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*Адрес редакции:* 100024, г. Караганда, ул. Университетская, 28.

Тел.: (7212) 77-04-38 (внутр. 1026); факс: (7212) 35-63-98.

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E-mail: [vestnikku@gmail.com](mailto:vestnikku@gmail.com). Web-site: [economy-vestnik.ksu.kz](http://economy-vestnik.ksu.kz)

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**D.S. Bekniyazova<sup>1</sup>, L.I. Kashuk<sup>2</sup>, L.M. Davidenko<sup>3</sup>, I.P. Stecenko<sup>4</sup>**

<sup>1,2,3</sup> *Innovative University of Eurasia, Pavlodar, Kazakhstan*, <sup>4</sup> *Baltic International Academy, Riga, Latvia*

<sup>1</sup> *dana.bekniyazova@mail.ru*, <sup>2</sup> *Kashukli@mail.ru*, <sup>3</sup> *davidenkofin@rambler.ru*, <sup>4</sup> *inna.stecenko@bsa.edu.lv*

<sup>1</sup> <https://orcid.org/0000-0002-2093-3006>, <sup>2</sup> <https://orcid.org/0000-0002-8754-3184>,

<sup>3</sup> <https://orcid.org/0000-0002-7541-8677>, <sup>4</sup> <https://orcid.org/0000-0002-0277-286X>

<sup>1</sup> *Scopus Author ID: 57189305420*, <sup>2</sup> *Scopus Author ID: 57194872299*,

<sup>3</sup> *Scopus Author ID: 55895246100*, <sup>4</sup> *Scopus Author ID: 56658756700*

<sup>3</sup> *Researcher ID: T-2318-2017*

### **The effectiveness of realization of regional innovative policy: problems and ways of development**

#### **Abstract**

*Object:* assessment of the effectiveness of regional economic policy implementation in the Republic of Kazakhstan, which allows to assess the General trends and features of regional development, their advantages and disadvantages for achieving their economic stability and development.

*Methods:* During the research, rationing of indicators based on traditional linear scaling was used to obtain relative data, on the basis of which regional ratings for all estimated indicators for 2013–2017 were determine.

*Results:* The need for innovative development of the economy of Kazakhstan has actualized issues related to the efficiency of the national economy and factors affecting it, and therefore it is analyzed the dynamics of the main macroeconomic indicators in the country in recent years. The assessment of the level of development of regions on the basis of macroeconomic indicators was carried out in order to determine functional tasks, the solution of which is most important for regional development.

*Conclusions:* In general, it is emphasized that the socio-economic development of the regions has a significant impact on the quality of life and well-being of the population, as well as on the development of the economic potential of the region and its innovative and investment attractiveness, which generally affects the country's welfare.

*Keywords:* innovative activity, state regulation of the economy, innovative policy, public-private partnership, gross domestic product, purchasing power parity, gross regional product, subjects of innovative activity

#### **Introduction**

In modern conditions, one of the strategic directions of state regulation of the economy is the implementation of innovative policy in order to ensure the sustainable development of the country by mastering the production of fundamentally new types of products and technologies, expanding on this basis the markets for domestic goods.

The development and implementation of innovative policy is based on the formation of national innovative system, which is created to unite the efforts of all levels of government, scientific and technical organizations and the business sector of the economy to accelerate the use of science and technology, realization of the country's strategic national priorities (Naklonov, 2015). Due to the need to develop the economy of Kazakhstan it is actualized the tasks related to the effectiveness of the national economy and the factors that have the impact on it.

*Hypothesis:* in the context of globalization, the innovative activity of the region becomes an integral element of the innovative system of the state, and this suggests that the effective organization of the interaction of these systems is the basis for ensuring the ongoing innovative development of the regional economy and improving the quality of life of its population.

#### **Literature Review**

The economy of any country, including Kazakhstan, today cannot develop in isolation from the economies of other states, most of which have already formed, highly developed innovative infrastructure and rich experience in the formation of it. It is such innovative experience that is needed to study and multiplication; it has for the Republic of Kazakhstan the greatest interest.

Based on the experience of developed countries, it is possible to conclude that it is impossible to rely entirely on self-regulation in the market in scientific and technological development.

Due to the fact that the socio-economic perspectives in the development of any country depends increasingly on the way in which the innovative process is carried out in the country, the use of innovations in any enterprise or region acquires a social character (Bekniyazova, 2017).

At the same time, the priority of use of the centralized methods of management in the innovative sphere is proved by world experience, for example in Bavaria, according to Science and Engineering Indicators 2016.

Dynamic economic and social development in most countries is based first of all on innovative activity, the results of which accepted strategically important character (Organization for Economic Co-operation and Development OECD). High technologies in the economy suggest an effective innovative system and the formation of institutions supporting innovative activity. So, in the top ten countries with innovative economies in 2016 such countries as Finland, the USA, Sweden, South Korea, Japan, UK, Netherlands, Australia, Canada, Singapore. Then it is followed India, China (MSTI databases. Organization for Economic Co-operation and Development, 2016). In foreign countries, the production of high-tech products covered only 50–55 macro technologies (Science, technology and innovation in Europe 2016).

