
Financial Provision for the Implementation of State Programs with a Scientific and Technical Component

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Abstract:

The article deals with the distribution of power in the management of science between the Russian Federation and Russian regions.

The dynamics of salaries in the sphere of science is analyzed in the federal districts as part of the implementation of the State program of the Russian Federation "Development of science and technology" for 2013-2020 in 2013-2016.

It is shown that without an additional increase in the cost of wages of scientific workers, as it has been established by the Decree of the President of the Russian Federation within a given period in each constituent entity of the Russian Federation, is impossible.

Keywords: Development of Science, Research and Development, Competency, Expenditure, Federal Budget, State Programs, Salary of Scientific Employees, Publication Activity.

JEL code: I22, I25, I28, J38, H52.

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1. Introduction

The main instrument of state policy in the sphere of science and technological development is the State program of the Russian Federation "Development of science and technologies" for 2013-2020 (hereinafter – the "SPDST"), through which more than 85% of fundamental research and a significant part of applied research is realized. The transition to the program budget defined a new stage in the financing of science, and the Presidential Decree No. 597 of May 7, 2012 "On Measures to Implement State Social Policy" (Presidential Decree of May 7, 2012) set ambitious tasks for the Russian regions. The indicator of the Presidential Decree is to "increase by 2018 of the average wage of... scientific employees up to 200 percent of the average wage in the corresponding region."

It can be noted that the active involvement of extrabudgetary funds in the sphere of applied scientific research is posed as one of the tasks of the Government, which in 2015 was entrusted with determining mechanisms for regular assessment of compliance with the requirement of not less than 50 percent co-financing of applied scientific research from extrabudgetary sources (Stepanenko, 2016; Shekhovtsov and Shchemlev, 2017). In addition, the Law on Science provides for the commercialization of scientific and (or) scientific and technical results as an activity to involve scientific and (or) scientific and technical results into economic turnover (for example, the creation by scientific organizations of economic societies for these purposes, that allows to use the received profit on development of the scientific organization).

2. Research Methodology and Results

2.1 Distribution of Powers in the Management of Science Between the Russian Federation and Russian Regions

In accordance with Article 72 of the Constitution of the Russian Federation (1993), in the joint jurisdiction of the Russian Federation and Russian regions there are, among other things, general science issues (clause "e"). Article 114 of the Basic Law, at the same time, stipulates that the conduct of a unified state policy in the field of science in the Russian Federation is provided by the Government of the Russian Federation (clause "v" of Part 1).

Federal Law No. 127-FZ of August 23, 1996 "On Science and State Science and Technology Policy" (Federal..., 1996) (hereinafter – the Law "On Science") details the scope of the tasks of the federal and regional levels of government. Thus, the bodies of state power of the Russian Federation in accordance with the aforementioned Federal Law:

- guarantee to the subjects of scientific and (or) scientific and technical activity the freedom of creativity, giving them the right to choose the directions and methods of conducting scientific research and experimental development;
- guarantee to subjects of scientific and (or) scientific and technical activity protection against unfair competition;
- recognize the right to reasonable risk in scientific and (or) scientific and technical activities;
- provide freedom of access to scientific and scientific and technical information, except for cases stipulated by the legislation of the Russian Federation with regard to state, official or commercial secrets;
- guarantee the training of personnel for scientific organizations;
- guarantee the financing of projects carried out under state orders.

At the same time, both bodies of state power of the Russian Federation and state authorities of the Russian regions approve the statutes of federal state scientific organizations and state scientific organizations of the Russian regions, respectively; carry out control over the effective use and safety of property provided to state scientific organizations; and also perform other functions within their powers (Article 7 of the Law "On Science"). However, as noted in the literature, basically the administrative and legal regulation of science belongs to the competence of the federal government, and at the regional level – to the competence of the supreme executive body of the relevant region of the Federation within the limits established by federal legislation (Kechasov, 2015).

The above-mentioned powers in the field of formation and implementation of state scientific and technical policy are enshrined in Article 12 of the Law "On Science" (1996). Thus, in accordance with paragraph 1 of this article, the authorities of the government bodies of the Russian Federation in the sphere under investigation include:

- adoption of laws and other normative legal acts, development and implementation of a unified state scientific and technical policy;
- selection of priority directions for the development of science, technology and technology in the Russian Federation;
- formation and implementation of federal scientific and technical programs and projects, as well as the definition of federal executive bodies responsible for their implementation;
- financing of scientific and (or) scientific and technical activities at the expense of the federal budget;
- establishment of a system of economic and other benefits to stimulate scientific and (or) scientific and technical activities and the use of its results;
- assistance in the development of innovative activities of Russian regions;
- organization of scientific and technical forecasting;

