Managing Innovative Trends in Economic Development

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Abstract—Technological leaps that occur periodically and replace dominant technologies with more advanced ones lead not only to the reduction of individual production costs below the socially necessary ones, but also provide higher consumer results.

In world practice, one of the important instruments of state policy as an innovative trend in the development of the national economy, as well as individual territorial entities, is the priority implementation of the principles of the so-called green economy. At the centre of the transformation of economic models and transition to a green economy there are technologies based on new methods and processes of production and environmentally oriented policy of the state, consistently ensuring the strategic interests of the national and economic security of the country. The goal of transition to a green economy is not only to improve the quality of life of the world’s population while minimizing the depletion of natural resources and preserving nature for future generations, but also to create a significant number of jobs.

However, in practice, this cannot be done without radical reforms and investments in fixed capital, as well as the implementation of appropriate forms of priority, which do not conflict with other tasks of socio-economic development of the country.

The article discusses a number of features associated with the transition of Russia to the formation of a green economy, which are determined by large territories and the heterogeneity of their potential, the issues associated with the transition to the sixth technological mode and the need to have sufficient amount of investment in the key areas of infrastructure, which constitutes the core of the green economy and the involvement of private business in order to attract investment.

Keywords: green economy, management, investments, territorial entities, technological structure, national projects, organizational and economic mechanism

I. INTRODUCTION

The low level of Russian economy development is a serious problem in ensuring its competitiveness in the modern international space. This situation is primarily conditioned on the extremely unsatisfactory pace of transition to the innovative path of development. In this regard, radical transformations in the economy are still relevant, which are based on an innovative mechanism that provides, firstly, the modernization of the existing economy, secondly, the creation of its new infrastructure with key actors of the innovation-oriented sphere (government, business, financial and scientific organizations, universities, etc.), based on the technologies of the 6th technological order, and thirdly, the creation of new ways to attract investments. Through such a mechanism, the prospects for technological development of the relevant industry or technical and technological trends corresponding to the new technological order will be formed.

In this respect, of course, innovative global trends in the world economy result in transformations, adaptability and new positioning of national economies in the global economic space. At the same time, the adaptive properties of national economies are manifested through an increase in their level of innovation.

According to the authors, the provision of innovative activity of the economy in modern conditions should be based on the need to develop theoretical and methodological foundations of the economic mechanism of innovation management in the context of the potential of the 6th technological order and such its trends as an information society on the basis of modern information and communication technologies (“e-governance”), technologies for sustainable energy production from renewable sources, and green economy. The problem methodology includes the issues
of cognizability and validity of the innovative development system at macro and micro levels. At the same time, a new strategy for the national economy development based on innovations is possible by making a combination of the above-mentioned trends (benchmarks) and ideas about the vision of the economic structure focused on the corresponding priorities.

II. METHODS

The methodological tools of the problem under study are based on dialectical methods of cognition that provide to study them in a comprehensive and objective mode. The approach to substantiating the vectors of economic development based on the innovative trends management and activation of private business as investors of priority projects is formed using general scientific methods of knowledge: analysis and synthesis of theoretical material, generalization, classification, and grouping. To prove the hypothesis, the method of comparative analysis was used when comparing the accepted approaches to the innovative structure of the national economy. In order to prove the author's idea, a theoretical analysis of the literature devoted to this problem and a comparison of definitions are carried out. At the same time, general scientific methods of abstraction and generalization were used.

The main methods of the research are the analysis of publications which offer a description of separate documents, analysis and synthesis of these publications. The expert experience of the authors of this work is also involved.

III. RESULTS

The rating of the Russian economy according to estimates of international competitiveness by appropriate methods, in particular, the World Economic Forum, the International Institute for Management Development, is at a low level. Thus, according to the rating of global competitiveness of countries (Global Competitiveness Index) for 2017-2018, the parameters relating directly to the state of innovation and finance are as follows: innovation potential – 49th place, technological level – 57th place, and financial market development – 107th place.

According to the expert community, this is primarily due to the fact that the Russian economy has a low efficiency of state institutions, and the potential for the development of an innovative economy is insufficient. In particular, the promising technological developments are extremely poorly applied in the economy, which is confirmed by statistics. Thus, no more than 20% of innovative developments are brought to commercial realization in view of the low demand of the real sector of the economy for domestic innovations. There are several reasons. First, the level of spending of Russian enterprises on R&D compared with innovative leaders (2.5-4.5% of GDP) is significantly 2-4 times inferior to foreign ones. Second, the renewal of fixed assets is carried out mainly through the purchase of foreign equipment.