The mechanisms of development of activity in the innovative sphere in accordance to international experience are the following strategies:

- 1) strategy of active state intervention;
- 2) strategy of decentralized (indirect) regulation;
- 3) mixed strategy.

The strategy of active state intervention is intensified innovative activity in countries such as Japan, France, the Netherlands, etc. In these countries, innovative activity is the main factor of economic growth. Within this strategy it is carried out financial support of universities by the state, it is provided preferential for organizations that carried out developments and scientific research (Maastricht Economic and Social Research Institute on Innovation and Technology — MERIT 2016). Choosing this strategy it is needed to make appropriate changes in the legislation of the country, as well as in its external policy.

The strategy of decentralized or indirect regulation supposes use of more complex mechanism of public participation in the innovative and scientific sphere.

It is supposed in use of this strategy the preservation by the state the title role in the carrying out of innovative activity, but there is no directive tough policy in this regard, which are representative for the state strategy of active intervention in the economy. In the foreground there are high-tech enterprises and research organizations.

The value of the state comes down to formation of favorable conditions for the development of innovative activity of all NIS participants. This strategy was developed in such countries as Britain, the USA and in other countries.

Mixed strategy combined the characteristics of two above mentioned strategies. This strategy is used mostly in countries where significant share of the economy is represented by the public sector, and the policy of the country itself is aimed at maintaining a high level of export potential in the industries (Edgington, 2018).

In this case, the government in relation to the state-owned enterprises uses the strategy of active intervention, and to the remaining enterprises it uses the strategy of decentralized or indirect control. As an example of this practice could act Sweden (Gassman et al., 2016).

The specific impact of the processes of globalization and regionalization in the innovative sphere is pronounced in international scientific and technical cooperation. So, the most important trend in recent decades has been the development of scientific and technical connections between the states and their regions.

The study of scientific sources made it possible to conclude that the European Union has a great experience in the sphere of the state regulation of innovative activity, first of all, the experience of international cooperation in the innovative sphere as the largest political and economic union that aims at regional integration, and European countries are at the forefront of their own innovative development (Hurtley, 2017).

The mechanisms by which regional authorities introduce innovative technologies are specific in each country, but there are general trends. There is a focus of innovative policy on stimulating the internationalization of realizing research, developments and knowledge-intensive production.

The realization of large research projects due to their length, complexity, high cost isn't always possible within only one country. In this regard, the expansion of international cooperation and integration in the innovative sphere for many industrial countries becomes the most important strategic model for economic growth.

Innovative cooperation makes it possible to apply financial and production resources, competitive advantages of other countries, contributing to the exploitation of capital investments and increase of labor

productivity, allowing the realization of large innovative projects, which is very difficult without cooperation efforts (European private equity and venture capital association).

Confirmation of this global trend is that it is set contours of carried out innovative policy in the EU-28 countries by common European directions in R&D development (Lundwall, 2017).

At the supranational level in the last decade it is enhanced systemic approach to innovative activity's carrying out, based on international cooperation, focusing on the diffusion of knowledge and the improvement of education's quality for creation of more competitive and sustainable industry and the economy as a whole. In the strategy "Europe 2020 it is paid great attention to the unification of the EU countries' efforts for the purpose of forming and practical introduction of innovations that will give the opportunities to use new ideas in the production of new services, goods (Appelt, 2018).

In turn, in the Republic of Kazakhstan there are similar problems of reforming the innovative sphere with the Baltic States (Latvia, Lithuania, Estonia), the experience of solving of which is of great interest for Kazakhstan.

So, for example, in Latvia, the greatest problem of restraint of innovative activity is the fact that small and medium business dominating in the country and covering about 94 % of all enterprises don't have enough funds and qualified personnel to invest in innovative projects (Fageberg et al., 2018).

Used in foreign countries a wide range of mechanisms of stimulation of the development of innovative activity are united by number of such features, which include the following:

1. Mechanisms of indirect participation through the creation of tax and other preferences to innovative active enterprises, among which the most actively used deductions of costs on R&D from taxable income, as well as the formation of innovative infrastructure, etc.

2. Mechanisms of direct state participation in innovative activity: provision of government credits for innovative companies at preferential rates, provision of the state order for R&D for priority sectors of the economy, direct financing by the state of scientific research, etc.

In general, in order to advance the innovative activity in the economically developed and developing foreign countries the state has great importance for the formation of innovative infrastructure, including the creation of information system in the country, what makes it possible to increase economic development of countries.

In Kazakhstan, methods and instruments of innovative state support are actively being formed. In stimulating development of innovative activity, a big role at present stage is devoted to the state. At the same time, the following disadvantages are typical for NIS development mechanisms in Kazakhstan in comparison with developed countries.

