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PROBLEMS OF ASSESSING EFFECTIVENESS OF PUBLIC ADMINISTRATION INNOVATIVE DEVELOPMENT OF REGION

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Abstract

In the formation of Russia's GDP, the raw material sectors of the economy prevail and, accordingly, the resource-type regions play a special role, which is characterized by the predominance of the raw material sectors of the economy. In other words, the sectors that ensure the extraction of minerals (especially hydrocarbons) are the backbone factor in the socio-economic development of resource-oriented regions. The paper studies the features of innovative development of resource-oriented regions and considers the essence and perspective directions of public administration in such development. Particular attention is paid to determining and measuring the effectiveness of state support. Assessing the effectiveness of regional innovative policy is a difficult task. The authors analyze the existing methods for evaluating effectiveness, point out general disadvantages of current methods of assessing the public administration effectiveness and conclude on the necessity to develop a methodology that takes into account the specifics of the innovative development of a resource-oriented region.

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Keywords: Innovative development, public administration, region

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1. Introduction

In economic science, the concept of regional development is identified with (positive) economic growth on the territory of the constituent entities of the Russian Federation, i.e. it is expressed mainly in the increase in gross regional product (GRP) (Gradov, 2015). In fact, development is qualitatively different from growth. "The urgent need for Russia to switch to a model of sustainable economic development is primarily due to the violation of existing reproduction mechanisms," national researchers consider (Vasilieva & Likhacheva, 2017). Thus, it is possible to formulate a definition of the sustainability of the region development as the achievement of a planned, progressive and systematic nature of the processes of progressive change in its socio-economic properties and parameters.

While the evolutionary mechanism of development, based on gradual adaptation, is characterized by a high level of inertia (system) and the risk of crises, a fundamentally different way of development, called mobilization, involves conscious intervention in the evolutionary process (Fonotov, 2018). In this regard, the researchers substantiate the need for a transition to an innovative type of development, i.e. to the development mechanism based on the innovative activity of business entities (Fonotov, 1993). Thus, innovative activity plays the role of an alternative mechanism for the socio-economic development of regions, integrating the advantages of evolutionary and mobilization mechanisms (Avramchikova et al., 2019). The essence of the progressive function of innovation is that this collective activity provides a systematic search for more effective solutions to pressing socio-economic problems, the existence of which impedes the transition of regions to higher levels of development.

2. Problem Statement

From the standpoint of competing paradigms of economic theory, understanding of the state function in innovative development varies from regulatory (normative) one to investment and economic. In fact, an optimal approach involves achieving a practical synthesis of these extreme options. In this case, experts rightly point out the need for a combination of state regulation methods and market management (Rozhnov et al., 2020; Terebova & Gubanova, 2009). Taking into account the specifics of the current state of the domestic regional economy, it should be recognized that in the near future the main task of public administration is to ensure the change (transformation) of the mobilization (resource-oriented) type of development into an innovative type, i.e., an economy based on knowledge and continuous improvement.

Due to its high importance, the management of innovative development of the economy / region requires a certain strategy. Foreign experience has proved the effectiveness of the strategic approach in the field of public administration of innovative development. For this reason, the domestic economy is at high risk of copying successful innovative strategies, i.e. borrowing foreign development models. There are two fundamentally different innovative strategies: an internal one is the search for one's own path of innovative development and an external one - the transfer of innovative strategies (Astafyeva, 2008). Experts agree that in order to build an innovative economy, the development strategy of the Russian Federation should be anticipatory.

The need to develop and implement a breakthrough strategy is due to the intensification of international competition in the markets of resources, technologies and capital. "The National Technology

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Initiative" proposed by the President of the Russian Federation is called upon to organize an innovative breakthrough in the development of the domestic economy. For the effective implementation of the innovation strategy, an appropriate organizational and economic mechanism is required, which includes an innovation policy and an innovation system, i.e. infrastructure to support innovation and stimulate innovative development. The structure of budget spending on innovation policy according to Federal State Statistics Service of the Russian Federation is presented in Figure 1.