- formation of markets for scientific and (or) scientific and technical products (works and services) of the Russian Federation;
- creation, reorganization, liquidation of federal state scientific organizations, exercise of the functions and powers of their founder;
- the implementation of commitments on scientific and scientific and technical programs and projects provided for by international treaties of the Russian Federation;
- protection of intellectual property rights;
- the formation of a system of technical regulation in accordance with the legislation of the Russian Federation on technical regulation, the system for ensuring the uniformity of measurements in accordance with the legislation of the Russian Federation, systems of scientific and technical information, patent and license business and their management;
- establishment of the state system of scientific attestation.
- It is the Government of the Russian Federation that determines the powers of federal executive bodies in the field of formation and implementation of a unified state scientific and technical policy, approves federal scientific and technical programs and projects on priority areas for the development of science, technology and technology, which, as indicated above, is conditioned by its constitutional status (see Article 114 of the Constitution of the Russian Federation).

The federal executive body responsible for these tasks (in this case, the Ministry of Education and Science of the Russian Federation), together with the Russian Academy of Sciences, branch academies of sciences, and federal executive bodies, is responsible for the formation and practical implementation of the state scientific and technical policy for civil purposes. The powers of the state authorities of the Russian regions in accordance with paragraph 3 of the same article of the Law "On Science" include:

- the right to adopt laws and other normative legal acts of the Russian regions on the implementation of the activities of these bodies in the scientific and (or) scientific and technical spheres;
- the right to establish state scientific organizations of the Russian regions, the reorganization and liquidation of these organizations, the exercise of the functions and powers of the founder of these organizations;
- adoption and implementation of scientific, scientific, technical and innovative programs and projects of the Russian regions.

Also, as a source of norms that reinforce the powers of the authorities of the Russian in the sphere of science, mention should be made of the Federal Law "On General Principles for the Organization of Legislative (Representative) and Executive Bodies of State Power in Russian regions" (1999). Article 21 of this Law states that the highest executive body of state power of the Russian region participates in the conduct

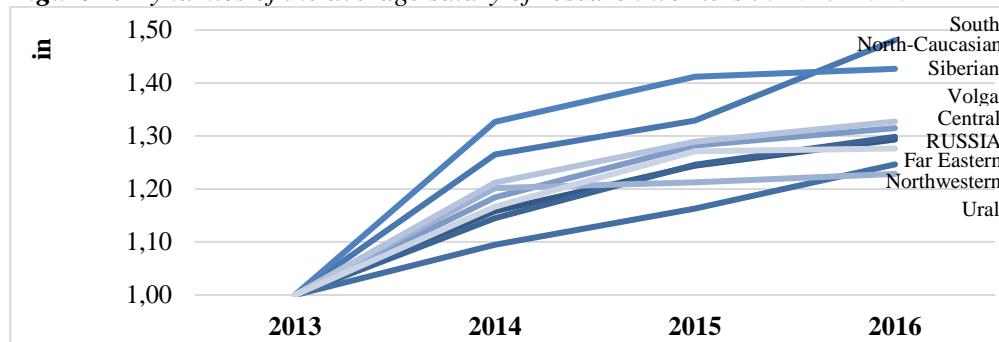
of a unified state policy in the field of science. In addition to determining the property basis of scientific activity, the law also fixes the procedure for its financing, along with the funding of scientific, technical and innovation activities (Article 15). In accordance with this norm, financial support for all three areas is based on its targeted orientation and the multiplicity of funding sources and can be implemented by the Russian Federation, Russian regions, municipal entities, as well as individuals and (or) legal entities in ways that are not inconsistent with the legislation of the Russian Federation and legislation of the Russian regions.

A separate article 13 of the Law "On Science" (1996) is devoted to the formation of the state scientific and technical policy, which is a federal authority. It states that the directions of state scientific and technical policy for the medium and long term are determined by the President of the Russian Federation based on a special report of the Government of the Russian Federation. State scientific and technical policy in respect of industries is developed and implemented by the relevant executive authorities with the involvement of economic entities and their associations, taking into account a single state scientific and technical policy (Dmitrishina and Uskov, 2015).

2.2 The dynamics of salaries in the sphere of science in the period of implementation of the "SPDST"

Although "SPDST", due to its specifics, does not have a regional section, the analysis of the salaries of scientific employees in the regional context is of considerable interest not only with the scientific but also with the practical, connected with the assessment of the prospects for the implementation of the relevant indicator of the Presidential Decree (2012), points of view. The growth of the average salary of scientific employees was observed in all regions. At the same time, the average for the country for 2013-2016, the growth was 29.3%. Approximately at the same level, an increase was recorded in the Siberian, Volga, Central and Far Eastern federal districts. It is noteworthy that the dynamics of growth in the whole of the Russian Federation is most correlated with the dynamics in the Central Federal District, where the overwhelming majority of scientific organizations are concentrated (Figure 1).

