Trends of Formation the Russia's Innovation Potential

N.G. Vovchenko and T.V. Panasenkova

1Doctor of Economics, Professor of the Chair “Finance”,
Rostov State Economic University, Russia, Rostov
2Doctor of Economics, Professor of the Chair “Economic Theory”,
Rostov State Economic University, Russia, Rostov

Abstract: Article is devoted to determining the prospects of development of the economy and involves an assessment of Russia's innovation potential. Innovative potential is a strategic factor of modern economic growth, competitiveness indicator of national economic systems and of their full integration into the world economy.

Key words: Investment, innovation • Innovation potential • Information technology • Competitiveness • international indices and ratings • Assessment methodologies • Modernization strategy • Economics.

INTRODUCTION

Current stage of development of the world economy is characterized by an accelerating process of globalization, where the crucial role played by innovation and information infrastructure states. The main strategic aim of developing Russia today is a translation of its economy on the path of innovative development, increase competitiveness and improve the quality of people's lives. In the context of widespread development of information technology, involving Russia in the globalization process, the main factors of socio-economic development are advanced breakthrough discoveries and technologies, the growth of human capital and the role of regulatory institutions and stimulate innovation and economic growth and integration into the global information economy.

Increasing competition of national economies is a natural result of globalization, where the center of gravity competitive pursuit of national economic interests moved into the sphere of innovation. Obviously, in this regard, that innovation activity – an indicator of competitiveness of the economy [1] (Competitiveness Index rankings in 2011-2012). Russia occupies 66th place, on innovation indicator 2011-2012. Russia has also a leading position. In developed countries, up to 75 % of GDP growth is ensured through innovation. Over the past 15 years the number of employees of the innovation sphere in the U.S. and Western Europe increased by 2 times, in South-East Asia – 4 times. In the European Union the share of innovative enterprises is 50%. Russia on the world market of innovative products today occupies only 0.3 %, while the U.S. – 39 %, Japan - 30% and the EEC countries - 18% [2]. These data indicate the need to stimulate the production of innovative products in Russia [3].

It should be noted that currently the total volume of the domestic market of nano-technologies is 81 billion rubles ($ 2.7 billion), while on a global scale, this figure rises to $ 250 billion, so the Russian market for a little over 1 % of the world, but 2015 should reach the level of 3%. At various nanotechnology projects in Russia at the end of 2012 allocated more than 25 billion rubles and in 2011 attracted 17 billion rubles of private investment, which brought Russia into fourth place in the world after the U.S. investment ($ 3.3 billion), Japan ($ 2.6 billion) and Germany (0.8 billion dollars) [4]. Until 2015, Russia will finance the development of nanotechnologies 318 billion rubles [5].

It is important to emphasize that innovation can be a source of development only with the active and effective use and creating a favorable economic environment for their generation. In this connection it is...
necessary to talk about the innovative potential as the potential ability of new ideas, products and technologies to create new values that are manifested in specific business processes only under the influence of interest owners and competent people management.

The term “capacity” means the ability of a system, its internal resources, power and energy, which can be mobilized for different purposes under different conditions. If the potential of the system fails to quantify, it is possible to talk about the level of the actual use of the potential in achieving the objectives that will be equal to the ratio of resources involved to the entire potential.

Concept of innovation capacity, providing growth system through innovations in the economic model was first introduced by K. Freeman [6]. Innovation, by Freeman, is a system of measures for the development, exploration, exploitation and depletion of production and socio-economic and institutional capacities of the underlying innovations.

Encyclopedia Britannica, devoting the concept of “society's potential for” the whole article emphasizes that the potential consists of human knowledge and understanding, to obtain the desired result. Thus, the potential in this definition is linked with human resources – namely, their intellectual power, with people creative type.

According to experts Boston Consulting Group [7], all countries with growing economies are five phases to enhance innovation capacity.

- Stimulating growth through exports. In this phase, the poor countries are technologically they invest little in research and development (R&D) and practically do not own any intellectual property. To move to the next phase of a reorganization strategies of companies with strong innovation and industrial policy of the state.