- in the use of indirect measures in regulating the problem is a formally formed, but in fact not functioning innovative infrastructure that doesn't help complete the stage of R&D and realize the connection between industry and universities;

- insufficient measures of indirect state support for innovative firms, including inadequate for formed national innovative business measures on venture financing, tax credit, etc.;

- insignificant direct financing of performed fundamental research, especially experimental design works, as a result of which many universities have no opportunity to bring their laboratory samples and inventions to the industrial stage.

It should be noted that today in Kazakhstan for the formation of effective NIS there are great advantages, including the availability of basic infrastructure and financial, material, labor resources, political and economic stability (Bekniyazova D.S. et al., 2016).

Thus, it should be understood that at present time there are tendencies in the appearance of similar purposes and tasks in innovative policy in the considered countries, but due to the country specific features, there are differences between them.

However, taking into account the experience of foreign countries in the innovative sphere, the presence of the mechanism of active interaction among the participants in the innovative process, which stimulates the development of the national and regional innovative system of the country, taking into account the mentality and national characteristics, is of primary importance for the regions of the Republic of Kazakhstan (Kashuk et al., 2018).

Due to the need to develop the economy of Kazakhstan it is actualized the tasks related to the effectiveness of the national economy and the factors that have the impact on it.



The Republic of Kazakhstan ranks ninth place in the world in terms of territory and second place in the CIS countries, 62 place in terms of population and 42 place in terms of gross domestic product (further GDP) on PPP (purchasing power parity).

The Republic of Kazakhstan includes 14 regions, as well as the capital city — Nur-Sultan city and the city of the republican significance — Almaty city. The economy of the Republic of Kazakhstan is the largest among the countries of Central Asia (second only from the Russian Federation), since 2015 the country is the member of the Eurasian Economic Union.

It is exported by the Republic of Kazakhstan raw materials, which are produced by the mining, metallurgical, fuel and chemical industries. In the structure of exports in Kazakhstan, the major share is occupied by oil and oil products (18 %), exports of non-ferrous metals (17 %), ferrous metals (16 %), etc. In the structure of the republic's import it is mainly machinery and equipment, food products and metal products (Duisen G.M. et al, 2018).

The dynamics of the basic macroeconomic indicators in the republic for 2013–2017 years are shown in Table 1.

Table 1. Basic macroeconomic indicators of the Republic of Kazakhstan for 2013–2017 years

Indicators	2013	2014	2015	2016	2017	Growth rate in 2013–2017, %
Gross domestic product, mln. USD	236633	221418	184387	137278	162887	68.8
GDP growth rate, in percentage	6,0	-6.7	-18.9	-30.5	3.9	65.0
GDP per capita according to PPP, USD	13890.8	12806.7	10509.9	7714.8	9030.3	65.0
Inflation, in percentage	4.8	7.4	13.6	8.5	7.1	147.9
Unemployment rate, in percentage	5,2	5.0	5.1	5.0	4.9	94.2
Investments in fixed assets, mln. USD	33293.2	36784.9	31681.4	22686.2	26903.6	80.8
Export, bln. USD	85.6	80.3	45.7	36.8	48.3	56.4
The price of oil, USD	108.56	99.0	51.2	41.9	55.5	51.1
Import, bln. USD	50.8	43.6	30.2	25.2	29.3	57.7

*Note — Compiled by the authors based on Committee on Statistics of the Republic of Kazakhstan*

The economy of the Republic of Kazakhstan for 2013–2017 was characterized by a gradual reduction in 2014–2016 years in the gross domestic product growth rate of the country, the reason for which was a generally negative global macroeconomic situation.

The internal reasons for the weakening of the GDP growth rates are increased inflation (doubling in 2014–2015), the weakening of the national currency — KZT against the world's foreign currencies. This situation mitigated a quite optimistic situation in the domestic market of the republic. It is continued in the country active increase of the consumption of services and goods in the domestic market, due to the growing number of people in the country.

In recent years, in the country it is observed a rapid growth in the service sector, increase by 10.8 % in output of agricultural products due to a large grain harvest, as well as to the beginning of oil and gas condensate production at the new Kashagan gas and oilfield.

The main reason for the decline in export in 2015–2017 is world oil prices. So, in 2015, the price for Brent crude oil in the averaged was 52.35 USD per barrel, sharply declining by 46.68 USD per barrel compared to 2014.

It seems that one of the most important aspects of innovative policy is the regional component. The regional innovative policy is understood as a set of established goals and priorities for the development of research and innovative activity in the region, ways and methods of achieving them based on the interaction of regional and state authorities.

Changes in the nature of new technologies and in the global economy have led to the increase in the importance of regions as places of economic activity (A. Isaksen, 2016; A. Isaksen, 2018).

### Methods

The scientific methodology assumes the systematic approach to problem solving, providing the unity of qualitative and quantitative methods in the process of research.

The qualitative content analysis, monographic method makes it possible to carry out the research object detailed study based on extensive scientific literature review and law, the method of comparative and logical synthesis and analysis.

The socio-economic development of the regions has a significant impact on the quality of life and well-being of the population, as well as on the development of the potential of the regional economy and its innovative and investment attractiveness.

