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IMPROVEMENT OF THE STATE REGULATION OF INNOVATIVE DEVELOPMENT OF THE REGIONAL ECONOMY

Abstract: This article covers issues of improving the state regulation of innovative development of the regional economy. The relevance of the article is due to the need to deepen the analysis of existing foreign and domestic experience of regional innovation development, as well as to identify the role of the state in ensuring the region’s innovative success.

Key words: national economy, innovation processes, resources, government regulation, development.

Language: English

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Introduction
The relevance of the research topic. Strengthening the role of innovation in socio-economic reforms is an important component of the strategy for Uzbekistan and its regions. Innovation attracts investors and consumers, increases productivity, enhances enterprise profits, and serves as the basis for creating competitive advantages for the region and the country at large. Therefore, focusing on an innovative course of economic development in the region will create conditions for a qualitatively new stage of sustainable growth.

However, not all regions of the country have sufficient resources to carry out advanced structural transformations, which necessitates government regulation as the most important tool for improving the efficiency of innovation processes. In a number of regions, changes may be made initially, not in high-tech industries, but in other areas that may be a priority for the region. In this regard, not only their own existence, but also access to attracted resources can be the basis for the innovative development of the region’s economy.

The need for practical solutions to the problems related to improving the effectiveness of innovation process management in the regions, as well as their insufficient development, has determined the choice of the topic of the article research.

Literature review
The extent of the problem study. It is devoted to the study of the role of innovation in economic development. N. Kondratyeva, E. Mansfield, T. Mindeli, B. Santo, I. Schumpeter, K. Freeman and others Common problems of innovation activity and innovation processes Scientists of the CIS A. Dynkin, E. Lure, A. Mukhamedyarov, L. Goxberg, B. Pereodov, V. Rube, A. Folmeva, and others.

In the works of B. Kuzyk, V. Kushlin, G. Mensha, A. Toffer, and Yuakovets, the relationship between the emergence of innovation and the periodical development of the economy was studied. The study of the mechanism of impact of innovation on economic development is dedicated to the work of J. Dane, P. Drucker, J. Drucker. Clarka, A. Klaknecht, K. Freeman, and others.

Regional Innovative Development Issues Economists A. in the work carried out by Borda, X. A., X. Evseenko Siebert Gersema, V. Granberg, K. Pletnev, H. X. Richardson, George Clebaner. Friedman, T. Hermansen and others.

Problems of regional development are covered by Iskandarova, Sadykova, T.Akhmedova, Sh.Nazarova, F.Egamberdieva and others. Innovative problems of development of national economy were considered in scientific works: Kadyrova, M Mahkamova, N. Mahmudova, B. Salimova, I.
Tuhtlieva, M. Tursunhodjaeva, G. Fedyasheva, O. Parpievai et al. Despite numerous scientific studies on the problems of the regional economy, the study of the regulation of innovation activity at the regional level is insufficiently developed. This is the conditional methodological and practical significance of the work.

**Analysis and results**

Based on the study of the global economic crisis of 1929–1933, the English economist J. M. Keynes proved that a market economy cannot self-regulate under these conditions [8], therefore state regulation should complement the mechanism of automatic regulation of the economy. The cyclical nature of economic development and the crisis in the global economy of recent years have once again actualized the need to develop mechanisms for state regulation of market processes in both the global and national economies, as well as in the most significant and large sectors. Particularly regulated by the state are strategically important industries, the key of which is engineering. The experience of many developed and developing countries shows that in the context of globalization, only a scientifically based combination and complementarity of market and mainly regulatory influences from the state can ensure high and sustainable socio-economic efficiency and competitiveness of modern production [6]. When defining such a concept as “state regulation”, a problem arises related to the many points of view of various scientists on its essence. In a broad sense, state regulation of the economy means a system or a set of interconnected methods and economic levers affecting all areas of the country’s socio-economic life, including production, distribution, exchange and consumption of manufactured products [9]. Some scientists define state regulation as a mechanism for implementing economic policy, which has its own theory, methodology and practice of implementation [7]. According to others, this is the targeted influence of the state with the help of various economic regulators on the development of the national economy [11]. In determining the concept of “state regulation of innovative processes” we will adhere to the opinion of D. I. Kokurin. By “state regulation of innovation processes in the economy” he understood the deliberate impact of state authorities on the interests of economic institutions of the innovation system, carried out purposefully and as their effectiveness, anticipating the actions of these institutions on actions by state bodies [5]. The subjects of state regulation of innovation processes are state (federal, regional) and municipal authorities. The object is the relationship that arises between the participants of the innovation process and the subjects of regulation. The state influences the flow of innovation processes in a country, region or industry in order to accelerate them and increase the demand for innovation from the industrial sector. To achieve this goal, public authorities use various methods of regulatory impact, which can be divided into direct and indirect.

