

ICEST 2021**II International Conference on Economic and Social Trends for Sustainability of Modern Society****GOAL-SETTING AND TOOLS OF GOVERNMENTAL
SCIENTIFIC AND TECHNICAL POLICY OF RUSSIA**

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Abstract

The strategic planning documents of the Russian Federation approved the main goals and objectives of the development of the country, aimed at eliminating the technological backwardness, ensuring the competitiveness of the national economy, securing the status of one of the leading world powers, whose activities are aimed at maintaining strategic stability and mutually beneficial partnerships in a polycentric world. Scientific and technical progress is a key element of the socio-economic development of the state and a factor in ensuring competitiveness in the international division of labor. The scientific and technical policy of Russia has not fully demonstrated its effectiveness. It was possible, in many respects, to preserve the scientific and technical potential - the legacy of the Soviet Union, while, as noted by domestic and foreign researchers, the national innovation system in Russia was not created, the strategic planning system is not fully functioning, as a result, the transition to a new development model aimed at building an innovative economy has not happened. To achieve national goals and objectives, there is a need to create a new development model, the main factor of which is scientific and technical progress. This article examines the main paradigms of the scientific and technical development of Russia in recent decades, analyzes the main documents of the strategic planning of Russia in the field of scientific and technical development, on the basis of which conclusions are drawn about the main results and further guidelines of the scientific and technological development of the Russian Federation.

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1. Introduction

The present time is characterized by many authors around the world as time of global changes. First of all, such changes are characterized by the transformation of the world economic system. The history of human development of modern times is characterized by continuous changes in the development of economic relations among societies. There is a large number of theories and approaches describing the changes taking place. Researchers note the transition of advanced countries-economic leaders of the fifth technological order to the sixth technological order, characterized by the predominance of more technologically complex and new industries in the structure of the national economy (Glazyev, 1993). It also notes the transformation of advanced countries within the framework of the fourth industrial revolution, characterized by the widespread use of digital technologies (Schwab, 2016). At the same time, the scientific community has designated the transition to the post-industrial society, characterized by such fundamental development priorities as a constant improvement in the quality of human life, the formation of a safe and comfortable technological space, the predominance of intellectual labor over physical labor, the expansion of the service sector, a change in the system of management and decision-making in society, increasing the role of theoretical knowledge (Bell, 1999). Separately the humanitarian and technological revolution should be noted. It is highlighted by the Russian scientific community. The basis of this revolution is the change in the economic activity of society, aimed at creating a friendly technological space as a factor in ensuring the growth of the quality of life (Ivanova et al., 2018).

The scientific and technical progress is the link that unites the above approaches is. Many authors substantiated the causal relationship between scientific and technical progress and socio-economic development (Varshavsky, 2019). Scientific and technical progress is one of the main factors of socio-economic development. According to economists, the contribution of scientific and technical progress to the growth of national well-being reaches 85% (Glazyev, 1993).

The thesis about leadership in the XXI century can also be considered by the American political scientists E. Toffler and H. Toffler. The countries of the world are categorized into “waves”. The countries of the first wave tend to specialize in the supply of agricultural and mineral resources to developed countries. The countries of the second wave are focused on mass production and are distinguished by cheap labor. The countries of the third wave are distinguished by their orientation towards the production of new knowledge and technologies. Such countries are dominant in the world and within the framework of the world division of labor, provide the rest of the world with advanced technologies in various spheres of the national economy (Toffler & Toffler, 2003).

Considering the above, when choosing the vector of state development aimed at ensuring sovereignty and improving the quality of life of the population, it becomes necessary to develop a state policy aimed at ensuring socio-economic development within the framework of human capital development based on scientific and technical progress as a locomotive of economic growth.

2. Problem Statement

In accordance with the Address of the President of the Russian Federation V.V. Putin to the Federal Assembly of the Russian Federation in March 2018 (hereinafter the Message) the vector of the country's

development was set (Putin, 2020). The task of developing human capital, improving the quality of life is the priority. The Address defines such goals as ensuring sustainable growth in the population of the Russian Federation; increasing life expectancy to 78 years (by 2030 to 80 years); ensuring sustainable growth in real incomes of citizens, as well as growth in the level of pension provision above the inflation rate; halving the poverty level in the Russian Federation, etc. including provisions considering scientific and technical development as a priority of socio-economic development.