The carrying out of assessment of the level of regional development makes it possible to determine the functional tasks, the solution of which is of the greatest importance for regional development, as well as the positions according to which more active actions are needed to correct regional development (Gordeyeva Ye.A., 2018).

To assess the level of socio-economic regional development, the following macroeconomic indicators are offered:

- volume of industrial products;
- investments in fixed assets;
- real disposable income of the population;
- average monthly accrued nominal wage;
- consumer price index (further CPI);
- economically active population;
- the level of unemployment (to the economically active population).

The analysis of macroeconomic indicators of the development of regions was carried out in the dynamics for 2013–2017.

Based on the results of the analysis, based on the data of the Ministry of National Economy of the Republic of Kazakhstan Committee on Statistics, general consolidated rating of the regions of Kazakhstan has been constructed that characterizes the position of the region in the republic among other regions of the country and reflects the level of development of the region as a whole for 2013–2017, presented in Table 2.

Table 2. Rating assessment of the regions of the Republic of Kazakhstan according to the level of economic development in accordance with the analysis data for 2013–2017

Region	Volume of industrial products, mln. KZT	Investment in fixed assets, mln. KZT	Disposable income of the population, KZT	Average monthly nominal wage, KZT	Consumer price index (CPI)	Economically active population, thousand people	Unemployment rate, in percentage	Total	Region Rating
Nur-Sultan c.	12	10	1	3	16	9	7	60	3
Almaty c.	10	13	3	5	12	4	13	61	4
Akmola region	13	16	10	15	9	10	9	91	14
Aktobe region	7	14	8	12	3	10	9	69	8
Almaty region	11	13	10	15	4	3	8	69	9
Atyrau region	1	7	2	2	9	15	10	48	1
West-Kazakhstan region	5	14	7	9	7	14	9	71	10
Jambyl region	15	16	15	16	8	7	9	96	15
Karaganda region	4	14	7	10	1	5	9	53	2
Kostanay region	12	16	11	14	2	8	10	80	11
Kyzylorda region	11	15	14	12	12	13	10	86	13
Mangistau region	3	12	5	1	14	15	11	66	6
South-Kazakhstan region	10	13	16	16	10	1	12	82	12
Pavlodar region	7	12	7	11	4	11	8	66	5
North-Kazakhstan region	16	16	13	16	3	14	9	99	16
East-Kazakhstan region	7	13	8	13	10	5	9	69	7

Note — Compiled by the authors based on Committee on Statistics of the Republic of Kazakhstan

The best position is 1, the worst is 16. During the research, regional economic methods were used, in particular, the method of economic-geographical research, system analysis, balance method, methods of localization and systematization.

The indicator gross regional product (further GRP) per capita was defined as the main indicator, for which further the share of influence of each of the presented macroeconomic indicators on the socio-economic level of regional development was calculated.

The choice of GRP per capita as a base indicator is explained by the fact that this indicator most accurately reflects the level of regional socio-economic development. In order to determine the proximity of the relationship between each presented indicators and the GRP per capita indicator, the correlation analysis was carried out.

Based on obtained correlation coefficients, the share or weight of the influence of each indicator on the Gross regional product (GRP) per capita was calculated for the regions of the republic.

Further, using the rationing of indicators based on the traditional linear scaling to obtain relative data, the ratings of the regions for all assessing indicators in 2013–2017 were determined with the use the following formula (1) and the simple average arithmetic for the studying years was used, according to which the place in the rating is determined (from 1 to 16).

$$I_j^i = \frac{R_j^i - \min(R_j^i)}{\max(R_j^i) - \min(R_j^i)} \quad (1)$$

where,

$i$  — the number of indicator,  $i = 1., 2., \dots, n$

$j$  — the number of the region,  $j = 1., 2., \dots, n$

$I_j^i$  — rating assessment of the  $j^{\text{th}}$  region according to the  $i^{\text{th}}$  indicator;

$R_j^i$  — value of the  $i^{\text{th}}$  indicator for the  $j^{\text{th}}$  region;

$\max(R_j^i)$  — maximum value of  $i^{\text{th}}$  indicator;

$\min(R_j^i)$  — minimum value of  $i^{\text{th}}$  indicator.

According to the obtained values of rating assessments and determining the place in the rating of each region of the republic, it is possible to trace changes or tendencies in the development of this or that sphere in the regions of the Republic of Kazakhstan.

The calculation of the final integral rating of the socio-economic development of the  $j^{\text{th}}$  region of the Republic of Kazakhstan and, accordingly, the determination of its place in the rating, was carried out on the basis of the obtained data of rating assessment of the  $j^{\text{th}}$  region for each macroeconomic indicator in accordance with the calculated weights (shares) of influence of  $i^{\text{th}}$  indicator on gross regional product per capita by the following formula (2):

$$I_j = \frac{\sum k_j^i \cdot N_j}{n} \quad (2)$$

where,

$I_j$  — the final integral rating of socio-economic development of the  $j^{\text{th}}$  region of the Republic of Kazakhstan;

$k_j$  — weight (share) of the influence of the  $i^{\text{th}}$  indicator of the  $j^{\text{th}}$  region on the gross regional product per capita;

$N_j$  — the value of the rating assessment of the  $j^{\text{th}}$  region for each macroeconomic indicator;

$n$  — number of assessed indicators.