Direct exposure methods are based on the strength of state authorities and are not associated with additional financial incentive or risk of damage. With regard to the development of innovative processes, direct methods can be divided into administrative and program-targeted. Administrative methods are based on the provision of direct subsidized financing, carried out in the framework of adopted laws and regulations aimed at stimulating innovative processes. Program-targeted methods involve the development and approval of various strategies and targeted programs that implement the development of innovative processes, as well as their financing. Examples of direct methods of state regulation can serve as the definition of strategic goals of economic development, their expression in indicative and other plans, target programs; government orders and contracts for the supply of certain types of products, work, services; legal rules in the field of depreciation; regulatory requirements for quality and certification of products and technologies; public investment budget procedures; legal and administrative restrictions, prohibitions on the release of certain types of products, etc. Direct methods are highly effective due to the rapid achievement of an economic result. However, they have a serious drawback - the creation of real obstacles to the market process [6]. The methods of indirect state regulation are based on the principle that the state does not directly affect the economic decisions made by the entities, but uses tax and monetary mechanisms, builds certain “rules of the game”, thereby creating the prerequisites for making independent economic choices decisions, the subjects gravitated to those options that meet the objectives of state economic policy [6].

As indirect methods, you can use tax incentives and government initiatives to create and develop territorial production systems, such as special economic zones (SEZs). This mechanism of stimulating innovation processes is widely used in Japan, China, Singapore, and India. In world practice, there are about 25 varieties of the SEZ.

State regulation of innovation includes various aspects. It can be expressed: in a special program aimed at encouraging innovation and the provision of grants; may include the organization of high-tech clusters and the creation of special economic zones to attract innovative firms; finally, it may consist in the variability of tax policy in relation to innovators, etc. Note that the state policy to create favorable conditions for the innovative development of the country is the basis of the concept of “Strategy 2020”, the strategy of socio-economic development of the country until 2020, and therefore should receive high priority [2]. However, it must be recognized that the actions currently underway are clearly not sufficient to achieve the goals. Sometimes they are

| Impact Factor: | ISRA (India) = 4.971 | SIS (USA) = 0.912 | ICV (Poland) = 6.630 |
|----------------|----------------------|------------------|---------------------|
| SI (Dubai, UAE) = 0.829 | PHHI (Russia) = 0.126 | PIF (India) = 1.940 |
| GIF (Australia) = 0.564 | ESJI (KZ) = 8.716 | IBI (India) = 4.260 |
| JIF = 1.500 | SJIF (Morocco) = 5.667 | OAJI (USA) = 0.350 |
Impact Factor:

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| OAJI (USA)      | 0.350         |

unproductive, they are opportunistic and declarative in nature, and most importantly, they are often unsystematic, inconsistent, vague and ultimately ineffective.

It should be recognized that foreign experience in state regulation of innovations is much wider. The study of this experience and the search for the possibilities of its application in Russian practice becomes important. The latest issue of the Global Innovation Index – 2012 collection, published annually under the auspices of the International Intellectual Property Organization (WIPO), which includes various ratings of countries with the best innovative development [3], was taken for research.