In addition, the state of the financial market (as the main source of investment) and investor confidence in it is assessed as unsatisfactory. There is a negative dynamics of demand in the country, as well as a number of other negative factors, which are considered in economic literature in sufficient detail, for example [1].

Meanwhile, business structures compete through unique technologies in today's global market of goods and services. Moreover, the service sector takes a significant part in this process, providing stability in the conditions of fluctuation of the world economy.

In this regard, the formation of a model of the national innovation economy is still a problem that requires fundamental changes in the context of the chosen vector of economic development and innovation trends of the world economy.

The key trend of all transformations taking place in national economies is the strategic orientation to the formation of the 6th technological order, which allows to form a technical and technological complex within the unity of the technological method of production, functioning on the ground of the basic technology [2, 3, 4, 5]. It seems that in the future, a model of transition to a new economy, based on global trends, should be formed on the ground of a new technological order.

First direction. There is a process of digitalization and robotization of the production process in industries, economy sectors and social sphere on a global scale through new digital formats and information channels, creating conditions for the formation of a digital government [6]. Currently, there is a process of information development in the form of formation of motivation to the information society on the basis of modern information and communication technologies ("electronic management") [6, 7].

According to experts in this field of knowledge, we can talk about the transition to a new socio-economic formation in the form of a global information society [5, 8, 9, 10], the trend of which is the formation of a set of national information infrastructures. In this regard, a special attention should be paid to the experience of formation support of innovative economy in the Republic of Kazakhstan [11].

Second direction. Breakthrough technologies, which result in qualitative changes in the productive forces and structural changes in the economy. Such technologies lead to structural falls in the cost of production and capital expenditures and, as a consequence, low capital intensity of economic growth, increased efficiency and productivity. In addition, national economies have the opportunity to integrate into global value chains, specializing in the production of new types of products and services. However, to do this, it is necessary to offer innovative products and services to the global market, forming new innovative niches.

Third direction. Development of technologies for environmentally friendly energy production from renewable sources (energy saving technologies, solar energy, hydrogen energy, etc.).

Fourth direction. Formation of a green economy on the basis of innovative technologies that allow to stabilize the
ecological system through the effective use of resources [12, 13, 14]. According to experts, priority guidelines are the ones for modern technologies in the field of extraction and use of natural resources, rational use of inexhaustible resources, as well as the return to the production process of end-use products, minimizing the load on the environment [15; 16; 17, 18].

The green economy is based on the priority of economic and technological policies aimed at sustainable development of national economies, including the creation of additional jobs.

At the same time, the Russian economy has a sufficient potential of qualified personnel meeting modern requirements in all spheres of activity [19, 20]. In particular, a wide range of innovative educational technologies [21] will allow in the future building a system of inclusive continuing education, close to the frontiers of science and adapted to the abilities of each citizen, as well as to form a self-organizing and self-governing environment, effectively extracting new knowledge and efficiently using them in innovative practices [22].

An organized health care system, including the creation of environmentally comfortable living areas [23], is being built in order to maintain high working capacity and efficiency of labour resources. It is important to properly allocate goals, objectives and resources to accelerate the creation of a modern innovation system.

Of course, the formation of a new economy can not be carried out without radical reforms and investments, among which there are public (budget funds), private (private funds and individual investors), and foreign ones.

In contrast to the Russian economy, where the government’s share in investment reaches 90%, the share of the government in research funding, on average, is not more than 30% in a number of countries leading the development and implementation of innovative solutions (for example, Germany and Japan). At the same time, the remaining part of the funds is covered by venture capital.

It seems that innovative transformations of the Russian economy can be carried out if all levels of financial investments (initial investments, reinvestments, investments for business expansion, and investments for partial changes) are systematically involved.

At the same time, despite the fact that investing in the development of technologies and innovations has its own characteristics; the expert community notes the lack of systemic measures to stimulate the commercialization of innovations in the Russian economy. This leads to an extremely slow growth of the resulting indicators of commercialization (the share of technology exports and the share of venture capital investments in GDP, the average check of venture capital). A special place in the promotion of innovations is occupied by the instruments of the venture market, which in the Russian economy have not taken a significant share in the portfolios of private investors. According to Entrepreneurship at Glance (2016), OECD (2015), and Russian Venture Capital Association (2016), the volume of the venture market in Russia (about 0.01% of GDP) is not comparable with the performance of the leading countries, which is at least thrice inferior to Western European countries (for example, Germany and France).