In pursuance of the Address, the Decree of the President of the Russian Federation of May 7, 2018 No. 204 "On national goals and strategic objectives of the development of the Russian Federation for the period up to 2024" (hereinafter - Decree No. 204), as well as the Decree of the President of the Russian Federation of July 21, 2020 No. 474 "On the national development goals of the Russian Federation for the period up to 2030" were approved. Within the framework of the above-mentioned documents, an order was given to the Government of the Russian Federation on the development of national projects, as well as national goals were determined and targets were set for the designated goals.

At the same time, in addition to the above goals and objectives, the National Security Strategy of the Russian Federation, approved by Decree of the President of the Russian Federation No. 683 dated December 31, 2015 (hereinafter the National Security Strategy), outlines such goals as eliminating the technological backwardness, ensuring the competitiveness of the national economy, consolidating for the Russian Federation the status of one of the leading world powers, whose activities are aimed at maintaining strategic stability and mutually beneficial partnerships in a polycentric world.

National goals and objectives presuppose the formation of a new development model for Russia, focused on joining the number of technological leaders. At the same time, in accordance with the Forecast of the socio-economic development of the Russian Federation for the period up to 2024 prepared by the Ministry of Economic Development of Russia in pursuance of Decree No. 204, in 2019 the GDP growth rate is projected at 1.3%, and economic growth is expected to accelerate up to 2.0 % in 2020, and above the 3.0% level starting in 2021. At the same time, the average world economic growth rate is estimated at 3.0% per year. According to the Institute for Research and Expertise of Vnesheconombank, the growth rate of Russia's GDP will be 1.4-1.8% per year until 2024. According to the experts from the Institute of Economic Forecasting of the Russian Academy of Sciences, the implementation of national projects will increase the annual potential growth of GDP by 0.5-0.6% in 2020-2024 and will become only one of the factors in the acceleration of GDP, while a new approach to the development model will not be provided (Forecast of economic development of Russia for 2019-2024, 2019; Lenchuk, 2020).

At the same time, domestic researchers note that, since 2002, not a single strategic planning document in the field of science and technology has been implemented (Ivanova & Ivanova, 2013). Strategic planning in Russia is imitative in nature (Glazyev, 2020). The system of strategic planning in state executive bodies is generally recognized as ineffective as stated in the Report on the results of the expert and analytical event named Strategic audit of the formation and achievement of performance indicators of federal executive bodies, which are managed by the Government of the Russian Federation, in 2017-2018 and the past period of 2019.

Thus, an urgent issue of scientific and technical policy is the development of tools and measures that can ensure the transition to a new model of state development.

3. Research Questions

Analysis of strategic planning documents of the Russian Federation in the field of scientific and technical development.

Analysis of the main results of industrial and scientific and technical policy.

Analysis of state policy measures aimed at ensuring the scientific and technical development of Russia.

4. Purpose of the Study

To determine the main directions for improving state policy aimed at implementing the instructions contained in the Address and the National Security Strategy.

5. Research Methods

The main research method is the analysis of strategic planning documents within the framework of established national goals and objectives.

The Soviet Union was one of the world's two superpowers. In the 1990s, after the destruction of the Soviet Union, a complete liberalization of the economy was carried out, there was a refusal to plan and organize any industrial, scientific and technical policy. The main logic of politics at that time was the orientation towards the functioning of the free market. That is, in the shortest possible time, a diametrically opposite policy was adopted in the field of the development of science and industry, which ultimately led mainly to a complete disorganization of production, which subsequently led to the degradation of the scientific, technical and industrial potential of the state.

Many enterprises turned out to be undervalued dozens and hundreds of times, so that their future owners could count on huge profits. Under these conditions, the privatized Russian economy was disorganized and turned into an arena of fierce struggle between labor collectives, bureaucratic, criminal and semi-criminal groups (Polterovich, 2008). For its adherence to the Western liberal approach, Russia was rewarded with the longest and deepest economic depression ever experienced by any major country in peacetime (Kotz & Veer, 2018). In fact, the material, technical and human losses as a result of perestroika can be compared with the aftermath of the World War. According to UNESCO, the number of people with incomes below the subsistence minimum in Eastern Europe (including the European part of the former USSR) grew from 14 million people in 1989 to 168 million people in 1996 - 12 times in 7 years.

As a result of the policy pursued in the Russian Federation, a direct threat to national security has emerged with a tendency towards the loss of sovereignty and withdrawal from the world arena of Russia as a subject of world politics and, as a consequence, huge human sacrifices and total impoverishment. Thus, in order to ensure national sovereignty, the state developed policy documents aimed at changing the orientation of Russia as a resource donor country towards a technology leader country.