Direct exposure methods are based on the strength of state authorities and are not associated with additional financial incentive or risk of damage. With regard to the development of innovative processes, direct methods can be divided into administrative and program-targeted. Administrative methods are based on the provision of direct subsidized financing, carried out in the framework of adopted laws and regulations aimed at stimulating innovative processes. Program-targeted methods involve the development and approval of various strategies and targeted programs that implement the development of innovative processes, as well as their financing. Examples of direct methods of state regulation can serve as the definition of strategic goals of economic development, their expression in indicative and other plans, target programs; government orders and contracts for the supply of certain types of products, work, services; legal rules in the field of depreciation; regulatory requirements for quality and certification of products and technologies; public investment budget procedures; legal and administrative restrictions, prohibitions on the release of certain types of products, etc. Direct methods are highly effective due to the rapid achievement of an economic result. However, they have a serious drawback - the creation of real obstacles to the market process [6]. The methods of indirect state regulation are based on the principle that the state does not directly affect the economic decisions made by the entities, but uses tax and monetary mechanisms, builds certain "rules of the game", thereby creating the prerequisites for making independent economic choices decisions, the subjects gravitated to those options that meet the objectives of state economic policy [6].

The list of examples from the leaders in the ranking of countries with the best innovative development includes countries comparable in their structure and indicative of Russia. These are her regular partners in the G8 - the USA, Great Britain and Germany [4].

The USA is the largest partner of Russia and at the same time a constant competitor and the opposite pole of the bipolar world of the twentieth century. This causes particular interest in mechanisms that ensure the country's security, including economic ones, which, of course, include innovative regulation. In the United States, two global programs are being implemented: SBIR (Innovative Small Business Research) and STTR (Small Business Technology Transfer), which are fundamental to supporting innovation in the country [5]. The SBIR program was created in 1982 with the goal of enhancing the role of small innovative entrepreneurship in research and development funded by the state. SBIR is a competitive program that encourages domestic small businesses to participate in research and development that has the potential for commercialization. Grants received under the SBIR program give small enterprises an incentive to profit from the commercialization of development. Thanks to the development of high-tech small businesses, innovations in the country are stimulated and the specific needs of the country are fulfilled. Thus, the mission of the SBIR program is to support scientific knowledge and technological innovation by investing in the federal budget in order to comply with the most important American priorities for creating a strong national economy. By 2009, 112,500 grants were awarded for a total of more than $ 26.9 billion. To date, the program has been extended to 2017, constantly updated [6]. The distribution of the number of grants (for both programs) by years is presented in Fig. 1.

The SBIR program consists of three stages: the goal of the first stage is to create technical advantages, technical, economic and commercial capabilities of the proposed innovations (grants do not exceed $150,000 for 6 months); the purpose of the second stage is to continue work on the results of the first stage and
to develop the commercial potential of the project (grants do not exceed $ 1,000,000 for 2 years); the purpose of the third phase, if necessary, is to commercialize the innovations made in the first two stages. The following criteria fall into the criteria for program participants: small business representatives should be American firms with no more than 500 employees and commercial goals.

Every year, federal agencies with a research and development budget in excess of $ 100 million should allocate 2.5% to SBIR. Each department manages its individual program, assigns research topics and accepts applications from small businesses. Prizes are awarded on a competitive basis after the evaluation of proposals. Currently, eleven federal agencies are participating in the program, including the Ministry of Defense, the Ministry of Energy, the Department of Education, and the Department of Homeland Security. For departments this is a really serious program and a real resource for attracting innovations for the needs of upholding national interests [7]. The distribution of the degree of success of the first stage applications for grants for 2010 by federal agencies is shown in Fig. 2

![Fig. 2. Distribution of the degree of success of the first stage applications for grants for 2010 by federal agencies](image)

STTR, launched in 1992, is another program that expands federal funding opportunities for innovation. Central to the program is the ability to create joint ventures based on small businesses and nonprofit research institutes. A unique feature of the STTR program is the requirement for small businesses to formally collaborate with a research institution in phases I and II. The objectives of the program are to stimulate technological innovation and the ability to transfer innovative technologies between small enterprises and scientific institutions. The most important role of STTR is to bridge the gap between the achievements of basic science and the results of the commercialization of innovations.[6]

The program also has 3 stages: for the first stage $ 100,000 is allocated for 1 year, the total fund for the 2nd stage does not exceed $ 750,000 for 2 years. Five institutions are currently participating in the program: the Department of Defense, the Department of Energy, the Department of Health, NASA, and the National Science Foundation.[7]