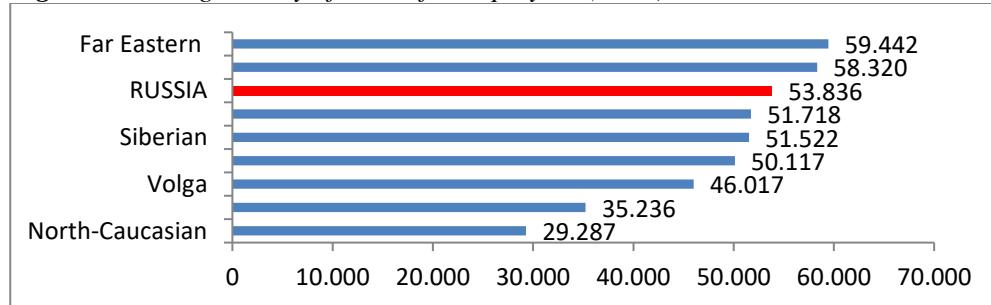
Figure 1. Dynamics of the average salary of research workers in 2013-2016



* 2013 = 100%

The greatest increase in the average salary of scientific employees in relative terms was observed in the South and North Caucasus federal districts, which is primarily due to the "low base effect". Thus, demonstrating high rates of growth, in nominal terms the average salary of scientific employees in these federal districts is still considerably behind the average Russian numbers (Figure 2).

Figure 2. Average salary of scientific employees (2016), rubles



The number of personnel engaged in scientific research and development has decreased in the Russian Federation and in the majority of federal districts. The largest decrease in the number was recorded in the Volga federal district and the Far East federal district. A slight increase was observed only in the Urals and Siberian federal districts. At the same time, a significant increase – about 20% – occurred in the North Caucasus and Southern federal districts. In the case of the Southern federal district, growth is largely due to the inclusion in the Russian statistical account of the scientific staff of the Crimea and Sevastopol. The reasons for the increase in the value of the indicator in the North Caucasus require additional research.

The number of researchers, in contrast to all personnel involved in research and development, slightly decreased only in the Central and North-Western federal districts. In the remaining federal districts, as well as in the Russian Federation as a whole, there is an increase in the number of researchers. The highest increase in relative terms was recorded again in the Southern (23%) and North-Caucasian (32%) federal districts. Such significant changes in numbers are associated, in addition to the mentioned inclusion of Crimea and Sevastopol in the Russian statistical records, apparently also with the effect of a "low base": in these federal districts, against the backdrop of a low number of scientific personnel, any change in it causes a noticeable correction of the relative dynamics. An analysis of the dynamics of the number of scientific employees, and, first of all, researchers, allows us to draw the following conclusions (Figure 3).

Having information about the dynamics of the number of scientific workers and the average amount of their salaries, it is possible to calculate the change in the total costs of the payroll of scientific workers. In 2013-2016 the growth of this indicator was observed in all federal districts, and in the whole country it was 28% (Figure 4). The increase in the wage fund in the Volga, North-Western and Far Eastern federal districts

is fixed below the all-Russian indicator. The most significant increase is about 70% in the Southern and North Caucasus federal districts. Growth in the Central and Ural federal districts correlates with the all-Russian indicator.

Figure 3. Change of the ratio of the number of personnel engaged in research and development and researchers by Russian federal districts (2013-2016)

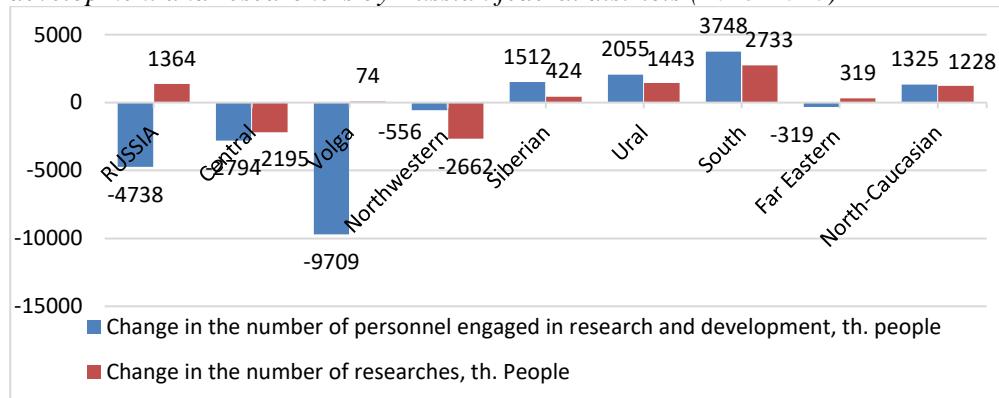


Figure 4. Dynamics of the payroll of scientific employees (2013 = 100%)

