ATLANTIS PRESS
*Advances in Social Science, Education and Humanities Research, volume 333*
Humanities and Social Sciences: Novations, Problems, Prospects (HSSNPP 2019)

# Evaluation of the Effectiveness of State Incentives for Innovation Activity in Russia

Pushkalova E.I.
Department of Industrial Management
Institute of Economics, Management and Law
Irkutsk National Research Technical University
Irkutsk, Russia
p_e_i@ex.istu.edu

Kuznetsova O.L.
Irkutsk State Agrarian University named after A.A. Ezhevsky
Irkutsk, Russia
olischna1413@mail.ru

***Abstract*–The organizations productivity from innovative activities is increasing. They obtain high rates of their economic development. This issue is quite relevant for today. Innovative activity (IA) requires impressive costs. Therefore, there is a demand for the development of a method, evaluating the IA performance. To improve the IA effectiveness, the timely discovery and introduction of third-party enterprise development is of high importance. It seems that the assessment of the IA success contains a detailed review of the proposed innovations, their analysis and selection, which allows determining the attractiveness of innovations and identifying the possibilities for the enterprise to implement any innovative concept. Scientific and technical level of most companies is small, so there arises the difficulty of intensifying their IA. Federal target programs supporting civilian research and development activities (hereinafter referred to as R & D) are developed and implemented in accordance with the Decree of the Government of the Russian Federation of June 26, 1995 No. 594 "On the Implementation of the Federal Law "On Product Supply" for federal state needs". One of the Federal Program target indicators is to attract extra budgetary sources of funding to the programs being implemented, the failure of which indicates the ineffectiveness of the mechanisms provided by the state programs for private business. Thus, the state position on the priority stimulation of economic sectors innovative development of is traced and the performance indicators of financial and economic mechanisms of innovative activity state stimulation are analyzed.**

***Keywords—Innovative activity, efficiency, stimulation, innovative development, analysis, cost-benefit analysis***

## I. INTRODUCTION

The study of statistics demonstrated positive dynamics in the financial and economic mechanisms performance of innovative activity state stimulation in terms of reducing the budget funding share. The most effective form is the state order for innovative products comparing with budget technological costs financing. Strengthening the extent and dynamics of innovation activity serves as the basis for the country's transition to a model of economic development, based on the abandonment of extensive and use of qualitatively new sources of economic growth, allowing the country moving away from the edge of world progress to its front lines. Therefore, innovation activity is an unconditional priority of Russia's economic development for the long term. However, this type of activity requires special approaches in the development and implementation of measures aimed at ensuring its development due to its inherent characteristics and risks. The main way to overcome them is to stimulate conditions that ensure the intensification of innovation, increase the commercial attractiveness of innovative projects and innovative products introduced into the economy [1].

Innovative activity is carried out in various forms and involves a variety of methods and tools, but there is no common understanding of its composition, nature and content, either in economic research or in legislation on the regulation of innovation activity. Meanwhile, the intentional innovation development requires a unified interpretation of the forms and tools for its stimulation, the establishment of a clear relationship between these concepts. [2] First of all, it concerns the participation of the state in stimulating innovation. The decisive role of the state in the resource provision of innovation, the development and implementation of methods and tools to stimulate it, put a problem of how to assess the effectiveness of government incentives for innovation point-blank. The solution of this issue depends on the composition and content of the incentive tools used by the state, ways to ensure and increase its effectiveness.

## II. PROBLEM STATEMENT

Nowadays, the organizations productivity from innovative activities is increasing. They obtain high rates of their economic development. This issue is quite relevant for today. Innovative activity (IA) requires impressive costs. Therefore, there is a demand for the development of a method, evaluating the IA performance.

## III. RESEARCH QUESTIONS

The stimulation of innovation activity essence is determined by the relations between the subjects involved in it (the subjects engaged in innovation activity) and the subjects carrying out innovation activity (innovators) in their regulating, interconnection and unity. [3] Consequently, the form of innovation activity stimulation is understood as the way of existence and expression of its content various modifications. The content is determined by the subjects engaged in the promotion composition. Depending on the degree of state participation in their functioning, the forms of stimulating

Copyright © 2019, the Authors. Published by Atlantis Press.
This is an open access article under the CC BY-NC license (http://creativecommons.org/licenses/by-nc/4.0/).

innovative activities are: state, non-state, and mixed. Nowadays, the organizations productivity from innovative activities is increasing. They obtain high rates of their economic development. This issue is quite relevant for today. Innovative activity (IA) requires impressive costs. Therefore, there is a demand for the development of a method, evaluating the IA performance. [4]. The development of the technique is determine by a subsequent difficulties:

1) the absence of standard guidelines for evaluation;

2) uncertainty in the structure of the IA performance;

3) the secrecy of information needed for economic evaluation, created for a third-party investor [5].