- Investing and building value. Increased investment in R&D and own an active borrowing of new technologies and knowledge contribute to the growth of exports more technological products. This type of development took place in the past few decades, South Korea. Since the late 1970s the share of high-tech products in total exports of the country grew steadily and reached in 2009 more than 55% [8].

- “The Reckoning”. The essence of this phase is that the owners of the intellectual property developed countries begin to defend their markets. As companies from developing countries go through a second phase, the sales of their products grow, including through low labor costs. However, their rights to intellectual property are growing disproportionately higher sales volumes and these companies are vulnerable.

- Protection and management of intellectual property. Companies are investing heavily in the protection and management of intellectual property created by them.

- Innovative rent. Companies from developing countries achieve parity and can take the initiative by the use of intellectual property.

The situation in Russia in terms of phases to enhance innovation capacity, it is ambiguous. In a country where previously been gained considerable scientific and technical potential, but poorly developed market incentives commercialization of innovations, both signs can distinguish all five phases to enhance innovation capacity [9]. Indices innovative potential countries include, as a rule, to 100 quantitative and qualitative variables that cover the areas of education, science, technology, human capital, innovation and political climate in the country, integrating official statistics, polls and experts.

If we compare the national innovation systems of the world leaders in the field of innovation development and the Russian national innovation system, it can be seen that for Russia the problems hindering the development of innovative, are: corruption, lack of government effectiveness; underfunding of science and research and development; predominance public budget funding over private, a small number of innovative companies and companies; significant administrative, tax and transaction costs of innovation active enterprises, Low impact generation sector knowledge [10].

If we look at the statistics, Russia remains a country of low-tech and export-oriented raw materials. Share of high-tech manufacturing in GDP remains low.

At the moment, the cost of research and development in Russia is more than six times less than the value of the cost in China. Thus, if we talk about resource component of innovation potential, Russia lags behind not only developed countries, but also its main competitors in terms of growth - China and India.

One way to analyze the innovation potential is the amount of inventions made by nationals of a country (the key indicator for calculating the index of innovative activity in this case is the number of registered patents [10]. Research conducted by Thomson Reuters, indexing 10.5 thousand publications around the world, sees the
development of science in Brazil, Russia, India and China over the past 30 years. After analyzing the database of scientific publications, the experts found that Russia accounts for only 2.6% of the total volume of research that are indexed by Thomson Reuters for the last five years. In comparison, India accounted for 2.9% of the publications already and China - 8.4%. Russian studies mainly focused on the physics and chemistry, few publications on agriculture and science [11].

And this despite the fact that agricultural development must be one of the key areas of regional policy in the system acceptance and consistency of the priorities of the regional and national interests within the framework of national economic policy, taking into account historical, cultural and geo-political conditionality.

In general, the situation cannot be regarded uniquely Russian. Given that the number of index numbers in Russia does not differ from that of developed countries, for example, the index of the level of education, adult literacy, expenditure allocated to education. So on the personnel component of the innovation potential, Russia, in which there are 810 thousand people [6], engaged in R & D is included in the top three and in this it is clearly superior to most of the world.

According to UNESCO in Russia each year produces more than 340 thousand engineering specialists. And here, our country is second only to the traditional leader - China (644 thousand graduates engineers), significantly outperforming all other countries, including the United States (222 million) and India (215 million) [8].

At the same time there are indications of the fragility of the situation in Russia, namely, the difference in life expectancy index, imbalance in the ratio of GDP per capita, etc. One of the key resource factors are becoming increasingly important in the development of national innovation projects is the interaction of science, government and business, as a single functioning soldered mechanism, constitute the basic elements of the innovation system, where in the framework of public-private partnership is the main task of science to new developments, the state - in creating the framework conditions, business - commercialization [12].

In world practice, promising economic condition is considered optimal in the case of total expenditure on science, including public and private investments in the amount of 2.5 - 3% of GDP. Position, allowing to be among the developed countries, while holding leadership seems possible to create your own flexibility for reacting to the changing conditions of the scientific and technical capacity, as well as the system of training of highly qualified personnel, which, inter alia, may contribute to the so-called “SLR laboratory” in accordance with the concept of A. Semyanov, given that in Russia there was a reduction of absolute indicators of scientific potential, associated with a sharp reduction in high-tech organizations as well as external and internal “brain drain” [13].