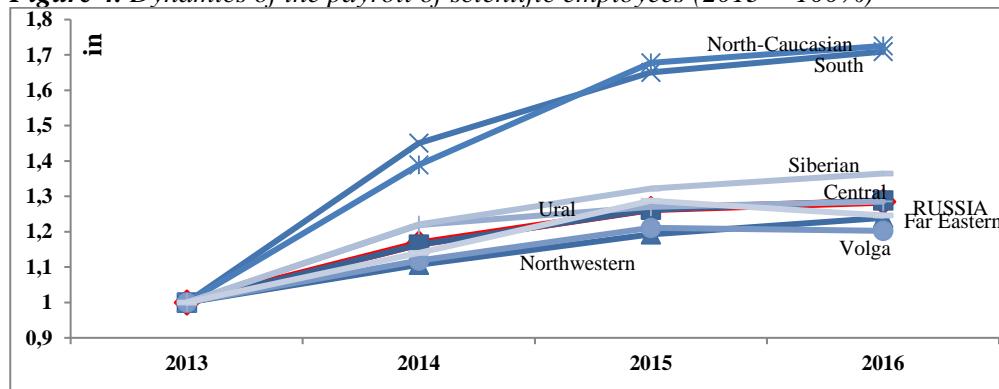
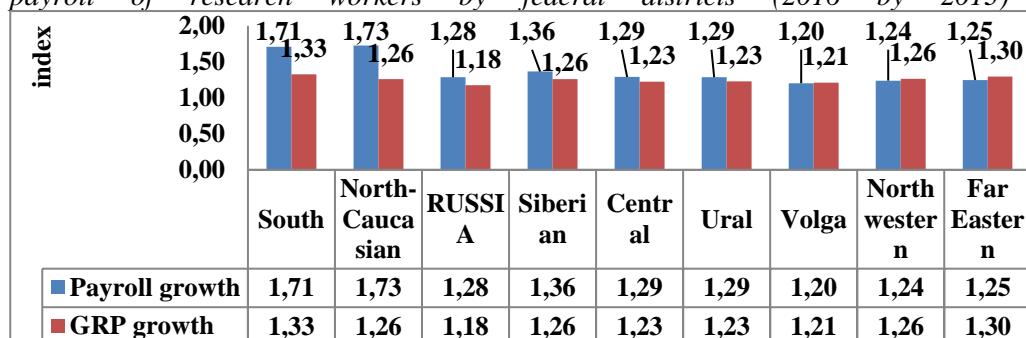


Figure 5. Comparison of the growth dynamics of the gross regional product and the payroll of research workers by federal districts (2016 by 2013)



A comparison of the growth dynamics of the gross regional product and the payroll of scientific workers in the federal districts makes it possible to indirectly assess the need to increase labor productivity in the scientific sphere (Figure 5). So, only in the regions of the Volga, North-Western and Far Eastern federal districts, the growth of the gross regional product is ahead of the increase in the payroll of scientific employees. This topic needs further research, but it should be borne in mind that in the scientific sphere, the impact is delayed, not as long as, for example, in education, but the result of investments in the current-next years can be extremely rare.

3. Conclusions

Thus, the regions of the Privolzhsky and Siberian federal districts have the maximum chances to reach the wage index in a timely manner, where the salaries of scientific workers are lower than the average for Russia. Despite the high growth rates of the indicator and the remuneration of scientific workers significantly lower than the Russian average, regions of the North Caucasus and of Southern Federal Districts have the lowest chances without additional assistance to reach the set value of the indicator within the specified time.

The extremely difficult situation is in the regions of the Far East and in the Central federal districts. In these regions salaries of scientific workers are higher than the Russian average, but significant cost of labor related to the number of scientific employees, at the current growth rates of the indicator will not only prevent most of these regions from reaching the set value of the indicator, but also, due to the high specific gravity of these districts, will not allow the Russian average to achieve the desired goal. The regions of the North-West and the Ural federal districts, in which the salaries of scientific workers are lower than the average Russian, nevertheless are in the same group as the regions of the Far Eastern and Central federal districts and also show a low growth rate of the indicator value, providing an even greater slowdown in the growth of the average Russian value.

Thus, without an additional increase in the cost of increasing wages, the achievement of the set value of the indicator at a given time in each Russian region is impossible (The project "Methodological...2013-2020)

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