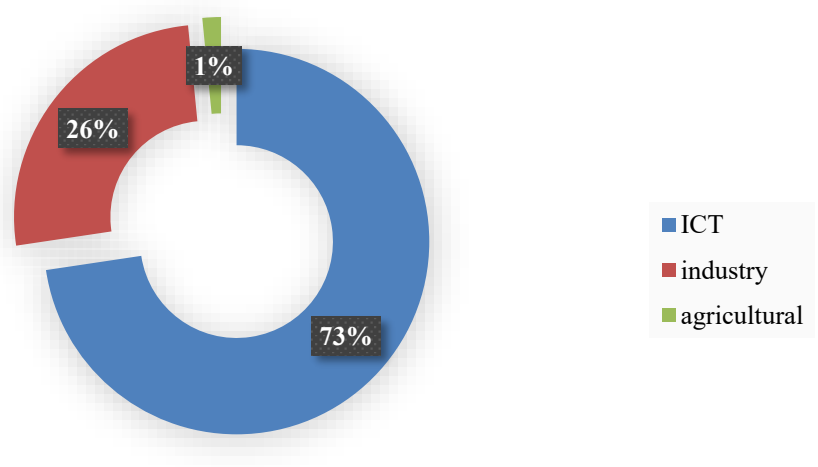

Figure 1. Share of budget expenditures on innovation policy (2018 y.)

As it follows from the diagram, the leading sector of the economy in terms of the share of budget investments is the sphere of communication services, information and communication technologies, research and development, and engineering.

3. Research Questions

According to scientists and experts in the field of regional economics, a high level of resource dependence creates a number of significant negative "side effects" (Kondratiev, 2016): low rates of economic growth; low level of sustainability of economic growth; low innovativeness (low susceptibility of the economy to changes) of economic growth (Romer, 2016).

Currently, the role of the raw materials sector in economic development is being revised, so resource security is opposed to resource dependence. From this perspective, the mining industry is considered as one of the drivers of innovative development. An illustrative example of the US economy indicates that resource provision does not hinder, but, on the contrary, contributes to the development of an innovation-oriented economy. Thus, the effective management of natural capital serves as the basis for the formation of an innovative economy. Therefore, the most promising approach assumes that the raw-material economy and the knowledge economy should strive to achieve mutually beneficial synergies, successfully satisfying each other's needs.

Domestic experts justifiably believe that, in order to get extra profits from the use of the resource dependence of foreign economies, it is necessary to create conditions for the transition to a knowledge

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economy through building up scientific and technical potential and increasing innovative activity, which should reduce internal dependence on natural resources in the future (Panshin, 2007). The concept of resource-supported innovative development is based on the assumption that sustainable economic growth is ensured by investments in the extraction of raw materials, which require an efficient industrial base and qualified human capital, and this fact allows developing the economy of the region as a whole through the multiplier effect (Berenov, 2012).

Statistics show that the Russian economy has not yet embarked on a trajectory of innovative growth; therefore, in international rankings it occupies a modest middle position, despite the efforts made by the state. Domestic statistics clearly demonstrate the severity of the problem under consideration (Industrial Production Dynamics in Russia, 2019):

1. In 2015-2018 the accumulated increase in extractive production exceeded the gross increase in industrial production (9.5% versus 6.5%).
2. In 2018-2019 the increase in extractive production was 2 times higher than the growth in the manufacturing industry (4.1% versus 2.3%).
3. In 2018-2020 the output of high-tech manufacturing industries significantly reduced (-5% and -11.5%).

For this reason, the need for an objective assessment of the effectiveness of regional innovation policy is due, on the one hand, to the problem of significant increase in the level of innovative development of regions, and on the other hand, to an acute need of increasing the overall efficiency of government bodies and the rationality of spending state financial resources in the context of a budget deficit.

