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Evaluation of Regional Innovation Potential in Russia

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Abstract

Under the current conditions of developing the Russian economy the issue of forming and using the regional innovation potential has come to the forefront. A system of the regional innovation potential indexes is suggested in the article, the integrated indexes of the innovation-driven development of three regions in the Volga federal district over 2005-2010 years have been calculated. The comparative analysis of the regional innovation potential allowed detecting the major problems emerging in this field, and its possible solutions.

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1. Introduction

In the context of the current economic state of the national economy the relevance of studying the regional innovation potential is obvious: the further development of both the national and global economy as a whole is impossible without getting the economy to a whole new level and, therefore, the shift towards the next technological structure.

In the world's practice various composite indexes, assessing the level of the innovation activity have been developed and implemented: EIS - is the European Innovation Scoreboard (Matei, M., 2010), the index of scientific and technological potential (Cherchye, L., W. Moesen, N. Rogge, T. Van Puyenbroeck, M. Saisana, A. Saltelli, R. Liska and S. Tarantola, 2008), an innovation index (Holliday, D.R. and H.E. Lowitt, 1984), a global innovation index (Zalewski, R.I. and E. Skawinska, 2010), etc.

Analysing the innovation potential by these indexes is mainly intended to the developed countries (Marxt, C. and C. Brunner, 2013; Grupp, H. and M.E. Mogege, 2004), the specific features of the developing countries have been investigated to a lesser extent. The considerable attention is paid to the role of the information and communication technologies (Hu, M.-C., N. Sharif and E. Baark, 2014), the evaluation of the innovation process efficiency (Liou, D.-Y., 2009) and its impact on the regional competitiveness. (van Hemert, P. and P. Nijkamp, 2010) The shortcomings of the applied evaluation procedures, limiting its implementation area are

actively discussed (Grupp, H. and T. Schubert, 2010; Mairesse, J. and P. Mohnen, 2010).

In general, the current interpretations of the innovation potential category could be divided into six different approaches.

The first approach identifies the innovation potential with the concepts of the scientific, scientific and technological, intellectual and creative potential. The second approach - the resource one - considers the innovation potential as an ordered set of resources (personnel, material, technical, scientific, and technological) which ensure carrying out the innovation activity of the market agent. The third approach is based on the division of the innovation potential resources into the realized and unrealized (latent) resource opportunities, which could be taken in order to achieve the ultimate objectives of the economic agents. In the context of the fourth approach the innovation potential is analysed as the level of the ability and competence of the economic agent in carrying out the innovation activity. The fifth approach is associated with the effectiveness, in it the innovation potential is revealed through analysing the "output" of the innovation activity and reflecting the outcome of realizing the available opportunities (in the form of a new product, received during the innovation process). The sixth approach, which is a combination of the resource and effective approaches and a set of innovation resources provided in the form of the product of the innovation activity and the production sector.

2. Methodology

The basis of our analysis is a procedure of calculating the integrated index of the regional innovation potential, proposed by Alexeev S.G. (2009). We have added a new index E3 and replaced the index I4 (ref. Table 1).

Table 1. System of Regional Innovation Potential Evaluation Indexes.

Index Groups	Indexes	Notation
Scientific Potential Indexes (SP)	1. Share of the Personnel Number Involved in Research and Development in a Number of Those Involved in the Economy	S1
	2. Ratio of the Researchers with Academic Degrees (Doctors, Graduate Students) to a Number of Those Involved in the Economy	S2
Personnel Potential Indexes (PP)	1. Share of Higher Education Employees in a Number of Those Involved in the Economy	P1
	2. Ratio of a Number of University Students to a Number of Those Involved in the Economy	P2
Technological Potential Indexes (TP)	1. Fixed Asset Useful Life Factor	T1
	2. Fixed Asset Renewal Factor	T2
	3. Capital/Labour Ratio	T3
Financial and Economic Potential Indexes (FEP)	1. Ratio of Capital Investment Amount to GRP	E1
	2. Ratio of Domestic Research and Development Costs to GRP	E2
	3. Ratio of Innovation Goods, Works and Services Scope to the Total Scope of Goods Unloaded, Works Performed and Services Rendered	E3
Indexes of Information and Communication Component (IT)	1. Share of Organizations Which Used the Internet in a Total Number of Organizations Which Used ICT	I1
	2. Ratio of ICT to GRP Costs	I2

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