

Abstract of the report

Name of the speaker: Elizaveta Godunova, PhD student of the St. Petersburg School of Economics and Management

Title: Interaction between Universities-Business-Government as a factor in the innovation-based economy development in Russia and abroad

Key words: innovative economy, education, triple helix, economic development, spheres of influence.

The practice of introduction of innovations in Russian economy has strong characteristics by the level of human capital in science, level of technology development and market, but is inferior to many countries by other indicators of innovative development of the global innovation index. In order to reach the level of states with high index of innovative development, it is necessary to improve efficiency of institutions, which form conditions for innovative activity.

For this purpose, this work included a comparative analysis of the formats of interaction between the state, industry and universities, and an attempt to assess the influence that the listed actors have on economic development, including from the position of assessing the achievement of the results of the stated steps in economic and educational policies.

From the point of view of theoretical approaches, when the economy acquires the features of knowledge economy, the main changes in its properties are the inclusion of science in the sphere of production interests and incentives for firms, as well as increasing the level of responsibility of institutions for innovative development. One of the key tasks of the state as one of the actors can be improvement of legislative base of innovative activity and creation of conditions for involvement of business in cooperation with research universities in the field of creation and implementation of new domestic developments and technologies, when the state is ready to share risks and costs of R&D and technology implementation with business.

There are a lot of scientific works is presented in the field of theories of innovation. J.A. Schumpeter is the most popular author who explored the essence of innovation and its impact on the scientific and technological progress and economic development.¹ Schumpeter also had formulate the main provisions of the theory of innovation.^{2,3,4} There is a large number of scientific publications, which substantially consider individual cases of the impact of innovation in the economies of foreign countries (Germany, USA, South Korea), and companies, and reports that involve a quantitative comparison of regions, countries, regarding the development and

¹ Schumpeter J.A. Theory of Economic Development. Capitalism, socialism and democracy. / J.A. Schumpeter; - M.: Eksmo, 2008, - 864 p. - (Anthology of Economic Thought).

² Freeman C. The National System of Innovation in Historical Perspective.//Cambridge Journal of Economics.1995–N 19.P. 5–24.

³ Nelson R. National innovation systems: A comparative analysis.// New York: Oxford University Press, 1993.541 p.

⁴ Karlson N., Sandström Ch., Wennberg K., Bureaucrats or Markets in Innovation Policy? – a critique of the entrepreneurial state.// The Review of Austrian Economics, 2021.P. 81–95.URL: <https://link.springer.com/content/pdf/10.1007/s11138-020-00508-7.pdf>

implementation of innovation.⁵⁶ There are also some publications by Russian authors, most of which consider cases of innovation in the economy and interaction of universities and industry.⁷⁸⁹

Among more modern works, which consider economic development from the point of view of mutual influence of institutions it is possible to note G. Itzkowitz and L. Leydersdorf, and also E.G. Karajannis, D. Campbell.¹⁰ Their researches are considered Triple Helix and Quadruple Helix models as mechanisms of innovation system development. The Triple Helix model suggests an alliance between universities, industry and government, which is the next step from a union of knowledge, innovation and consensus (2008, 2012). The Quadruple Helix model is proposed as a redefinition of society in the 21st century: the main emphasis is on knowledge permeating all areas of society, beyond universities, industry and government.

Despite the fact that these papers describe a rather systematic representation of the relationship of the three institutions in the development of the economy, these models are criticized sometimes: the models are not suitable for quantitative measurement and comparison of cases, and it is not always possible to determine what functions each of the actors (“helixes”) performs.

Turning to the results of this brief comparative analysis, we can note several theses:

- the interaction between universities and business has a positive impact in those areas that are supported by the state;
- there is an active mutual influence in the cases with a good investment climate;
- there are many barriers to the transition to a qualitative level of interaction between universities and industry to form the impact of innovative technological solutions for economic development;
- entrepreneurial activity in universities, not supported by business and requests from industrial companies, performs more of a social function.

⁵ Report of National Innovation Systems. // OECD, 1997. URL: <https://www.oecd.org/science/inno/2101733.pdf>

⁶ Cornell University, INSEAD, and WIPO (2020). The Global Innovation Index 2020: Who Will Finance Innovation? Ithaca, Fontainebleau, and Geneva. URL: <https://www.globalinnovationindex.org/>

⁷ Kolchinskaya E., Limonov L. E., Stepanova E. Does Working in a Cluster Provide Higher Productivity to Industrial Enterprises in Russia? // Regional Research of Russia. 2022. Vol. 12. No. 2. P. 204-214.

⁸ Ananin D. P., Krekel R. Hierarchy of German Higher Education System: Historiographic Analysis // University Administration: Practice and Analysis. 2020. T. 24, N 1. C. 9-27.

⁹ Usmanov M.R., Shushkin M.A., Nazarov M.G., Krylov P.A. Barriers to Effective Interaction of Russian Universities and Business Companies. // University Management: Practice and Analysis. 2021. T. 25, N 1. C. 83-93.

¹⁰ Etzkowitz H., Leydersdorf L. The Dynamic of Innovations: from National System and «Mode 2» to a Triple Helix of University-Industry-Government Relations Research Policy. Vol. 29. P. 109 – 123.