

## AN INNOVATIVE MODEL AS THE DRIVER OF LONG-TERM SUSTAINABLE DEVELOPMENT OF THE INDUSTRIAL ECONOMIC SECTOR

**Vardan BOSTANDZHYAN**

Doctor of Science in Economics, Professor

**Rafael MARGARIAN**

ORG Management Company JSC, Head of the Corporate Finance

Key words: innovative model of economy, Russian economy, R&D enterprise, innovation activity

*Introduction.* In the research context, the category of the "modern model of the Russian innovative development" is understood as the entirety of interrelated industrial enterprises, research and academic institutions, state bodies, infrastructure institutions of development and support, public professional associations etc. that are engaged in the relations aimed to finance, initiate, transfer and commercialize innovations, to enhance competitive ability of the industrial enterprises beyond the energy sector both in the Russian and external markets, to strengthen HR potential, to grow innovations while efficiently using tangible, financial and labor resources for the sake of long-term sustainable social and economic development of the country and its regions.

*Methodology and literature review.* The following typology groups of innovative models are usually singled out depending on the classification attributes:

- by the intensity level – traditional linear model, interactive model, superactive model, economic industrialization model with external innovations engaged, catching-up development model [Novitsky, 2015, 64];

- by the target use – research leadership (USA, England, France); creating a favorable innovation-oriented environment (Germany, Sweden, Switzerland); encouraging innovations (Japan, Republic of Korea) [Vasilyeva et al., 2016, 74-82];

- the economic development level of the countries – the model of the innovative development of developed countries; the model of the innovative development of developing countries;

- by geographical region – North American, European, Central European, Japanese, Chinese [Arkhipova et al., 2015, 103-112];

- by national peculiarities and the economic potential development - Euro-Atlantic (traditional) (USA, Canada, EU countries, Australia); East Asian (Japan, Republic of Korea, China); alternative (Thailand, Turkey, Portugal, Chile, Jordan); "triple helix" model [Novitsky, 2015, 64]. Table 1 shows indicators of the Russian economy and developed economies in terms of most important parameters of "new economy" (as of 2014 - 2016).

Based on the data shown in Table 1 we may conclude that in 2015:

- labor productivity in Russia was more than 2.5 lower than in the USA, France and Germany. Possible solutions of this issue: production retrofitting, reducing wear and tear of fixed assets, encouraging technology / organization and institution innovations;

- R&D expenses in Russia (1.10% of GDP) are 1.62 times less than those in the United States;

**Table 1.** The most important technology indicators of the economies worldwide

Indicator	Value	
	RF	leading countries
sp. weight of the technology innovators, % (2014)	8.8	Germany – 55; Sweden – 45.2; Finland – 44.6; Netherlands – 44.5
labor productivity, \$./man hours (2015)	25.9	- average for OECD countries – 50.8; -including: USA – 68.3; France – 67.6; Germany – 66.6
amount of technology-intensive export, billion dollars (2015)	9.7	China – 554.3; Germany – 185.6; USA – 153.5; Republic of Korea – 126.5
share of online sales against the total retail turnover, % (2015)	4	USA – 20; Great Britain – 20; France – 15; Spain – 15; Italy – 9
R&D expenses, % of GDP (2015)	1.10	Republic of Korea – 4.23; Germany – 2.93; USA – 2.79; China – 2.07; Great Britain – 1.70
patents issued by the countries of origin of the applicant (2015)	24,998	China – 279,501; USA – 257,108; Republic of Korea – 109,107; Germany – 86,849; Great Britain – 21,503

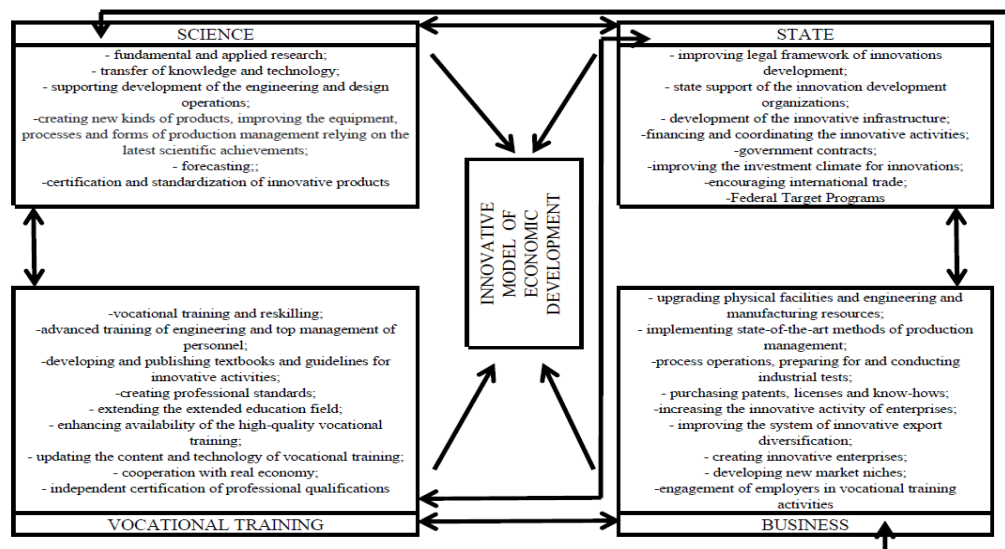
(The Center for Global Enterprise, 2015; World Bank; OЭCP; Rosstat, Eurostat; International Digital Economy and Society Index (I-DESI) 2016; RBC, National Research University Higher School of Economics, I-DESI 2016; OECD; WIPO; WEF)