In accordance with the letter of the President of the Russian Federation dated March 30, 2002 No. Pr-576 "Fundamentals of the policy of the Russian Federation in the development of science and technology for the period up to 2010 and beyond", the goal of building a National innovation system in the Russian

Federation by 2010 is formulated. Its tasks include the coordination of public authorities, the business sector and the science and technology sector for the purpose of accelerating the use of the achievements of science and technology in order to implement the country's strategic national priorities. At the same time, it is important to note that in this strategic planning document the role of fundamental science is not clearly defined. In addition, a purely "capitalist" approach to fundamental science is noted, which implies immediate satisfaction of the business sector in terms of advanced technologies from the research and development sector, which, to a certain extent, contradicts its essence. Subsequently, the same conceptual approach as a fundamental task will be fixed in the Strategy for the Development of Science and Innovation in the Russian Federation for the period up to 2015, approved by the Interdepartmental Commission on Science and Innovation Policy (Minutes No. 1 dated 02.15.2006), as well as the Strategy for Innovative Development Of the Russian Federation for the period until 2020, approved by the order of the Government of the Russian Federation dated December 8, 2011 No. 2227-r. At the same time, during the liquidation of the Ministry of Industry and Science of Russia in 2004, the issue of scientific and technical policy was formally withdrawn from industrial policy, which can be characterized as the separation of science from production (Russian Academy of Sciences, 2020).

The state scientific and technical policy of the Russian Federation, starting from the 2000s, has shown a certain effectiveness in terms of preserving the scientific and technical potential left after the collapse of the USSR, the formation of a legislative framework, as well as the development of an innovative infrastructure, new institutions for innovative development, which corresponds to world practice. Currently, the Russian Federation applies all existing measures to support and develop innovative activities, as well as all types of innovation infrastructure existing in economic countries. Insufficient entrepreneurial activity is singled out as one of the main reasons for the relatively low performance of the state scientific and technical policy of previous years. At the same time, during the 2000s, with the support of the state, several hundred objects of innovation infrastructure were created. A large number of legislative initiatives and state policy measures have been implemented, aimed at the development of scientific and technical potential, the training system, including the highest qualifications, as well as the development of the science-intensive industry (Ivanova & Ivanova, 2013). It is stated in the Strategy for the development of science and innovation in the Russian Federation for the period up to 2015 approved by the Interdepartmental Commission on Science and Innovation Policy, Strategy of innovative development of the Russian Federation for the period up to 2020, approved by the order of the Government of the Russian Federation dated December 8, 2011 No. 2227-r. At the same time, not all of the goals and objectives set out in the strategic planning documents were achieved, including the main ones. The implemented measures of state support for innovative activities correspond to the best world practices, while, according to representatives of the Russian Academy of Sciences, a national innovation system has not been created in Russia, a scientific and technical policy focused on solving strategic problems has not been formed in Russia (Russian Academy of Sciences, 2020). Companies' interest in innovation as a means of competition remains low as stated in the Report of the Federation Council Committee on Industrial Policy "State Corporations in Modern Russia", prepared by the Expert Council of the Federation Council Committee on Industrial Policy, 2008. It should also be noted that small innovative enterprises, venture capital funds, technology

transfer centers, special economic zones and other events did not fully show the planned effectiveness (Opening remarks, 2009; Petrov & Kurakov, 2019).

As a new milestone in the evolution of the scientific and technical policy of Russia, it is planned to consider the adoption of the Federal Law of June 28, 2014 No. 172-FZ "On strategic planning in the Russian Federation" (hereinafter - 172-FZ). In accordance with the explanatory note to the draft Federal Law "On Strategic Planning", the main task of this law is to create a legal basis for the development, construction and operation of an integrated system of state strategic planning. The relevance is dictated by the fact that the solution of problems in the spheres of socio-economic development, scientific and technological development and issues of national security acquire a long-term character, thus, there is a need to develop additional management tools that allow concentrating efforts and directing them towards more likely achievement of social goals - economic development.

A special feature is the fact that law 172-FZ legalizes the country's fundamental document in the field of science and technology development. In accordance with paragraph 4 of Article 18.1 of the Federal Law of June 28, 2014 No. 172-FZ "On Strategic Planning in the Russian Federation", the Strategy for the Scientific and Technological Development of the Russian Federation, approved by the Decree of the President of the Russian Federation dated 01.12.2016 No. 642 "On the Strategy of Scientific and Technological Development of the Russian Federation" (hereinafter the SSTD) is the main document of the country in the field of scientific and technological development, is the basis for the development of sectoral strategic planning documents in the field of scientific and technological development, developed within the framework of goal-setting, state programs of the Russian Federation, state programs of the constituent entities of the Russian Federation, as well as planning and target-oriented documents of state corporations, state-owned companies and joint-stock companies with state participation.