Despite the negative outlook, the country still remains high innovation potential, which is defined as the set of all opportunities becoming available to achieve these goals through the implementation of innovative projects that if the political will is able to revive the Russian economy has two types of comparative advantage, the first of which represented by the resource sector, the second covers the sector, such as the fastest growing sector of information and communication technologies, the development of which depends largely on the quality of human capital and, therefore, it is appropriate to talk about the development of the innovative potential of the university, forming a “competitive education” [14].

Undisputed and even at the moment is perhaps seems axiomatic that the first type of comparative advantage does not provide medium-and long-term economic growth, as increasing quantitative Russian exports are not accompanied by an improvement of its commodity structure and continues to increase fuel and raw specialization country. In this connection it is necessary to promote the development of "breakthrough" of profitable sectors based on innovation and invest in innovation. In addition, should improve legislation on the conditions leading to a slowdown in innovative development, as well as dealing with all stages of the innovation production, including the stage of implementation. Seems necessary to the creation of industrial parks, in order to concentrate on a single area specialists general activity and, in this regard and also the development of human capital. Particular attention should be paid to training and retraining of personnel engaged in the fields of innovation embedded in them or diffuse way of the resource sector, in order to adapt to constantly changing conditions that will lead to increased productivity and efficiency [15]. Thus, clearly seen social orientation of the economy as the orientation of a new type – personal, the most important prerequisite of which is the development of human capital. For these purposes is also needed government support, including financial.
Holistic development model seems the Russian innovation system based on the concept of public-private partnership, which can be implemented within the following mechanism: entities with the State involved in the development of promising innovative directions, which formed the basis of order and “placed” in the universities. Funding and research is supported by the state. Commercialization of R & D performed by universities, provides private capital and the state's task - to create favorable conditions for providing information services for innovative projects, preparation of university training, development of the institution of intellectual property and financial instruments [16].

In this area should be observed pronounced conceptual intersection of innovation policy and innovation activity of the enterprise as a private partner, where the effect of the integration of innovative cooperation determined by the achievement of total target orientation at all stages of the innovation process.

Systematization of factors reflecting the conditions of functioning of the innovation sphere, and there is the need to increase the state's role in the innovative development [7], which is recognized economically justified, because it creates the conditions for stimulation of the stages of the innovation process, where market mechanisms fail.

The regulatory role of the state in the sphere of innovation is determined by its objectives [17]. In developed countries, to fulfill national goals for innovation and interoperability of government, business and science are three such tools. The first institutional tool is a government contract, the conclusion of which takes place on a competitive basis. In the performance of the contract the state controls the progress of work and, if necessary, corrects it.

The second institutional tool is the grant of characterizing the shape of the relationship between the research university and the state: to support and encourage the state of research and development non-interference in their execution. The third institutional tool is cooperative agreement as a collaboration tool that does not require, as a grant and hard-coded and quick results, but differs from the grant that the state oversees the work and clearly establishes the right of parties to the agreement and the contribution [18].

As noted by N.V.Beketov, innovation policies should be aimed at increasing the incentives to the creation of clusters, which are understood as a network of independent companies, research institutions (including universities) and services that organize the interaction of science, production and consumers connected to a single production chain, generating added value [18].

Thus, the innovation potential of the Russian economy is high enough. The main task of the state, following the line of government economic policy, which is the basic premise of both innovative development of Russia on the basis of goal-setting to mobilize all possible resources, is the clustering of innovation system is to move to support the development of enterprise clusters, software and carrying out innovative and progressive research and implementation activities.

As general tasks of perspective development of innovative potential of the Russian economy should be highlighted: improving the investment attractiveness of
promising high-tech sectors of the economy, the development of competition in all sectors of the national economy and stimulating innovative behavior of state-owned companies and natural monopolies, elimination of the system of state regulation (including technical regulations, customs and tax regulation, etc.) barriers to building innovative activity; involvement in the circulation of rights to intellectual property created with financial support from the state.

REFERENCES