- only online retail sales of the goods in Russia can be interpreted as insignificantly lagging behind from these of the technology advanced countries (according to Table 1). Generally, the research and development situation in the country seems troublesome. Import phaseout is another issue that aggravates the situation. Thus, according to the Russian Ministry of Industry and Trade, in 2015 the level of import dependence in the car industry was 44%; in the shipbuilding industry – 55%; in agricultural engineering – 56%; in oil and gas and heavy engineering - 60%; in consumer and pharmaceutical industry - over 70%; in medical, electronic and machine tool industry - over 80%; in aircraft construction - 92% (The Center for Global Enterprise, 2015; WB; OECD; Ros-stat, Eurostat; International Digital Economy & Society Index (I-DESI) 2016; RBC, National Research University Higher School of Economics, I-DESI 2016; OECD; WIPO; WEF).

We singles out the "triple helix" model, a new version of the Euro-Atlantic model, which that is the most widespread in the United States, as the most advanced model that is adequately in line with the Russian national peculiarities and priorities. As seen by its creators [Itzkowitz et al., 2010, 238], the "triple helix" model as a mechnism of "reaching the synergy through continuous updates and accumulation of the knowledge

base [Smorodinskaya, 2011, 66-78] implies a certain algorithm of engagement of every stakeholder of the country's innovative model (authority, power and academic community) at certain stages of the generation (transfer, commercialization) of an innovative product. Since in the current context in Russia it is impossible just to replace the raw-materials export model of economic development with the innovation-driven model, it is necessary to encourage innovations in all their forms promoting non-energy sector productions while retaining the advantages of the commodity-heavy economy that ensures required inflow of petrodollars and activating various instruments of interaction between the state, business and research. Figure 1 shows the author's vision of the structure of the model of the innovative development of Russia built on the principles of the integrative interaction between the science, vocational training system, state and business, with the leading role of science.

As we see in the diagram, the innovative model of development of the Russian economy is based on the close collaboration between **science**, (including such instruments as fundamental and applied research, transfer of knowledge and technologies etc.), state (through instruments of improving the innovations legal framework), vocational training (due to professional training and reskilling etc.) and business (through upgrading physical facilities and engineering and manufacturing resources etc.).



**Figure 1.** The diagram of the integrative interaction of science, vocational training system, state and business as part of the innovative model of development of the Russian economy (author's approach)

**Summary.** Based on the conducted research, one can assert that at present, R&D enterprises have become one of the main components of creating the national innovations-driven system. According to the findings obtained through analysis of the innova-

tive support of the long-term sustainable development of the industrial sector of the economy, generally, Russian industrial enterprises feature low indicators of innovations development, poor physical amount of expert of the innovative products. One can conclude that the Russian innovative model must be predominantly oriented at the fully-fledged development of the non-energy industries.

### **References**

1. Arhipova, L.S., Gagarina, G.Ju. Formirovanie modeli innovacionnogo razvitija Rossii // Zhurnal «Izvestija Tul'skogo gosudarstvennogo universiteta. Jekonomicheskie i juridicheskie nauki». – 2015. – S.103-112.
2. Vasil'eva, N.F., Kavura, V.L. Modeli innovacionnogo razvitija jekonomiki: zarubezhnyj opyt realizacii // Vestnik instituta jekonomicheskikh issledovanij. – 2016. – N3. – S.74-82.
3. Novickij, N.A. Problemy vybora i realizacii jeffektivnoj modeli innovacionnogo jekonomicheskogo razvitija // Jekonomika i predprinimatel'stvo. – 2015. – N11-1
4. Smorodinskaja, N. Trojnaja spiral' kak novaja matrica jekonomicheskikh sistem // Innovacii. – 2011. – N4(150). – S.66-78.
5. Trojnaja spiral'. Universitety - predpriyatija - gosudarstvo. Innovacii v dejstvii / G. Ickovic; per. s angl. pod red. A.F. Uvarova. – Tomsk: Izd-vo Tomsk. gos. un-ta sistem upr. i radiojelektroniki, 2010. – 238 s.
6. The Center for Global Enterprise, 2015; World Bank; OЭCP; Poccтat, Eurostat; International Digital Economy and Society Index (I-DESI) 2016; PBK, I-DESI 2016; OECD; WIPO; WEF

**Vardan BOSTANJYAN, Rafael MARGARIAN**

### **An innovative model as a factor in ensuring sustainable long-term development of the industrial sector of the economy**

*Key words: innovative model of the economy, Russian economy, research and production enterprise, innovative activity*

This article examines the main types of innovative models of economic development. A new version of the Euro-Atlantic model, the “triple helix” model, which has become most widespread in the United States, has been singled out as the most modern and most adequate to the national characteristics and priority aspirations of Russia. Comparison of modern types of innovative models in foreign countries is made. The problematic state of the system of scientific and technological development of the country, the difficulties of import substitution are noted. The necessity of stimulating innovation activity in all forms of its manifestation with an emphasis on non-primary production while maintaining the advantages of the mechanisms of the export-raw material economy, which provides the necessary inflow of petrodollars, and activating various instruments of interaction between the state, business and science, is substantiated. The author's vision of the definition "modern model of innovative development of Russia" is formulated. The author's vision of the structure of the model of innovative development of Russia, built on the principles of integrative interaction between science, the system of vocational education, the state and business, with the leading role of science, is presented. It is stated that at present one of the main components of the creation of the national innovation system has become scientific and production enterprises (SPE). It is concluded that the innovative model of Russia should be predominantly focused on the full development of the non-resource complex.