components. The market system of financing innovation allows quickly create a radical and improving innovation through the active use of the effect of the diffusion of innovation, and gives the opportunity for the national economy rapidly respond to new technological challenges. The main actors of the innovation process within the market model of financing innovation are venture capital firms, venture capital funds, business angels, and big innovative corporation.

The state-corporate system of financial support of innovative development is common for the most countries of continental Europe (France, Germany, Italy). This system ensures the implementation of strategies for sustainable (balanced) development of innovation in terms of moderate-intensity technological challenges and allows to keep the leading position in key areas of fundamental and strategic applied research, as well as to maintain the competitiveness of many sectors of the national economy. In addition, the state-corporate system of financing innovation creates the possibility of using innovative development in order to solve social and environmental problems, as well as the tasks of regional development and international integration.

Cluster system of innovation financing is presented in Nordic countries (Sweden, Finland, Denmark). This system is appropriate for the implementation of innovative strategies of local advantages and effective for a relatively small, but enough diversified economies, with a set of industries that have a high enough in comparison with the world market, the level of technological competitiveness. The main actors of the innovation process in the model are varied and independent market agents: small innovative companies, large companies, research institutes, universities, united around the respective sectoral and regional clusters.

Meso-corporate system of financing innovation is a characteristic of East Asian countries (South Korea, Singapore, Japan, China, and others.). That model is favorable for the implementation of the accelerated (simulation) strategy of innovative development. This system originated in countries with underdeveloped market institutions, which are characterized, on the one hand, the gap from the leading countries on the level of scientific and technical development of a significant number of industries, and on the other hand, the desire to ensure high economic growth and improve the welfare of the population.

The introduction of new technologies that increase productivity growth and ensuring the country's long-term economic development is associated with high uncertainty and requires significant financial investments, including from external sources. Therefore, along with other factors, the presence and intensity of technological progress is determined by the level of financial development of the country.

Implementation of innovative projects usually involves the use of significant financial resources. More developed financial systems, simplifying the process of bringing these resources are preferred. In conditions of undeveloped financial system, its subjects, having incomplete information, can not adequately assess the risk, so the amount of the premium for it is increased, which leads to an increase in the cost of external financing. In this company, representing high-tech industries typically face more severe financial constraints, compared to other market participants, as a consequence, receive more benefits from financial development, and as a result, demonstrate higher growth rates in countries with developed financial systems. In a developed financial system is more efficient allocation of capital. In particular, it increases the likelihood that the most promising innovative projects will be provided with financial resources.

Some researchers have demonstrated that the increase in the level of financial development simplifies the process of redistribution of financial resources in the direction of fast-growing sectors of the economy, many of which are innovative companies [5].

Competition among the subjects of the developed financial systems leads to an increase in their efficiency, but also reduces the cost of attracting financial resources for the organization. In addition, competition stimulates financial intermediaries to seek new customers, including among companies engaged in innovative activity, which is characterized by a high level of risk.

Another feature of developed financial system, which promotes the growth of funding for innovative projects is the availability of opportunities for redistribution of risks. Financial intermediaries with a high level of financial development reduce their risks by diversifying investments, allowing to finance the innovative projects characterized by high uncertainty.

Developed financial system helps to reduce liquidity risk, thus stimulating investors to participate in innovative projects, which are characterized, as a rule, long payback period. The availability of external financing allows companies engaged in innovative activity, use the optimal amount of own funds, while maintaining the supply of liquid resources.

In addition, a well-developed national financial system reduces the company's dependence on foreign capital. The possibility of obtaining the necessary financial resources in the national currency reduces the risks associated with currency fluctuations.

Another channel of influence of the financial system in the innovative activity of economic agents can be identified based on the analysis of moral hazard characteristic of innovation. This risk is reflected in the fact that in the absence of proper control over the results of people employed in the manufacture of innovative products, as well as the financing system, based on indicators of the effectiveness of innovation, there are conditions in order to reduce the impact of investment in innovation. The implementation of this risk occurs when scientists and entrepreneurs decreased motivation to achieve success due to lack of financing of innovative activity based on its performance, or measuring the impact of using biased indicators.