The best indicators of economic development have such regions of the Republic of Kazakhstan according to the rating assessment of the regions of the republic, as Atyrau, Karaganda regions and Nur-Sultan city for 2013–2017.

This situation is explained by the growth of industrial production, real money incomes of the population in these regions, the active policy of the region in saving and attracting the economically active population to the region.

The worst indicators are in such regions as North-Kazakhstan, Zhambyl regions, which indicates insufficiently formed conditions for socio-economic regional development. It should be emphasized that the main goal of the regional innovative policy should be the creation of favorable conditions for:

- the implementation of innovative activity;
- ensuring the growth of competitiveness of local products;
- the effective use of scientific and technological reserves and the solution of socio-economic development.

The legislative base, target programs, concepts are the basic methods of realization of innovative policy in the regions of Kazakhstan.

The main importance of innovative regional programs is to stimulate regional integration between various research and development (R&D) subjects, coordinate regional innovative policy, develop a common strategy, and spread the best experience in innovation creation. Regional innovative cooperation is of particular importance (Draft report of the Group of Specialists on Public-Private Partnerships about the work of the seventh UN session).

As experience shows, to the greatest extent, solving the tasks of developing an innovative economy, building up competitive products, implementing advanced technologies, and creating stable sources of budget incomes in modern conditions contributes to determining the main directions of state support for innovative activity.

The following directions of state innovative policy can be distinguished: legal regulation, direct and indirect funding, organizational support, as well as government incentives for innovation activity and innovative processes in the Republic of Kazakhstan and its regions.

In modern society, it is innovations that ensure the successful development of the economy, increase in the level and quality of life of the population. However, in our country the mechanism of effective innovative processes hasn't yet been formed (Dnishev et al., 2017).

Therefore, government regulation is the most important methods of ensuring the dynamic flow of innovative processes.

It is extremely important to set priorities for innovative development, develop innovative programs and create a regulatory framework for innovative activity. Within these directions, the state works out a series of activities aimed at increasing the contribution of science to the development of the country's economy, ensuring progressive transformations in the sphere of material production, and increasing the competitiveness of national products (Alina G.B., 2018). On the basis of the regulatory documents adopted by the state authorities of the Republic of Kazakhstan, it is possible to systematize the measures of state support for innovative activity that correspond to the listed directions (Figure 1).

Government financial support, which is usually provided by the national budget and local budgets in the form of loans, subsidies, subventions has particular importance in the conduct of scientific research, the introduction of scientific achievements in production, the creation of knowledge-intensive industries. Moreover, government funding can be divided into direct — the allocation of funds directly from the budget or distribution through special extra-budgetary funds, as well as indirect effects through the provision of tax incentives, privileges to subjects of innovative activity in accordance with the laws of the Republic of Kazakhstan.

According to the analysis, significant sources of financing science in Kazakhstan are budget funds (52.2 % in 2017) and own funds of enterprises (40.9 % in 2017). At the same time, the share of enterprises' own funds in the total amount of funding increases from 2014 to 2017. Thus, in 2017, the share of enterprises' own funds in the total amount of financing amounted to 40.9 % (in 2013 — 28.9 %) and amounted to 28187.6 mln. tenge.

Budget funds, in turn, decrease from 2013 to 2017 by 11.4 % (in 2013 — 63.6 %). In total, two sources — budget financing and own funds of enterprises in 2017 financed 93.1 % of all costs for technological innovations (in 2013 — about 92.6 %). At the expense of foreign sources accounted for only about 1 % for 2013–2017 [2].

Effective promotion of innovations can only be achieved through close cooperation of scientific, educational institutions and enterprises.

However, only by funding research activity from the budget cannot be achieved goal of focusing research on current problems of production, therefore, on the needs of the market.