To ensure the parity of public and private capital and development of financing mechanisms it is reasonable to provide:

- tax advantages for accelerators and business angels;
- privileges and preferences for business on condition of initiative financing of scientific and technological projects;
- real and high-quality templates for venture transactions;
- instruments that ensure the flow of public money in the later stages of venture investment;
- banking business development by implementing deep transformations that allow to form a segment of high-quality borrowers and provide the necessary level of capital to cover the growing risks of innovative projects (including within the framework of national projects);
- implementation of systemic measures to ensure the investment attractiveness for foreign funds (first of all, the sustainable character of existing preferences, including tax holidays, as well as conditions of fair competition, the availability of quality infrastructure for business development, etc);
- strengthening of communication between the federal centre and the regions in the field of investment in terms of solving problems related to the investment climate, as one of the important macroeconomic indicators.

IV. DISCUSSION

Nowadays there is a need to intensify the innovative development of the national economy. Innovative infrastructure of the national economy can be achieved through a fundamental change in the model of ensuring effective interaction of the government with economic entities, including through the improvement of the investment mechanism as a national project.

Table I summarizes the topics studied by domestic and foreign authors within the framework of the problem.
TABLE I. LIST OF AUTHORS INVOLVED IN THE PROBLEMS

<table>
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<th>The topics covered</th>
<th>Domestic and foreign scientists</th>
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| A study of trends in economic development.                                         | Bell D [25], Drucker P. [26], Glaziev S.Yu. [27], Gokhberg L.M. [28], Kondratiyev N.D. [29], Mindel L.E. [30], Porter M. [31], Seleznev A.Z. [32], Toffler A. [33], Freeman C. [34], Schumpe
ter J. [35], etc.                                                                |
| Development of fundamental theoretical foundations for the formation of the national innovation system | Abramova M.I. [41], Bondareva N.N. [42], Gokhberg L.M. [28], Ivanov V.V. [43], etc.           |
| Development of innovative activity                                                 | Barysheva G.A. [44], Vikhansky O.S. [45], Zavlin P.N. [46], Clark JM [37], etc.              |

Analyzing various points of view on the presented range of issues, we can conclude that the formation of an effective innovation environment is the implementation of new trends in economic development, which is expressed in a rational combination of priorities of science and production on the basis of an innovative approach.

The study conducted shows that an integrated system that provides a sufficiently sustainable development of the economy for the long term in conditions of high variability of the external environment has not been developed. Some elements that are usually considered beyond the system link are emphasized; that also applies to priority national projects. Thus, despite the fact that certain aspects of innovative development of the economy are elaborated in a relatively high degree complex issues of formation and functioning of the innovation system in the transition period to a new technological order remain poorly studied. Thus, the modern approach to the development of the national economy has a number of significant drawbacks. In particular, the priority directions of innovative development of the national economy in the context of the 6th technological order are not identified. In addition, there is no consensus among authors on the choice of these priorities, and a large part of publications does not present their systematization. Only a few publications are devoted to a more detailed analysis and description of innovative trends, the potential of which will largely determine the degree of economic development in the future. Examples include works by D. Bell, P. Drucker, S. Yu. Glaziev, P. S. Zavyalov, L.M. Gokhberg E. Toffler and others [25; 26; 28; 29; 33]. We can assume that there may be other points of view on the formation of a new economy.

However, despite the implemented proposals in theory and practice of innovative economic development in the context of global trends and challenges in the field of innovation, there are still a number of unresolved problems. According to authors and economists involved in formation of a fundamentally new national economy, it is necessary to develop a conceptual model of the strategy for innovative development of the economy, focused on the formation of a new technological order [47, 48, 49].

At the same time, the conceptual approach to the formation of an organizational mechanism for creating a new economy based on the innovative trends outlined above should be based on the use of economic laws and conformities in solving the emerging contradictions of the economic system.

V. CONCLUSION

The modern situation is characterized by a number of features, among which are the following. First, there is a process of global acceleration of technical and technological development, leading to automation and robotization of processes in production and business (artificial intelligence machines, digital technologies, 3D printers in key technological sectors of the economy and others). Second, technologies development for environmentally friendly energy production from renewable sources has intensified. Thirdly, the government actively stimulates R&D in priority areas of the green economy, followed by the spread on a global scale in order to stabilize the economic.

REFERENCES