

# **PUBLIC PROCUREMENT TOWARDS INNOVATIONS IN RUSSIA: OPEN DATA ANALYSIS**

**Abstract.** The research focuses on the analysis of open data on public procurement of innovative products and on procurement of research and development services (R&D). The complexity of testing products for innovation criteria, the differences in classifying products as innovative and the specifics of conceptual and categorical framework in this sphere, indicate the peculiarities of the implementation of the principle of stimulating innovation by contracting authorities. This research empirically answers the following questions: what procured products in the market are considered by contracting authorities to be innovative, what types, and categories of procuring entities conduct procurement for innovation? We reveal that the procurement of innovations is related to the law by which the organization conduct purchases, as well as to the organizational and legal form of the customer. The procurement of innovations is also influenced by the method of determining the supplier, the price of the product and the object of the purchase. The results of the study show heterogeneity in the procurement of innovations by Russian customers and link this heterogeneity with the differences in the procurement legislation.

**Keywords:** public procurement, innovative products, R&D procurement, priorities of the Government.

## **Introduction**

One of the crucial state tasks is to stimulate the innovative activity of economic agents, as well as the development of the country's innovative potential [Tsygankova, 2018]. Since the fourth industrial revolution, the ongoing active development of high-tech industries, when the added value is shifting from the production stage to the product development stage, the priority of stimulating and supporting innovation at the state level in Russia is also strengthened by the growing sanctions crisis and the restructuring of the economy. In this regard, public procurement is an effective tool in the implementation of the priority of stimulating innovation, supporting innovation activity through creation of demand for innovative products [Vinogradov et al., 2022]. It becomes expedient to assess the potential of the existing legislative mechanisms to stimulate innovation in public

procurement and to assess the impact of these mechanisms on the frequency of procurement of innovations by Russian contracting authorities.

Considering the specifics of the two main laws governing the public procurement system (44-FZ, 223-FZ), as well different goal setting of organizations regulated by each law, the following question arises: which types of procuring organizations more often, and which less often, conduct procurement of innovations, and what characteristics and features are inherent to the procurement of innovations in Russia? This study answers these questions empirically. We also aim to assess the volume and scale of procurement of finished innovative products and purchases of R&D in Russia.

In the research we analyze data on public procurement in Russia for the period from 2018 to 2023, including information on the procurement of innovative products that are already on the market – 128 522 procurement notices, as well as information on all R&D procurement (OKPD 72) for 6 years (47 012 notices).

It is shown that contracting authorities regulated by 223-FZ are more likely to purchase innovative products in comparison with customers whose procurement activities are regulated by 44-FZ. In addition, the paper shows that innovative products are more often purchased in the form of electronic auctions. There are differences in the sectors of purchased products, namely: innovative procurement in the field of medicine is more indicative than in other industries. It is also noted that the procurement of innovative products is on average more expensive than "standard" procurement procedures. The results obtained are consistent with the earlier studies [Kashin, 2021; Shadrina et al., 2022] and confirm the hypothesis

that organizations implement state priorities with different frequency depending on the type of regulative pressure.

**Literature references.** In one of the recent papers on the topic [Volchik, Tsygankov, 2022], it is shown that an innovative public procurement system should be considered with the interaction of three institutions (i.e. government, academic sphere, and business). In the aforementioned research, the authors conducted expert in-depth interviews with representatives of the academic sphere who are related to innovation processes. It is revealed that the widespread of innovations is hindered by the insufficient development of interaction mechanisms between science and business. In another study, authors use qualitative methods to assess the development of the innovation system, namely the narrative economy approach – the analysis of the opinions of government and business representatives regarding the innovative activities of Russian organizations [Tsygankov et al., 2024].

Razvadovskaya Y. and Khanina A. analyzed how public procurement of R&D was performed for the period from 2012 to 2018, in particular – the procurement of strategic innovations by methods of determining a supplier. The authors also studied the dynamics of purchases of innovative goods, such as computers and TV components. As a result, the research revealed that most R&D purchases were performed as electronic auction, which indicates the competitive nature of R&D procurement [Razvadovskaya, Khanina, 2018, p. 59]. At the same time, the 10 times increase was in the number of R&D purchases for the analyzed period.