Revazov M.A. and Burchakov V.A. claim that the ability of evaluating the IA efficiency is based on the costs and results obtained. But the final result can be identified after full assessment of the organization IA [4].

To improve the IA effectiveness, the timely discovery and introduction of third-party enterprise development is of high importance. It seems that the assessment of the IA success contains a detailed review of the proposed innovations, their analysis and selection, which allows determining the attractiveness of innovations and identifying the possibilities for the enterprise to implement any innovative concept. [6]. Scientific and technical level of most companies is small, so there arises the difficulty of intensifying their IA.

The highest production efficiency and IA is based on finding and establishing reserves to improve the above criteria. [7]

At every stage of the company's activities, the data need systematic evaluation on the basis of an integral indicator

The content of the analyzed methodological approach consists in calculating the performance indicators of the R & D stages, introduction and performance. It turns out that the presented method is scientifically proven and allows:

1) to study the organization IA for specific time intervals;

2) to estimate the performance of the innovation process stages;

3) to get a complex closing remark of the IA based on the integral indicator taken as the basis;

4) to choose the appropriate ways of spending resources for productive IA of the company;

5) according to the analyzed stages of the innovative process, work out the guidelines for improving the efficiency of the company IA [8].

It is important to note that over the previous couple of years in almost all countries there has been a decline in the organizations innovative activities funding from the budget.

For the period from 2014 to 2020, there are two government programs aimed at implementing the state innovation policy, which have approximately the same level of funding from the federal budget (more than 1058 and 885 billion rubles, respectively) and essentially complement each other:

• the state program "Development of industry and increase of its competitiveness" (hereinafter referred to as SP "Competitiveness") - in the production and technological sphere, includes 8 subprograms;

• the state program "Economic development and innovative economy" - in the socio-economic sphere, includes 10 subprograms [9].

Federal target programs supporting civilian research and development activities (hereinafter referred to as R & D) are developed and implemented in accordance with the Decree of the Government of the Russian Federation of June 26, 1995 No. 594 "On the Implementation of the Federal Law "On Product Supply" for federal state needs". The FTP funded about 20% of the domestic expenditures on R & D, which were budgeted cost and expenditures. There were eight high-tech FTPs and one sub-program until 2016. They accounted for more than 90% of the budget funds of all FTPs [10].

At the moment, the number of existing FTP, developing high-tech industries, has halved. Herewith, it should be noted that there is a disparity between the high level of state support for high-tech industries (40.7% of all budget funds for technological innovations in 2015) and their relatively "poor" development (the share in innovative products, works, services is 2.93 and 8.93%, respectively, in 2015 and 2016).

One of the target indicators of the FTP is to attract extrabudgetary sources of funding to the programs being implemented, which failure indicates the ineffectiveness of the incentive mechanisms for private business envisaged by the state programs. [11] Thus, the analysis showed that the current system of direct state subsidies to the state program and federal program is:

• is not effective enough, since it most often reflects the parochial interests in the distribution of budget financing for activities that do not correspond to the innovative development strategy of the Russian economy;

• there is no transparency of the relationship between budget allocations and the results obtained;

• finances innovation development institutions that function almost independently of each other, resulting in duplication of the results of their activities (they often get close in content technical solutions), often having a local rather than strategic nature [12].

To adopt the new technological platform, the Russian economy needs from the state:

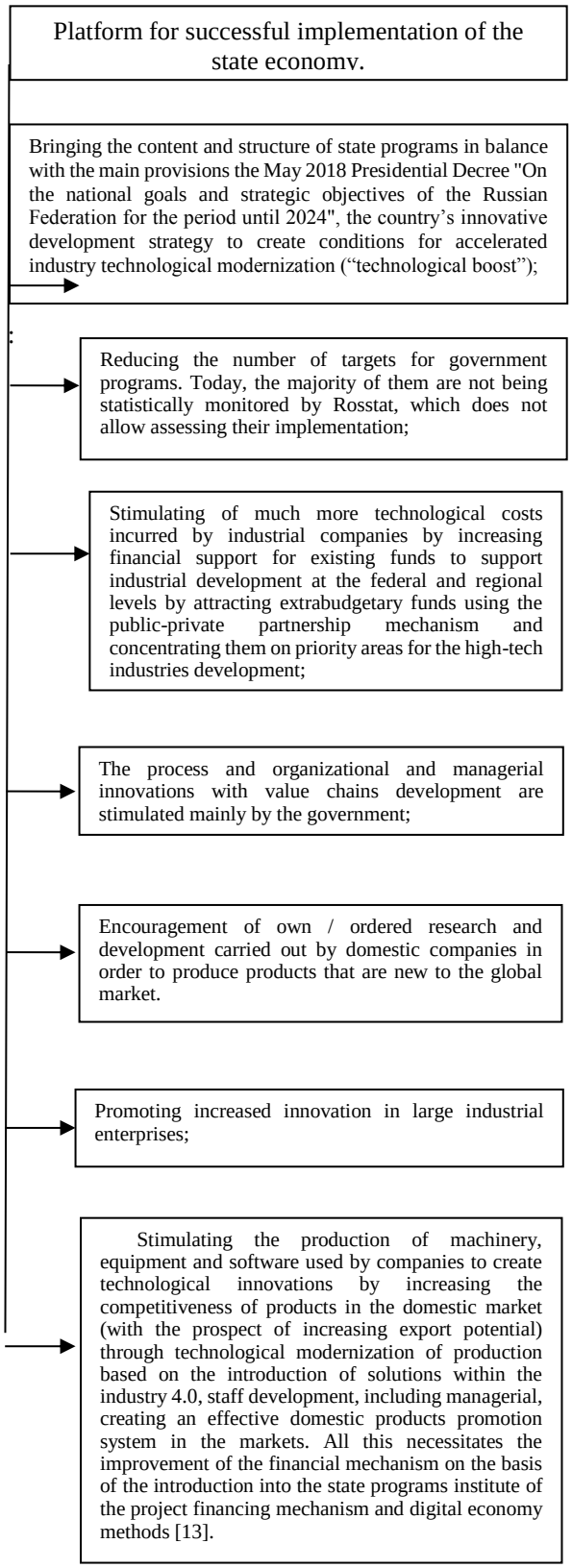


Fig. 1. Platform for the successful implementation of the state economy.

Consequently, the state position on the priority economic sectors innovative development stimulation is traced and the performance indicators of financial and economic mechanisms of innovative activity state stimulation are analyzed.

## IV. Results

The effectiveness of the main institutional instruments in Russia — state programs and federal target programs aimed at implementing state innovation policy were also assessed [14].

Over the past three years, almost all the performance indicators (except the growth rate of tax revenues and patents granted) have had a positive trend. However, a total of four years:

• in the structure of goods, works, services shipped, the share of innovative ones practically has not changed (in general, over four years its growth is amounted to slightly more than 17%);

• there is a tendency of patent activity reducing;

• with a general increase in the cost of science (almost 35%), the costs of applied scientific research increased only by 9.4%.

Thus, we can conclude that for the period of 2012–2016, the base for the accelerated technological development of the Russian economy has not been created.

In accordance with the official statistics for the whole country, in the structure of the sources of financing expenditures for research and development, about the half are funds of the federal budget. Over the past three years, their share has decreased by almost 9%. Then come the own funds of organizations in the business sector (about 17%) which have tended to decline in recent years, and the own funds of scientific organizations (about 12%). The share of extra-budgetary funds and organizations of higher education is scanty.

It should be noted that the innovation activity of foreign trade activities is influenced by both the volume and the form of state support. The state order for innovative products is a more effective form compared to budget financing of technological costs.

Cross-country comparisons as of 2018 indicate insufficient innovation activity of the Russian economy. There is still a low share of innovative products, works, services, as well as organizations implementing technological innovations. Only 1.3% of innovative products are new to the market, while in the UK this share is 8.3%, France - 6.2%, Germany - 2.9%.

The share of innovative products newly introduced or subjected to significant technological changes, new to the organization is also two times lower than that in economically developed countries.

The cost structure for technological innovations in economically developed countries is dominated by expenditures on research and development (from 51.6% in the UK to 78% in France), and in developing economies, a significant share is made up of the costs of purchasing machines, equipment and software. [15]

## V. Conclusion

Problems of development of IA in the Russian Federation include:

- lack of interest of business structures in the innovations implementation;
- low IA;
- low demand for innovation, both in the private and public sector

Accordingly, to the fore can be brought measures on establishing conditions ensuring the IA "revitalization", increasing the commercial attractiveness of innovative products and introducing innovative products into economic circulation through a system of appropriate, which is the essence of innovation stimulation [10].

