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Research paper

The Reasons for The Degradation of the Technological Structure of the National Economy of the Russian Federation in the 1990s.

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Abstract

On the basis of published materials and archival documents, the extremely topical problem of determining the causes of the fall in innovation activity in the real economy, the catastrophic state of the country's scientific and technical complex in the context of the implementation of liberal reforms of the 1990s is investigated. Evaluations of leading experts are analyzed. It is concluded that as a result of flaws in conceptual approaches, poor management of scientific and technological activities, uncontrolled and forced privatization, implemented at the time of financial and credit, tax and pricing policies, completely insufficient state support, Russian fundamental and, especially, branch science was brought into a state of deep crisis, losing its accumulated potential, which caused irreparable damage to its economy and national security.

Keyword: *management, topical problem, fundamental, national security.*

1.Introduction

The critically significant need to intensify innovation processes in the Russian Federation in the context of global challenges is extremely relevant to the problem of the fall in the innovation activity of the real sector of the economy in the 1990s. The study of the historical experience of the development and implementation of state innovation policy in the period of transformation processes is extremely important for learning lessons and optimizing strategic plans at the present time. In this regard, the identification of factors that determined the catastrophic state of the scientific and technical complex of the country at the turn of the century, miscalculations in the implementation of state policy in this area requires a separate and more in-depth study.

Separate plots of this very topical topic were considered by us in a number of publications; however, the study of new archival and published documents and materials makes it possible to study it more deeply.

2.Materials and methods

The methodological basis of the study was the principles of historicism, objectivity and reliability. The basic theory is the theory of modernization. As features of the Russian model, it is traditionally called in many ways its borrowing, catching up, due to external challenges, initiated from above, fragmented.

The authors of this study attempted to consider one of the most important and still few meaningful reasons for de-industrialization and de-modernization of the country in the context of the liberal reforms of the 1990s. We managed to significantly expand the source base of the study, primarily due to the introduction into the scientific circulation of unpublished documents that are now stored in state archives.

3.Analysis of results

The immunity of the commodity producer to innovations in the Russian Federation in the period under study was explained by the lack of funds. It persisted even in cases where the commodity producer possessed sufficient monetary amounts, since investments in the expansion of production were preferable to its renewal. This was the main obstacle to the transition from investment to innovative development. For the financial support of innovation, extra-budgetary funds were required, which include depreciation of industrial enterprises. Their volumes due to repeated revaluations of fixed assets increased sharply (in 1993 - 1 trillion rubles, in 1995 -128 trillion rubles). Both depreciation and R & D costs serve a single goal - the future state of production. Depreciation provides a quantitative, and R & D - qualitative side. By 1998, for the intended purpose (restoration of production capacity), about 10% of financial allocations were used; the bulk was spent on current needs. And in 1992-1994, only 5.4% of the surveyed enterprises carried out research on their own, and those who acquired innovations “on the side” were four to five times more. This path was typical for industries that are distinguished by significant knowledge-intensiveness and development of factory science.

The general industrial recession hit hard the high-tech industries, which led to the degradation of the technological structure of the national economy. The demand for innovation declined, and in

result, innovation activity declined. If in 1995 the number of innovation-active enterprises was 1363 (5.6% of the total number), in 1996 it decreased to 1278. The number of enterprises that carried out research and development decreased from 789 to 631. This meant deep aging of the production apparatus, which does not allow use potential innovations in the course of updating fixed assets. The overall decline has also affected inventive activity, which can be judged by the decrease in 2 times the number of patent applications. Due to the insignificance of budget revenues on state orders, enterprises were forced to use their own funds (87% of total costs), which were only enough for minor innovations. A total of 30 billion rubles were to be allocated in 1996 to finance the development of the innovation infrastructure. In fact, 2.6 billion rubles were financed, which amounted to 8.8% of the planned amount (one of the lowest percentages among expenditure items) [4].

In the 90s,the largest foreign arms manufacturers, using legal gaps in the regulation of the state's rights to the results of intellectual activity, carried out unprecedented work to secure exclusive rights to inventions of Russian authors created at the expense of budget funds. During this period, the volume of production of the electronics industry fell tenfold and was about a thousandth of a percent of the world level. Along with the reduction in total sectorial production, the peak of which fell in 1992-1994, the volume of scientific and technical products also fell by more than four times. At the same time, the volume of R & D for the creation of new technologies and equipment decreased by 7-8 times. The industry has virtually ceased capital construction. Abroad, both cheap consumer electronics and element base and expensive electronics products were purchased, which could be supplied by Russian manufacturers or companies with foreign investments that have domestic status, but at a lower price they are not inferior to those imported by technical parameters [5]. Meanwhile, the geopolitical situation forced to think more and more about national security. Vice-President of Russia, A.A. Kokoshin in his speech at the Russian Academy of Sciences in 1999 said that the emergence of nuclear missile potential in India and Pakistan signified to a large extent the collapse of that liberal world order, which, above all, was associated with the ideas of the US liberals and some domestic specialists. As long as two superpowers existed, nonproliferation of nuclear weapons was still more possible, since cooperation in this sphere was real.