In general, the concept of public administration efficiency serves as a criterion (evaluation), reflecting how successfully the decisions (programs, projects) are implemented in terms of optimizing the state of the managed system. According to Schumpeter, the nature of innovative development consists in “creative destruction” - the removal of the economic system from equilibrium in order to find and use “new combinations” (Schumpeter, 2017). Consequently, the effectiveness of state support for innovation will characterize the degree of progress of the state in the transition to an innovative economy, in providing an innovative breakthrough.

4. Purpose of the Study

Diversification of regional economies and the organization of effective regional innovation systems should be considered as the main mechanism for reducing resource dependence and stimulating innovation-oriented economic growth, which is the idea (goal) of the study.

5. Research Methods

A results-based approach that focuses not on the process of activity, but on the social significance of the consequences (effects) achieved by the authorities seems to be the most promising for evaluating effectiveness. Thus, the effectiveness of state innovation policy characterizes the ratio of the progressive

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changes achieved by the region in the indicators of innovative activity to the level of state resources (of all kinds) spent to achieve them (Avramchikova & Volkov, 2018). In accordance with many potential results of state support in the innovation sphere, it is possible to classify such types of efficiency as strategic, economic, scientific, technical, and social. In addition, the effectiveness of state management of regions innovative development depends on the influence of exogenous and endogenous factors.

However, it is necessary to take into account the specific requirements for evaluating the effectiveness of regional innovation policy. Firstly, assessment methods should be adequate in relation to the characteristics of a given measurement object; borrowing performance assessment methods developed for commercial organizations, business projects and economic systems is unreasonable. In this case, one should directly take into account the specifics of the activity of government bodies in managing regional development, including the development of the innovation sphere, the properties of which differ significantly from traditional sectors of the economy. Secondly, the main problem of assessing effectiveness is not in the methods of measurement, but in the practical use of its results. Therefore, the assessment of the state support effectiveness for innovation should serve as a mechanism of "feedback", designed to ensure timely adjustment and the increase of the innovation policy effectiveness in the future. Thirdly, since the innovative development of the region will depend on this assessment, the measurement system should take into account the diversity of previously identified types (and factors) of effectiveness.

6. Findings

Currently, a scientifically based assessment methodology that meets all these requirements has not been developed yet. Each of the proposed methods for measuring the effectiveness of state innovation policy has certain disadvantages. It is possible to distinguish general methods (evaluation of the state programs effectiveness, innovation rating) and author's (specific) ones. The method for evaluating the effectiveness of state programs and projects (Public programs evaluation) developed abroad is the most widely used one. Its progressive essence is to measure the achieved positive socio-economic final effects (Carter & McNamara, 2017). In this case, criteria and performance indicators developed during the preparation and approval of government programs are used for evaluation. The assessment is based on a comparison of actual and planned indicators. It should be noted that this method is characterized by the following disadvantages:

1. The use of sufficiently general indicators that do not take into account the specifics of innovative activity, i.e. the object of assessment.
2. Target indicators of programs (subprograms) are not always reliable, relevant and/or promising, i.e. they may be formal (departmental) in nature.
3. The assessment is discrete and does not take into account the cumulative effect, i.e. long-term (deferred) result of the implementation of previous programs.
4. The interconnection (interdependence) of indicators of the implementation of various target programs in related industries (management spheres) is not taken into account.

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The method of ranking the regions according to the rating of innovativeness (innovative development of the region) also gained high popularity. The Higher School of Economics (HSE) and the Association of Innovative Regions of Russia (AIRR) specialize in the compilation of these ratings (Indicators of Innovation: Statistical Digest, 2018). The basis of this method is an inter-regional comparison of indices calculated on the set of values of specific indicators, such as socio-economic conditions and scientific and technical potential (of a region), innovative activity and regional innovation policy. Despite its fairly representative nature, the method has the following disadvantages: the use of statistically averaged indicators; incorrect comparison of regions among themselves by average indicators; ignoring the specifics of resource-oriented regions; absence of due attention to the performance (contribution) of the activities of state authorities and to the economic results of their activities (only the level of budget expenses is taken into account); lack of ranking of the various criteria significance, as assessment indicators are not differentiated by weight and are considered to be equivalent; use of official statistics.