STTR is a highly competitive program. Small businesses have long been focused on innovation and thriving where commercialization has succeeded. But the risk and cost of research and development may not be available to many small businesses. Nonprofit research laboratories, on the other hand, play an important role in the development of high-tech innovation. However, often the innovations achieved in theory do not find practical application. STTR combines the strengths of both organizations by introducing entrepreneurial approaches for high-tech research. Technologies and products are transferred from the laboratory to the market. Small businesses profit from commercialization, which, in turn, stimulates the US economy. The distribution of the STTR budget for the needs of the Ministry of Defense for 2011 is presented in Table 1.

| Type of troops / agency name | budget STR(S) | Themes | Application for 1st step | Grants for 1st step | Grants for 2nd step |
|-----------------------------|---------------|--------|--------------------------|-------------------|-------------------|
| US Ministry of Defense      | 32,677,000    | 39     | 572                      | 117               | 54                |
| Army                        | 33,863,000    | 29     | 284                      | 87                | 28                |

Table 1. Distribution of the STTR budget for the needs of the Ministry of Defense for 2011 [7]

Philadelphia, USA
Innovative regulation in the UK is carried out by the Department of High-Tech and Innovative Entrepreneurship (BIS) [8]. The presence of a separate structure indicates that innovative development has the highest priority in the country. The Department defines innovation as a key factor in economic growth. The goal of BIS is “to make the UK the most attractive place in the world for investing in a tech business.” Based on the practical activities of the Department, these are not empty words: a targeted policy of supporting innovation in business is being implemented. It consists of a number of key measures that rely on the “Innovative and Research Growth Strategy” [9], published by the Department and defended in Parliament. “Innovative and research growth strategy” is based on the theses of the publication “Technology Plan”, which sets out the paradigm of the need for innovative development [10]. The distribution of investment in innovation in the UK by article is shown in Fig. 3.

Broad support for research and development begins with the activities of the Technology Strategy Council, which provides grants; He is responsible for the Catapult network of centers aimed at bridging the gap between universities and enterprises, as well as commercializing innovations. The budget of the centers is set at around 200 million pounds. The British Innovation Fund is responsible for government funding for venture capital. He invests in small enterprises with high growth potential: start-ups and spin-offs, digital developments and natural sciences, environmentally friendly technologies and advanced production.

The next pool of preferences consists of financial benefits. High-tech developments provide for tax benefits: these may be tax deductions or loss compensation for unprofitable small and medium enterprises. Another benefit is a reduction in the income tax rate applicable to companies that have received patents and are engaged in the implementation of patented products (introduced since 2013). This benefit will apply to the sale of such products, the sale of them as components, the sale of patent rights and in a number of other cases. There is also a program of concessional lending to innovative activities of business and universities, conducted by the European Investment Bank. Usually this is a significant investment (from 150 million pounds). [9]

An example is the large-scale financing of a program to reduce carbon dioxide emissions in Jaguar Land Rover vehicles.[8]

The public procurement program also significantly helps the development of innovation. It includes, in addition to direct, preliminary purchases and obligations for future purchases. Another program is supporting the development of science and innovation abroad. International cooperation in the field of science and innovation is vital for achieving the country's political goals on a global scale. Issues such as climate change and food security require new approaches at the government level. In connection with this program, a network of scientists abroad is funded.

In addition to the main programs, innovative regulation includes maintaining a government research base, as well as the dissemination and transfer of its knowledge; support for the protection of intellectual property; Awarding of the Queen's Prize (in 2012, 300 applications have already been submitted).[10]

The German Federal Ministry of Education and Research (BMBF), which regulates innovation in the country, proposed the program “Promoting Innovation and Research in Germany” in 2006. Several German organizations, such as the BMBF International Bureau and the Alexander Foundation, are branded as “Research in Germany”. von Humboldt, the German Academic Exchange Service, the German Research Foundation and the Fraunhofer Society, support the development of innovation and research, one of the goals of their activities is and presentation of achievements in the international arena, strengthening external cooperation and prestige of the country. [11]

The policy in the field of regulation of development of research and development includes the application of various strategies and initiatives to ensure Germany is scientifically, technologically and economically prepared for the tasks of tomorrow. The following will briefly describe the main ones.[14]

The joint Science and Innovation Initiative program aims to increase the competitiveness of German research. Since 2005, it has been carried out by the federal government, federal states (regions) and German research organizations. Main goals: strengthening cooperation and creating links between scientific disciplines, countries and between science and industry; Promoting outstanding achievement and