The SSTD separately emphasizes the role of fundamental science as a factor in socio-economic development and national security.

In accordance with clause 45 of the SSTD, in order to achieve results on the priorities of scientific and technological development of the Russian Federation established by the SSTD, the Government of the Russian Federation, in agreement with the Council for Science and Education under the President of the Russian Federation, form and approve complex scientific and technical programs and projects (CSTP), including all stages of the innovation cycle: from obtaining new fundamental knowledge to their practical use, the creation of technologies, products and services and their entry into the market.

In accordance with the Decree of the President of the Russian Federation of 07.05.2018 No. 204 "On national goals and strategic objectives of the development of the Russian Federation for the period up to 2024" (hereinafter - Decree No. 204), a passport of the national project "Science" was developed, approved by the Presidium of the Council under the President of the Russian Federation. Federation for Strategic Development and National Projects (Minutes No. 16 dated 12.24.2018) (hereinafter Passport). The Passport also indicates that federal scientific and technical programs (FSTP) and complex scientific and technical programs (CSTP) are the main tools for implementing projects of the "full innovation cycle".

Thus, CSTP is one of the main measures of state policy in the field of science and technology of the Russian Federation. At the same time, at the time of the 1st quarter of 2021, currently not a single CSTP has been approved, in accordance with the Rules for the development, approval, implementation,

adjustment and completion of complex scientific and technical programs of the full innovation cycle and complex scientific and technical projects of the full innovation cycle. in order to ensure the implementation of the priorities of the scientific and technological development of the Russian Federation, approved by the decree of the Government of the Russian Federation dated February 19, 2019 No. 162 as stated in the Report on the implementation of the public declaration of goals and objectives of the Ministry of Science and Higher Education of the Russian Federation for 2019. (Russian Academy of Sciences, 2020).

At the same time, in addition to the above, it should be noted that at 6 meetings of the Coordinating Council for Priority Areas of Scientific and Technological Development of the Russian Federation of the Council for Science and Education under the President of the Russian Federation, 16 proposals for the development of CSTP were considered. Based on the results of consideration of the received proposals on the development of the CSTP at the meetings of the Coordination Council, 10 proposals were agreed (6 Complex projects and 4 Complex programs) (Russian Academy of Sciences, 2020).

Thus, we can draw a conclusion about the dysfunction of the tools of the fundamental document of strategic planning in the field of science and technology.

Russia is the ancestor of the theory and practice of the institute of strategic planning. In the USSR in the 1920s N.D. Kondratyev developed a methodology for prospective indicative planning in a regulated market economy, while the methodology and organization of planning, developed by G.M. Krzhizhanovsky, F.E. Dzerzhinsky, S.G. Strumilin, N.A. Voznesensky, proved to be effective. Subsequently, positive experience was received throughout the world during the period of post-war reconstruction. In the 1980s. in the USSR, a methodology for long-term forecasting was created, which was embodied in the methodology developed under the leadership of academicians V.A. Kotelnikova, A.I. Anchishkin and N.N. Nekrasov Comprehensive program of scientific and technological progress and its socio-economic consequences for 20 years and the general scheme for the development and distribution of production forces for 15 years as stated in Glazyev (2020). The logical question is about the possibility of using the effective experience of scientific, technical and socio-economic development of the national economy.

The message of the President of the Russian Federation to the Federal Assembly of the Russian Federation, held on March 1, 2018, demonstrates the development of the latest types of Russian weapons that have no analogues in the world. These are the Sarmat missile system, underwater drones, the Poseidon nuclear powered cruise missile, the Dagger aviation missile system, the Peresvet laser weapon and the Avangard hypersonic maneuvering unit. The report of the President of the Russian Federation on the completion of the construction of the automobile section of the Crimean Bridge deserves special attention.

The importance of this event will be difficult to overestimate throughout the history of our state. In fact, the task of ensuring the security of the state and ensuring national sovereignty was solved. This event can be compared with the flight of a Soviet man into space.

These developments were the result of long-term secret work of hundreds of enterprises in our country, working in close cooperation, which presupposes the direct participation of the state. The preconditions for this result are formulated by V.V. Putin whose main theses was about the dominant organizing role of the state in the sphere of the military-industrial complex and advanced scientific and technological development. The state cannot limit its functions only by announcing tenders. The military-

industrial complex of Russia can become a locomotive for all other industries, including science-intensive ones (Putin, 2012; Rogozin, 2018; Vernik, et al., 2016a).