As we can see, the channels of the financial system influence on the innovation activity of enterprises are varied. In general, the optimal structure and well-functioning financial system promotes the technological innovation and, consequently, the country's economic development, providing increased competition, reducing the cost of resources and distributing them the most effectively.

In this work financial resources are considered as one of the component of innovative development, necessary for the production of new products, services, processes, technologies and systems.

Major indices characterizing the dynamics of expenditures on technological innovation in the industry of Kazakhstan for the period 2010–2014 are presented in Table 1.

Table 1

The structure of expenditures on technological innovation in the Republic of Kazakhstan

Indicators	2010 y.	2011 y.	2012 y.	2013 y.	2014 y.
Total costs, mln.	235 501.7	194 990.9	325 639.3	431 993.8	434 602.6
including:					
state ownership	7 839.6	8 091.4	9 194.5	39 420.8	25 368.8
private property	218 666.4	137 451.5	282 167.7	345 562.8	353 918.4
property of other states, their legal entities and citizens	8 995.7	49 448.0	34 276.9	47 010.2	55 315.2

Note. Compiled by authors on the basis of [6].

Table 1 shows that in 2010–2014 the total costs have increased by 1.8 times, i.e. from 235.5 billion tenge in 2010 to 434.6 billion tenge in 2014. During the period it is observed, that the cost of technological innovation carried out mainly at the expense of private property. That is, on the one hand, a positive trend, but on the other hand, domestic enterprises mostly do not have sufficient financial resources to carry out large-scale development and introduction of technological innovations in industrial production.

Despite the fact that the industrial-innovative development is defined as one of the main priorities for competitiveness and sustainable development of the national economy there are still a lot of problems hampering the innovative activity of entrepreneurs. The presence of individually implemented innovative projects does not provide the critical mass of innovations required for the formation of the national innovation system. In addition, the regional subsystems of the national innovation system are not formed yet which required the improvement of the existing innovation infrastructure in the regions.

Table 2

The level of innovation activity by region (%)

Regions	2010 y.	2011 y.	2012 y.	2013 y.	2014 y.
The Republic of Kazakhstan	4.3	5.7	7.6	8.0	8.1
<i>Kostanay region</i>	2.6	4.8	14.1	11.8	13.6
<i>Zhambyl region</i>	7.8	10.2	9.7	10.2	12.2
<i>North Kazakhstan region</i>	2.4	2.4	11.0	10.9	11.6
<i>Astana</i>	2.6	4.1	7.5	11.1	10.7
<i>Kyzylorda region</i>	6.1	8.0	12.8	12.0	10.1
<i>Almaty region</i>	0.9	4.6	8.8	9.5	9.4
<i>Karaganda region</i>	7.0	7.2	8.5	7.6	8.4
<i>Atyrau region</i>	3.7	6.6	4.8	5.1	8.1
<i>Aktobere region</i>	6.1	8.5	5.9	6.5	7.6
<i>East Kazakhstan region</i>	6.4	8.1	6.8	5.6	7.6
<i>Akmola region</i>	0.7	1.0	5.8	7.1	7.3
<i>South Kazakhstan region</i>	3.4	7.0	5.4	6.4	7.0
<i>Pavlodar region</i>	5.1	5.4	5.5	8.5	6.9
<i>West Kazakhstan region</i>	4.6	12.7	9.5	5.3	6.6
<i>Almaty city</i>	5.4	5.7	7.3	8.0	5.0
<i>Mangistau region</i>	1.1	1.1	1.6	2.4	3.4

Note. Compiled by authors on the basis of [6].

Table 2 shows that the level of innovation activity of the 7 regions of 16 (Kostanay, Zhambyl, North Kazakhstan, Astana, Kyzylorda, Almaty and Karaganda) is above average for the country.

Almaty region ranked the 6th on the level of innovative activity in the Republic of Kazakhstan. Public institution «Department of entrepreneurship and industrial-innovative development of Almaty region» plays important role in the implementation of state policy in the field of innovation. This institution is a public authority of the Republic of Kazakhstan, carrying out management in business, trade, industrial and innovative development and subsurface resources management.