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|----------------|
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| IBI (India)  | 4.260 |
| ICV (Poland)  | 6.630 |
| PIF (India)  | 1.940 |

| Fleet | 7,979,000 |
|-------|----------|
| Air force | 12,132,000 |
| DARPA advanced research | 6,178,000 |
| research | 117,696,000 |

|              | 0 | 0 | 0 | 5 |
|--------------|---|---|---|---|
|                | 4 | 36 | 19 | 6 |
|                | 5 | 43 | 23 | 3 |
|                | 111 | 1,274 | 309 | 127 |
supporting talent. To achieve these goals, the federal government and the lands first decided to support German research organizations - this is 3% of the annual additional financing until 2010. From 2011 to 2015. The budget has been raised to 5%.

The new higher education paradigm 2020 aims to modernize the German higher education system. Between 2011 and 2020 an increase in the number of students by 275,000 is expected. In addition, international competition leads to the need to further develop the research profile of universities. The government is committed to creating financial conditions for more productive and more visible work of higher education institutions, including at the international level. Such an initiative is also associated with the fact that in Germany there is a steadily growing need for qualified personnel in complex professions, and there is a particularly high demand for graduates of the so-called MINT specialties (mathematics, computer science, natural sciences and technology). State support allows, among other things, to invest up to 26,000 Euros in each student place until 2015.[15]

Germany also has the Excellence Initiative program, which includes a line to promote the research environment (mainly doctoral students), a line to encourage the creation of clusters for joint work in a specific field, and a line to support universities at the international level. Within the framework of this program, for example, 5 foreign Houses for Science and Innovations (DWIHs) were created [12]. It is also worth mentioning the separate program “Science without Borders”, which allows you to strengthen cooperation with leading world researchers and gain access to global innovative potential. In fig. Figure 5 shows the distribution of researchers participating in innovative projects (along the abscissa axis), inside their country (light) and outside (black) across the EU countries (international country codes were used).

![Figure 3. Distribution of researchers participating in innovation projects in EU countries](image)

Each year, a commission of experts on science and innovation (EFI) generates a report on research, innovation and technological efficiency in Germany [13]. The report comments on the progress of the innovation policy, and also indicates weaknesses and weaknesses. The government listens to the comments and works closely to address them.

The state policy in the innovation sphere should combine the main areas of science development and the development of new technologies, provide for comprehensive measures and mechanisms, the action of which is associated with the current strategy for the country’s socio-economic development for the period up to 2020.[18]

The goal of the strategy for the development of science and innovation in our country is the formation of a balanced sector of research, development and an effective innovation system that ensures technological modernization of the economy and enhances its competitiveness based on advanced technologies and makes scientific potential one of the main resources for sustainable economic growth.

The main direction of ensuring the security of the country’s economy is the achievement and maintenance of the effective functioning of the innovation sphere of the economy, the state of which largely determines the realization of the entire set of national economic interests of the country.[16]

The implementation of an effective innovation strategy allows achieving a state of sustainability in the economy, accelerating economic growth, moving away from the resource component of the economy and thereby increasing the competitiveness of goods and services offered on the world market, which ensures the safety of innovation, which is the basis of national security.

To integrate the national economy into the global economic system, it is necessary to increase its innovativeness, which, in turn, will strengthen the competitive position of domestic goods and services in the world market, and, as a result, the country’s economic security system will be strengthened. Significant areas of implementation of state innovation policy in the country include:
● investment support from the state and foreign investors of entrepreneurs and producers who are most actively following the path of innovative development of production;
  ● improving the infrastructure for supporting small innovative entrepreneurship, promoting innovative projects;
  ● comprehensive development of science cities, technology parks, business incubators, innovative industrial complexes;
  ● improving the structure of public administration in order to stimulate the innovative activity of enterprises;

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It is necessary to implement a focused policy of international recognition of domestic innovative developments, as is the case in the UK and Germany. Such a policy will not only help to attract foreign investment in domestic developments, but will also enhance the participation of our country in global international programs. And this will positively affect the strengthening of external cooperation and the country’s prestige, which will contribute to increasing competitiveness and ensuring the economic security of the economic system.
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| SJIF (Morocco) | 5.667 |
| OAJI (USA) | 0.350 |

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