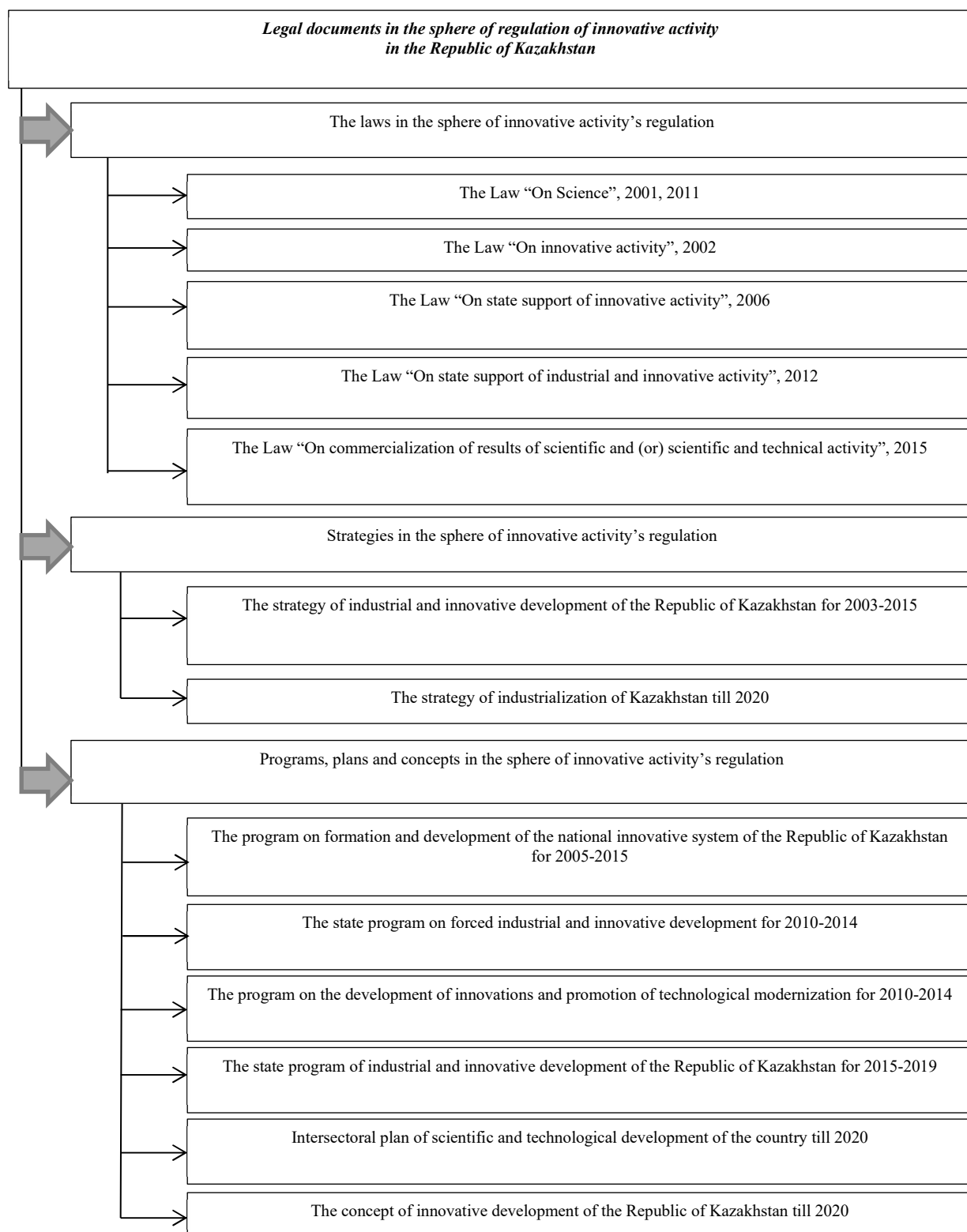


Figure 1. The total list of legal documents adopted in the Republic of Kazakhstan for regulation of innovative activity in the country

*Note. Compiled by the authors based on the sources of Law of the Republic of Kazakhstan "On the state support of industrial and innovative activity"; Law of the Republic of Kazakhstan "On commercialization of results of scientific and (or) scientific and technical activity"; Law of the Republic of Kazakhstan "On science"; State program of industrial and innovative development of the Republic of Kazakhstan for 2015–2019*

Preferential public funding raises a number of problems on the way of innovative development of the country, the key of which is the low interest of research organizations in the commercialization of development.

Therefore, business interest in research funding is required. Here, an important role is played the use of special measures of state incentives: government guarantees, government orders, and the dissemination of the idea of innovative development in order to improve the social status of scientific and innovative activity.

Despite the fact that the state budget expenditures on fundamental research and scientific-technical progress assistance (funds allocated to scientific organizations for fundamental research and the development of promising technologies and scientific-technological progress' directions) are growing every year, in reality these expenses still make up a small share in total GDP (Table 3).

Table 3. Analysis of the efficiency of the implementation of innovative activity in 2013–2017 in Kazakhstan

Indicators	2013	2014	2015	2016	2017
The volume of production of innovative products, mln. KZT	578263.1	580386.0	377196.7	445775.7	844734.9
Number of innovative-active enterprises in the country	1774	1940	2585	2879	2974
Number of staff engaged in R&D, people	23712	25793	24735	22985	22081
Expenses on the implementation of technological innovations, mln. KZT	61672.7	66347.6	69302.9	66600.1	68884.2
The volume of product per one innovation-active enterprise, mln. KZT	326.0	299.2	145.9	154.8	284.0
Volume of innovative products per one employed, mln. KZT	24.4	22.5	15.2	19.4	38.3
Efficiency of expenses on technological innovations	9.4	8.7	5.4	6.7	12.3

*Note — Compiled by the authors based on Committee on Statistics of the Republic of Kazakhstan*

Considering the internal expenses of technological innovations, it can be noted a tendency for their annual gradual increase (exception — 2016). In 2017, the volume of expenses amounted to 68884.2 million tenge, which is 11.7 % higher than the 2013 level.