In the 1990s, the United States took all the responsibility. In the conditions of extremely difficult economic situation in Russia, A.A. Kokoshin believed that nuclear weapons in the 90s have become even more important for the security and sovereignty of the Russian Federation than before. At the same time, there was a situation when the question arose of how long it would be possible to maintain such a nuclear arsenal, taking into account the economic crisis, taking into account the need for the development of general-purpose forces and the "directly catastrophic situation" that has developed with the payment of research with the article "arms procurement". In his report, non-technical or technological factors were identified as key ones, but two more were especially emphasized: economic and political will. In this connection, A.A. Kokoshin called on the Russian Academy of Sciences to participate more actively in influencing power so that the nuclear potential was saved and did not fall apart.

In conditions when it became increasingly obvious that the liberal picture of the world order, implying a sharp decline in the role of military power, and the whole set of values that were imposed on the country did not meet Russian interests, the mentality of the people, the academician predicted a significant complication of the international situation and insisted on the need to increase defense expenditures, primarily for research and development work, primarily for fundamental work. Describing the current situation in science, the academician said that she, "thank God, Russia has not died yet, but the situation is critical and supercritical." Among the most important factors in the restoration of the country is A.A. Kokoshin called science, which is one of the cornerstones of defense, economics and national culture. As the most serious miscalculation of radical reformers in the Russian Federation, ignoring of human potential and science was indicated [6].

At the parliamentary hearings in the State Duma on the multi-speaking topic "The lack of demand for science and technology", an attempt was made to listen to representatives of the Russian Academy of Sciences, universities, applied institutes and sectorial departments and find out what the problem is, what prevents the use of those developments that exist in Russian science. Three main reasons are identified: lack of working capital for transfer from laboratory stages to scaling; deplorable state of the legislative base: no company is interested but to introduce a new technology - it does not have tax preferences, only an innovative system was in the formative stage. At the same time, an exhibition of unclaimed technologies was organized in the Duma, in fact, an exhibition of finished and very interesting works that could be immediately introduced [7].

At the same time, the far from complete list of the achievements of these years is striking: new-generation gas removal units were created, new Russian technologies in rocket and space technology were also developed, and work on the creation of laser systems was very active. A submarine of a new generation, diesel, was laid using electrochemical generators designed for the Buran ship. Work was carried out with the VAZ on the creation of an electric car using a chemical generator by the middle of 2000. Achievements in the development and production of rocket and space technology in the 90s demonstrated an amazing example of not only maintaining capacity, but also a significant contribution to new high-end technologies. And all this was created under conditions when relations with industry were completely destroyed.Academician Zh.I. Alferovpaid attention to another very promising aspect of space technology - solar energy. However, the state and efficiency of using the potential of scientific organizations, ensuring the development of basic technologies and unique industries in the Russian Federation in the period under study was generally depressing.

4.Discussion

Analysis of the scientific literature suggests that some of the authors are convinced that among the most important reasons for the de-industrialization of the country, the reduction of the high-tech sector in the 90s has resulted in the inability of the government to establish a system of effective management of either the public or the private sector. So, researchers E. V. Balatsky and V.A. Konyshev draws the conclusion that the concept of the early stage of the restructuring of Russian industry was based on the conviction of the Russian government that it was necessary to minimize the state sector. This course was "successfully" implementedfrom 1993 to 1998. The share of the public sector in industry fell 3-4times, reaching an extremely low level of 8.9%. But effective managers did not appear [8]. According to V.I. Filatov, large-scale privatization of the first half of the 90s did not lead to the formation of owners seeking to modernize the technological sector of the manufacturing industry. In fact, the organizational structure of domestic machine-building industries uncompetitive for the conditions of an open economy was mothballed. It was disintegrated. The system of sectorial technological centers that existed in Soviet times (sectorial research institutes, experimental design bureaus, pilot production), which acquired the status of independent economic structures, lost its connection with serial production [9].

According to the estimates of the leading researcher of the Institute of Sociology, RAS, D. D. Raykov, the key idea of the government strategy - "the formation of a mobile, dynamically developing scientific and technical potential that meets modern requirements and resource capabilities of the country ..." - was an antinomy: the country's resource potential was brought to a level

where meeting the modern requirements, it became impossible, and attempts to adjust science to the state financial deficit turned out to be “deadly for science and For society ”[10].

5.Conclusion

Thus, as a result of flaws in conceptual approaches, poor management of scientific and scientific-technical activities, uncontrolled and forced privatization, implemented at the time of financial and credit, tax and pricing policies, completely insufficient state support, Russian fundamental and applied science was brought into a state of deep crisis, losing its accumulated potential, which caused irreparable damage to its economy and national security. Leading experts accurately described the current critical situation, made recommendations to overcome the crisis, but they were ignored by the government.
Currently, restructuring and modernization of the industrial potential, the creation of an adequate legislative framework for state innovation policy, a dialogue between the authorities and leading scientists, the training of highly qualified specialists in the field of engineering and technology, the formation of an innovation-oriented society, spiritual, professional and ideological values, not alien to the Russian mentality. With all the difficulties of the starting conditions, the available resource and human capital gives hope for the possibility of the implementation of the programmed.

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