7. Conclusion

Assessing the effectiveness of regional innovative policy is a rather difficult task, therefore, generally accepted scientifically based approaches to its solution are only at the formation stage. In this regard, the assessment methods proposed by experts and researchers are pioneer (search) developments that need further improvement. Common disadvantages of existing methods include the following:

1. State support is reduced to financing innovative projects, only direct budget expenditures are taken into account.
2. Innovative development and innovative activity are not differentiated and are assessed as identical objects.
3. The assessment criteria are not explicit; there is an implicit identification of the criteria with the assessment indicators.

To overcome all the noted shortcomings, it is necessary to develop an adequate methodological approach.

References

Astafyeva, N. V. (2008). Innovative development of economic systems: theoretical and methodological approach. *Bulletin of the Saratov State Technical University*, *2,* 95-102.

Avramchikova, N. T., & Volkov, D. O. (2018). Current methods for assessing the effectiveness of state support of innovative activities in the region. *Regional Economics: theory and practice, 16*(4)*,* 724-742.

Avramchikova, N. T., Volkov, D. O., Rozhnov, I. P., & Chuvashova, M. N. (2019, May). Challenges for state support of innovative developing regional machine-building enterprises. In IOP Conference Series: Materials Science and Engineering (Vol. 537, No. 4, p. 042066). IOP Publishing. https://doi.org/10.1088/1757-899X/537/4/042066

Berenov, A. N. (2012). Raw model of development: basic analytical approaches. *Russian Entrepreneurship, 21*, 11-16.

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eISSN: 2357-1330

Carter & McNamara. (2017). *Field Guide to Nonprofit Program Design, Marketing and Evaluation.* Authenticity Consulting, LLC.

Fonotov, A. G. (1993). From mobilization to innovative type of development. *Economic Issues, 11*, 80-82.

Fonotov, A. G. (2018). *Russia: Innovation and Development*. Binom. Knowledge lab.

Gradov, A. P. (2015). Estimating potential effectiveness of problem solving. *St. Petersburg State Polytechnical University Journal, 1(211), 9-17,* https://doi.org/ 10.5862/JE.211.1

Indicators of Innovation: Statistical Digest. (2018). https://issek.hse.ru/mirror/pubs/share/217694120

Industrial Production Dynamics in Russia. (2019). *Bulletin of the Analytical Center under the Government of the Russian Federation*. https://ac.gov.ru/archive/files/publication/a/23445.pdf

Kondratiev, V. B. (2016). *The Resource Model of Economic Modernization: Opportunities and Limitations*. IMEMO RAN.

Panshin, I. V. (2007). Knowledge economics and resource economics: common ground and systemic contradictions. *Russian Entrepreneurship, 10,* 3-7.

Romer, P. (2016). The Trouble with Macroeconomics. *The American Economist*, *5*.

Rozhnov, I. P., Avramchikova, N. T., Maslova, O. V., Lapunova, E. V., & Bezrucov, M. A. (2020). Digital technologies in the regional management information system, *Journal of Physics: Conf. Series, 1679,* 032004. https://doi.org/10.1088/1742-6596/1679/3/032004

Schumpeter, J. A. (2017). *Theory of Economic Development*. Eksmo.

Terebova, S. V., & Gubanova, E. S. (2009). *Activation of the Innovation Process in the Region*. VSCC CEMI RAS.

Vasilieva, Z. A., & Likhacheva, T. P. (2017). *Innovative Factors of Economic Growth of Territories*. Sib. Feder. Un-ty.