The increase in expenses in the specified period is associated with the intensification of industrialization processes in the republic, the modernization of enterprises, the adoption of a number of programs in the field of industrial and innovative development, within which much attention is paid to supporting the development of domestic innovations.

For the analysis of labor productivity, the author calculated additionally the volume of production per one innovative-active enterprise and the volume of innovation production per employee.

Based on the data in the table, in 2013 the volume of production per one innovative active enterprise reached its maximum value — 326.0 million tenge. In 2017, this indicator decreased by 42.0 million tenge, amounting to 284.0 million tenge in the current period.

The volume of innovative products per employee was gradually increased, which indicates an increase in labor productivity.

In the context of the regions, the leaders in the production of innovative products are the Pavlodar region, Nur-Sultan c., Shymkent c., Kostanay and East Kazakhstan regions. It should be noted that, starting from 2014, there has been a sharp increase (twice) in the volume of production of innovative products in Pavlodar region.

The analysis of the structure of expenditures on science and technology shows a relatively high level of expenditures on applied sciences (59.4 % of the total expenditures in 2017), with a much lower level of financing for the final stage of development (design activity — 24.9 %).

In developed countries, these figures are at the level of 25–30 %, while about 55–60 % of all financial resources are directed to the last stage of development and commercialization (Organization for Economic Co-operation and Development OECD 2015).

In modern international and Kazakhstan practice there is a whole arsenal of measures of state incentives for innovative development.

However, not all of them are used and not all work effectively in the regions. As a rule, local budgets aren't able to finance R&D, large innovative projects, enterprises don't have sufficient funds to re-equip production.

Not all regions of Kazakhstan have sufficient scientific potential. This confirms the fact that government support of regional innovative activity is an important aspect of the relationship between state and regional science, technology and innovative policy.

### **Conclusion**

In Kazakhstan, which has a large-scale scientific and technical complex, the task of transition of the economy to an innovative way of development cannot be solved only by increasing the state budget spending on R&D, supporting innovative entrepreneurship, etc.

Real economic opportunities allow state authorities to solve only part of the problems in the field of science and technology associated with the preservation and effective use of the scientific and technical potential of the regions.

The regions have no smaller share of responsibility for solving these problems [8]. Despite the powers granted by the legislation of the Republic of Kazakhstan, the role of the regions in stimulating and supporting scientific activity is clearly insufficient. With the exception of a few positive examples, the share of expenditures of regional budgets allocated for the development of science and technology rarely exceeds tenths of a percent.

Therefore, without a powerful external infusion of financial resources or a change in tax policy with respect to underdeveloped regions, they will remain as recipients for many decades. Having the right to legislative activity, state authorities don't fully use this right in relation to science and technology. Not in all regions of the republic there is an established regulation of innovative activity, which should determine the direction of development of the region, coordinate actions, consolidate the relationship of subjects of innovative activity.

This is due to a clear underestimation of the role and place of science, technology and innovation in ensuring the sustainable development of the regions of Kazakhstan. Other factors hindering modern economic development through the use of:

- scientific advances are the untargeted;
- inefficient use of funds;
- the inertia of managers;
- their lack of interest in improving results.

Therefore, it seems that, along with government funding and management, it is also necessary to introduce modern management methods, financing methods used in the private business sector.

Thus, in the process of production and sale of knowledge in the form of new technologies, equipment, it is necessary to attract business representatives, because in accordance with modern trends of economic development, the development of institutions of interaction between the state, science and business in Kazakhstan and its regions is an important condition for increasing investment and innovative activity [9]. The key point of such a partnership is the coordination of the goals and needs of each of the parties.

After all, partnership is possible only when all partners are interested, and due to the interaction, they can most effectively solve the problem of reorienting the regional economy towards an innovative development way (Figure 2).

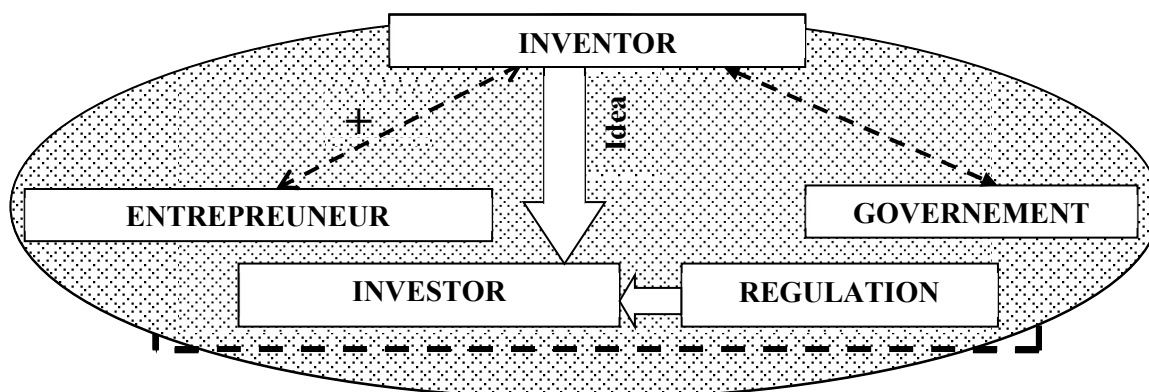


Figure 2. Model of the institutions of interaction of the state, science and business

*Note – developed by the authors based on research*

At the same time, each of the parties of public-private partnership contributes to the overall innovative project. In this context:

- the task of science is to offer new ideas and developments;
- the mission of the government is to create conditions for all participants, to train relevant personnel, to provide the necessary database on the developed technologies, as well as their availability for commercial enterprises, to provide tax and other benefits, guarantees;
- the role of business — project financing, materialization of scientific ideas, effective management.