The main tasks of the Department of entrepreneurship and industrial-innovative development of Almaty region are:

- Development of mechanisms for strengthening and further development of scientific and innovative potential of the region;
- Creation and support the development of innovative business environment in the region;
- Formation and development of multilevel innovation infrastructure, including in addition to traditional innovation institutions (research institutes, universities, technology parks, venture capital funds) such elements as «business angels», «endowment», etc.;
- Formation and development of the financial infrastructure elements and mechanisms of innovation, in terms of expansion of types of grants and the creation of regional venture capital funds;
- Ensuring effective interaction between the elements of the regional innovation system;
- Creation of conditions for the realization of innovative projects of regional companies to create global technology alliances with leading companies in high technology industries.

We consider the number of innovative enterprises in Almaty region in 2010–2014.

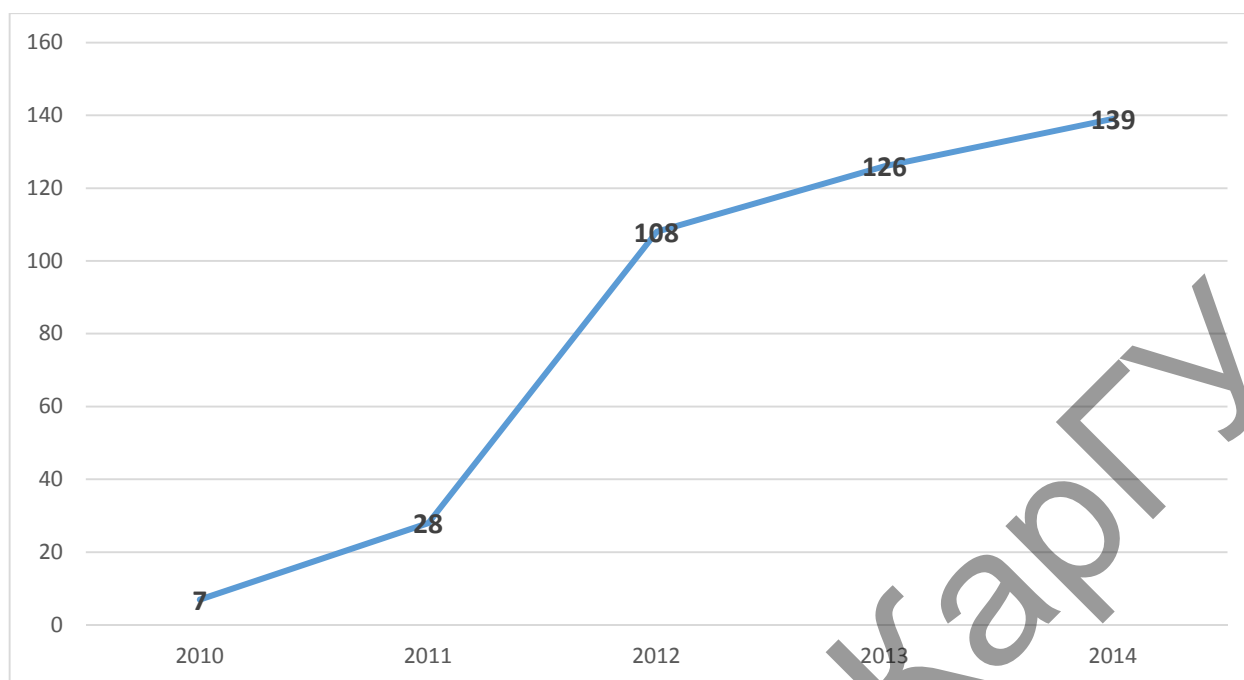


Figure. Number of innovative enterprises in Almaty region (compiled by authors on the basis of [6])

According to the data in Figure, the number of innovative enterprises is increasing annually in the Almaty region. At the end of 2014 the statistical monitoring of innovation activity of 1473 enterprises in Almaty region was carried out. It revealed that during the reporting period, 139 economic entities have the innovation, while in 2013 only 126 enterprises were innovative.

Innovation activity of enterprises by product, process, marketing and organizational innovations was 9.4 %, and product and process innovations of 6.6 %. The highest activity in the field of innovation for all types of innovation was observed among large enterprises and was 40.7 % (33 out of 81 large enterprises will report to be innovate).