Also, the President of the Russian Federation V.V. Putin said in an interview that Russia is a separate civilization, and it must develop on the basis of the most modern technologies. Now the country needs to not only transform these achievements into civilian spheres, but also rely on the achievements of previous generations (Putin, 2020).

Thus, we can conclude that the successful implementation of the state defense order and the receipt of advanced scientific and technical results is a consequence of the use of command-administrative, planning-directive methods of economic management (Vernik et al., 2016b). Considering the above, the question arises about the expediency of a wider use of planning and directive methods of managing the national economy.

6. Findings

The second decade of the XXI century is marked by a high level of instability of the world economy, many economists note the tendencies towards regionalization, the division of the world into macroregions instead of globalization, an increase in the role of the state in the economy, the resumption of the arms race and trade wars between macroregions. Local military conflicts are multiplying on the borders of Russia, since 2014, the sanctions burden on Russia has been constantly increasing, Russia is being squeezed out of world markets by non-market, political methods. A technological embargo has been declared against Russia. In return for obtaining advanced technologies, Russia was offered to sacrifice national interests and the loss of sovereignty. In addition, freedom of world trade is becoming more and more a theoretical model, losing its practical content. In such a situation, measures of state scientific and technical policy are aimed primarily at survival and ensuring the state's sovereignty. If the Russian Federation is guided by the model of development of the state - a technological exporter, a technological leader, then it should be noted that state policy implies development exclusively within the framework of observing national interests, which implies geopolitical subjectivity and the possibility of observing such interests by military-political methods. Any other development model in connection with the fierce competition in the international arena can assume development only within the framework of the development model as a resource donor.

At present, Russia has implemented all the existing measures of state support for innovative activities that correspond to the best world practices. At the same time, the state policy aimed at creating a national innovation system was not fully implemented. Researchers highlight reasons such as a lack of entrepreneurial activity, as well as imperfections in the theoretical model for creating a national innovation system. At the same time, some researchers note that the national innovation system was not created in principle. At the same time, the tasks of ensuring scientific and technical development to ensure national sovereignty and an increase in the standard of living of the population of Russia remain one of the most urgent.

Based on the analysis of public policy measures aimed at scientific and technological development, the planning and directive development measures were effective. Thanks to the use of such measures, both results exceeding the world level and results were achieved that were not previously achieved even during the Soviet era.

Thus, as a result of the study, it is assumed that in order to ensure the implementation of the Address and the National Security Strategy, the wider use of methods of planned and directive development of the national economy is a promising way to achieve national goals and objectives. At the same time, it should be noted such changes in public policy as a possible transition to a new development model.

7. Conclusion

Russia is the ancestor of the theory and practice of the institute of strategic planning. It was in the USSR in the 1920s that N.D. Kondratyev developed a methodology for prospective indicative planning in a regulated market economy, while the methodology and organization of planning, developed by G.M. Krzhizhanovskiy, F.E. Dzerzhinsky, S.G. Strumilin, N.A. Voznesensky, proved to be effective and subsequently positive experience was received throughout the world during the period of post-war reconstruction (as cited in Glazyev, 2020). Planning and directive methods of economic development have shown their effectiveness in a certain historical period. The Soviet Union from an agrarian country turned into an industrial one in the shortest period of time in historical terms. At the same time, the level of scientific and technological development largely corresponded to, and in some cases even exceeded the world level, which can be characterized by competitive weapons. The Soviet Union won the Great Patriotic War against the armies of a united Europe, and then showed the world an unprecedented time frame for the restoration of the national economy after the loss of up to a third of its industrial potential. According to the results of the post-war reconstruction of the national economy, the Soviet Union was one of the two world superpowers.

Today's position in Russia is in many ways similar to that of the Soviet Union in the twentieth century. The liberal economic policy of the Russian Federation did not bring the promised prosperity, but brought losses comparable to the world war. Scientific and technical policy of the XXI century allowed to partially preserve scientific and technical potential, but at the same time did not allow to noticeably change the role of Russia in the international division of labor as a technological power. To ensure the development of Russia as a technological leader, a new development model is required. The results of scientific and technical policy of recent years with the use of planning and directive development measures have successfully shown themselves. The development of the application of these methods for the implementation of national goals and objectives is a promising area of research and public policy.

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