The mechanism of such public-private partnership can be used to solve state problems in the field of innovative development at the level of the Republic of Kazakhstan and its regions.

In conclusion, it should be noted that closer interaction between the industrial sector of the economy, financial institutions, universities, research organizations, and state authorities will contribute to the achievement of the goals of the innovative policy, first of all, creating a favorable environment for innovations. This policy should be aimed at increasing the contribution of the research and innovation sphere to the scientific and technical progress of the country, to improving the socio-economic indicators of the regions through the effective use of their innovative potential.

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**Д.С. Бекниязова, Л.И. Кашук, Л.М. Давиденко, И.П. Стеценко**

**Аймақтық инновациялық саясатты жүзеге асырудың тиімділігі:  
мәселелері мен даму жолдары**

**Аңдатпа**

*Мақсаты:* аймақты дамытудың жалпы үрдістері мен ерекшеліктерін, экономикалық тұрақтылығы мен дамуына қол жеткізу үшін олардың артықшылықтары мен кемшіліктерін бағалауға мүмкіндік беретін Қазақстан Республикасындағы өңірлік экономикалық саясатты іске асырудың тиімділігін бағалау.

*Әдісі:* зерттеу жүргізу кезінде салыстырмалы мәліметтерді алу үшін дәстүрлі сызықтық масштабтауға негізделген көрсеткіштерді стандарттау қолданылған, олардың негізінде 2013–2017 жылдардағы барлық бағаланған индикаторлар бойынша аймақтардың рейтингтері анықталған.

*Қорытынды:* Қазақстанның экономикасын инновациялық дамыту қажеттілігі ұлттық экономиканың тиімділігі мен оған әсер ететін факторларға байланысты мәселелері өзекті, осыған сәйкес авторлар соңғы

жылдардағы елдегі негізгі макроэкономикалық көрсеткіштердің динамикасын талдаған. Шешімі аймақтық даму үшін маңызды болып табылатын функционалдық міндеттерді анықтау үшін макроэкономикалық көрсеткіштер негізінде аймақтардың даму деңгейіне баға берілген.

*Тұжырымдама:* жалпы, мақалада аймақтардың әлеуметтік-экономикалық дамуы халықтың өмір сүру сапасы мен әл-ауқатының өсуіне, сондай-ақ аймақ экономикасының әлеуеті мен оның инновациялық және инвестициялық тартымдылығының дамуына, жалпы елдің әл-ауқатына әсер ететіні баса айтылған.

*Кілт сөздер:* инновациялық қызмет, экономиканы мемлекеттік реттеу, инновациялық саясат, мемлекеттік-жеке меншік әріптестік, жалпы ішкі өнім, сатып алу қабілетінің паритеті, жалпы аймақтық өнім, инновациялық қызмет субъектілері.

**Д.С. Бекниязова, Л.И. Кашук, Л.М. Давиденко, И.П. Стеценко**

### **Эффективность реализации региональной инновационной политики: проблемы и пути развития**

#### **Аннотация**

*Цель:* оценка эффективности реализации региональной экономической политики в Республике Казахстан, позволяющая оценить общие тенденции и особенности развития регионов, их преимущества и недостатки для достижения их экономической стабильности и развития.

*Методы:* при проведении исследования было применено нормирование показателей на базе традиционного линейного масштабирования для получения относительных данных, на базе которого определены рейтинги регионов по всем оцениваемым показателям за 2013–2017 годы.

*Результаты:* необходимость инновационного развития экономики Казахстана актуализировала вопросы, связанные с эффективностью национальной экономики и факторов, оказывающих воздействие на нее, в связи с чем авторами проведен анализ динамики основных макроэкономических показателей в республике за последние годы. Проведена оценка уровня развития регионов на базе макроэкономических показателей с целью определения функциональных задач, решение которых имеет наиболее важное значение для регионального развития.

*Выводы:* в целом, в статье подчеркивается, что социально-экономическое развитие регионов оказывает значительное воздействие на качество жизни и благосостояние населения, а также на развитие потенциала экономики региона и его инновационную и инвестиционную привлекательность, что, в целом, отражается на благосостоянии страны.

*Ключевые слова:* инновационная деятельность, государственное регулирование экономики, инновационная политика, государственно-частное партнерство, валовый внутренний продукт, паритет покупательной способности, валовый региональный продукт, субъекты инновационной деятельности.

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