The volume of innovative products and services amounted to 16608,9 mln. tenge in 2014, from which products were sold in the amount of 14948,4 mln. tenge. The volume of innovative products delivered for export is amounted to 19.0 mln. tenge.

During the analyzed period, the cost of product and process innovations was 8783.1 mln. tenge (in 2013 — 7423.6 mln. tenge). At the same time, the cost of own funds of enterprises is amounted to 6720.3 mln. tenge, which is 76.5 % of the total cost for the implementation of innovation.

Under the state program of forced industrial-innovative development for 2010–2014 of the Republic of Kazakhstan in Almaty region the industrialization map includes 53 projects totally 304.7 bln. tenge with the creation of 8256 work places. Over the five years through the Map there were implemented 48 projects worth 282.6 bln. tenge with the creation of 7177 work places. 1 project is realized as a part of the Republican Industrialization Map (Balkhash TPP) in the amount of 535.9 bln. tenge with creation of 710 work places.

At present, taking into account the actualization of the regional Industrialization Map of Almaty region it listed 18 projects (43,8 bln. tenge and 2377 work places). In 2015, 5 projects entered in the amount of 7484.8 bln. tenge, 459 new work places. In 2016, it plans to introduce six projects amounting to 30 925.9 mln. tenge, in 2017 it is planned introduction of 7 projects worth 5381.3 bln. tenge [7].

In Almaty region there are working on infrastructure development of 5 industrial zones (IZ «Arna» in Kapshagay, IZ «Boroldai» in Ili region, IZ «Taldykorgan» in Taldykorgan, IZ «Kairat» in Talgar region, IZ «Kazbek bey» on the station of Kazbek bek in Zhambyl region) and two industrial sites «Shamalgan» in Karasai district and «Dostyk» in Tekeli.

In order to address issues related to the formation and development of innovation infrastructure in Almaty region the measures are envisaged to bring it to multilevel, which should include:

- Educational innovative complexes and areas, representing the interaction network of universities, research institutes, research centers, consulting and training company focused on the training of skilled labor and the generation of new ideas and developments;

- Business process systems that include technology parks and business incubators focused on commercialization and materialization of scientific ideas and developments into the goods;
- Support systems, aiming at promoting innovation and include structures such as finance, marketing, advertising and exhibition activities, patent and licensing work and the protection of intellectual property.

A mandatory condition for the formation and development of innovation infrastructure is the presence of all the aforementioned systems and their close interaction with each other, which together form the regional innovation system. Educational innovation, technological and business support systems should be aimed at addressing the problem of infrastructure deployment of the new economy in the regions where a policy of development and attraction of qualified human resources as well as ensuring technology transfer.

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Г.К.Лухманова, Н.Б.Сыздыкбаева, К.О.Нурғалиева

Алматы облысындағы инновациялық дамуды қаржылық қамтудың ерекшеліктері

Мақалада Қазақстан Республикасының индустриалды-инновациялық мемлекеттік даму бағдарламасының қазіргі замандағы ролі қарастырылған. Инновациялық дамуды қаржылық қамту жүйесінің негізгі түрлері анықталған: нарықтық, мемлекеттік-корпоративтік, кластерлік, мезокорпоративтік. Қазақстан аймақтары бойынша технологиялық инновация шығындарының құрамы мен индустриялық-инновациялық белсенділік деңгейі талданған. Алматы облысының кәсіпкерлік пен инновациялық даму басқармасының негізгі қызметтері анықталып, инновациялық инфрақұрылымын қуру мен дамытуға байланысты ұсыныстар берілген.

Г.К.Лухманова, Н.Б.Сыздыкбаева, К.О.Нурғалиева

Особенности финансового обеспечения инновационного развития в Алматинской области

В статье рассмотрена роль Государственной программы индустриально-инновационного развития Республики Казахстан в современных условиях. Выделены основные типы систем финансового обеспечения инновационного развития: рыночная; государственно-корпоративная; кластерная; мезокорпоративная. Проанализированы состав затрат на Технологические инновации и уровень инновационной активности по регионам Казахстана. Определены основные задачи Управления предпринимательства и индустриально-инновационного развития, предложены рекомендации, связанные с формированием и развитием инновационной инфраструктуры в Алматинской области.

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