Methods of IA stimulating can be divided into two groups:

TABLE I. Methods of Stimulating Innovation Activities

| **Economic** | | **Procedural and institutional** |
|---|---|---|
| Based on the use of appropriate monetary regulations | | involve legislative and administrative measures complex aimed at creating organizational conditions for the IA implementation and enhancement |
| ***Direct*** | ***indirect*** | |
| stimulus spending, credit incentives | fiscal expansion , reproduction processes stimulation, insurance incentives, customs incentives | |

The study demonstrated that with a decrease in the share of budget financing, the productivity of financial and economic mechanisms of IA state stimulation shows a positive trend. [16]

Comparing the budget technological costs funding and government orders for innovative products, the second form is more efficient. Moreover, IA is the most productive when its subjects use their own sources of funding. To a large extent, the implementation of technological innovations in organizations depends on imported equipment. Cross-country comparisons indicate insufficient innovation activity of the Russian economy. [4]

Further research should be aimed at improving the methodological tools and assessing the effectiveness of budgetary funds use by development institutions and the various financial and economic instruments they create to stimulate innovative activity in the Russian economy.

## References


[1] V.N. Gonin, A.N. Kashurnikov and N.N. Khanchuk, "Methodical approaches to assess the effectiveness of innovation in economic systems," Bulletin of the Buryat State University, No. 11, pp. 6–12, 2014.

[2] A.S. Nechaev, S.V. Zakharov and A.O. Troshina, "Innovation Risk Minimization and Neutralization Methods," International Conference on Quality Management, Transport and Information Security, Information Technologies (IT and QM and IS). St Petersburg, Russia. September 23-30, 2017, pp. 552-555.

[3] A.S. Nechaev, A.S. Bovkun and S.V. Zakharov, "Innovation Management Characteristics of Industrial Enterprises," International Conference on Quality Management, Transport and Information Security, Information Technologies (IT and QM and IS). St Petersburg, Russia. September 23-30, 2017, pp. 556-559.

[4] D.I. Batmanov, "Technological multistructure of the Russian economy in the light of global trends," Bulletin of the Chelyabinsk State University. Economy, No. 12, pp. 141–150, 2015.

[5] Yu.B. Winslav, "Federal law on industrial policy: again on the relevance of legislative innovation as such, on systemic flaws and directions for finalizing a specific version of the document (End)," Russian economic journal, No. 4, p. 12, 2015.

[6] I.G. Dezhina and A.K. Ponomarev, "Prospective production technologies: new accents in the development of industry," Forsyth, No. 8 (2), pp. 16-29, 2014.

[7] A.S. Nechaev, Y.N. Barykina and N.V. Puchkova, "Analysis of Articles of Fixed Assets Renewal of Russian Business Enterprises," Advances in Economics, Business and Management Research. Proceedings of the International Conference on Trends of Technologies and Innovations in Economic and Social Studies. London, vol. 38, November 2017.

[8] O.V. Nikulina and A.A. Serdyuk, "Tax regulation of innovation as a factor in the development of the system of state support for innovative entrepreneurship," Finance and credit, No. 27, pp. 2–19, 2016.

[9] A.V. Koltsov, A.M. Oktyabrsky and T.V. Khabarova, "Critical technologies and priority directions of development of science and technology in the framework of the implementation of the Federal Program for the Development of the Scientific and Technological Complex of the Russian Federation," Innovation and Expertise: Scientific Works, No. 3, pp. 31–54, 2016.

[10] A.V. Sorokin, "Improving the efficiency of innovation activities of industrial enterprises," Russian economic journal, No. 10, pp. 180–183, 2013.

[11] N.M. Abdikeev, E.B. Tyutyukina, Y.S. Bogachev and E. Moreva, "Performance Evaluation of Financial and Economic Mechanisms of the State Stimulation of Innovative Activity in Russia," Finance: Theory and Practice, vol. 22(5), pp. 40-55, 2018.

[12] M.A. Revazov and V.A. Burchakov, "Methodological framework for assessing the effectiveness of innovative mining enterprises," Scientific and technical journal, No. 3, pp. 51–56, 2010.

[13] M.A. Ryazanov, "Determining factors for the development of innovative organization," Modern economy: problems, trends, prospects, No. 4, pp. 1–12, 2011.

[14] A.S. Nechaev, D.V. Ognev and O.V. Antipina, "Analysis of Risk Management in Innovation Activity Process," International Conference on Quality Management, Transport and Information Security, Information Technologies (IT and QM and IS). St Petersburg, Russia. September 23-30, 2017, pp. 548-551.

[15] N.M. Abdikeev, E.B. Tyutyukina, Y.S. Bogachev and E.L. Moreva, "Evaluation of the effectiveness of financial and economic mechanisms of state stimulation of innovative activity in Russia," Finance: Theory and Practice, vol. 22, No. 5, pp. 40-55, 2018.

[16] Y.N. Barykina, N.V. Puchkova and M.S. Budaeva, "Analysis of innovation activity financing methods in Russian economy," RPTSS 2018 International Conference on Research Paradigms Transformation in Social Sciences, pp. 120-127, 2018.