In Kurnukhin et al. (2020) the factors that have negative impact on the innovative potential of public procurement are examined. Detailed legal requirements that limit the contracting authority's ability in making

technical specifications, the widespread use of procurement methods and bid evaluation methods that do not have conditions for products with innovative functions, and the lack of information about the long-term needs of public bodies, as well as the qualification and awareness of contracting authorities in the issues of innovative procurement – all these are the main barriers to the procurement of R&D [Kurnukhina et al., 2020].

In this research, we focus on the factors that may explain the differences in the implementation of the priority of stimulating innovation by different categories of Russian public bodies.

### **Methods and materials**

At the first step, data was collected on the procurement of finished innovative products (presented on the market). We made search through the registers of such products in all regions of Russia. The results showed that only 23 regions publish registers of innovative products, for example, the Novosibirsk Region, the Amur Region, the Republic of Tatarstan, Moscow and others.

During the next step we formed a sample of public procurement procedures based on items from the registers, and checked whether purchases of such products were placed by contracting authorities in UIS (unifies information system) in the period from 2018 to 2023.

Next, we analyzed the positions of the procurement plans of contracting authorities who are obliged by the law to purchase innovative products. This is done to check which products the customers themselves refer to as innovative and how their solutions relate to the regional registers of innovative products.

Finally, we analyzed the dynamics of R&D procurement in Russia, to compare these purchases with the specifics of procurement of finished innovative products.

## **Results**

For the analyzed period (2018–2023) in the Russian Federation, contracting authorities placed 99 842 purchases of finished innovative products under 44-FZ and 28 742 such purchases under 223-FZ. The objects of purchases were obtained with the help of the register of innovative products in Moscow (the most detailed register of such products in Russia). In 2023, there was a significant increase in the number of purchases of finished innovative products under 44-FZ compared to 2022, which may be due to the acceleration of the import substitution and, as a result, a more frequent reflection of the priority of stimulating innovation in the activities of state customers.

The sample of procurement of finished innovative products is dominated by the procurement of medicines for various needs (123 730 purchases), especially for the treatment of rare autoimmune, genetic and cancer diseases.

On average, the number of suppliers (applicants) ranged from 1.5 to 2.5, and these are quite small values compared to the other objects of purchases. This may indicate that there are few suppliers who can produce these products. In addition, such a small number of applications may be due to the structure of the market for certain types of innovative products – some objects of innovative products can be carried out as purchases from a single supplier. The average savings from the initial maximum contract price from year to year in the sample are significantly decreasing (by 14.3% in 2023 compared to 2018).

Considering the data on all R&D purchases placed in Russia for the selected period (OKPD 72) – the total of them is 48 040 (47 012 were completed, others – cancelled), 12 607 purchases were placed under 44-FZ, while 34 405 procedures were conducted under 223-FZ. In terms of the volume of purchases under 44-FZ, orders were placed for 1.2 trillion rubles, and under 223-FZ – 460 billion rubles.

There was an annual decrease in the number of R&D purchases under 223-FZ for the period 2018-2023 (more than 63% decrease). For the volume of purchases (in rubles), the decrease was 82.9%. Under 44-FZ there was also an annual decrease in the number of R&D purchases, but not so significant - by 34% (median 8.7%). Such dynamics may be due to the provisions of the Decree of the Government of the Russian Federation dated 06.02.2022 No 301, according to which information on the procurement of contracting authorities under sanctions of foreign countries is not placed in the UIS.

The most popular categories of R&D among customers are works in the field of Technical Sciences and Technologies, except for the biotechnology (nanotechnology, information security) – in the analyzed period they were placed 13 837 times for a total amount of almost 1.5 trillion rubles. Quite often and for significant amounts, customers place R&D purchases from the category of humanities and social sciences.

The study also revealed that autonomous, unitary and other organizations that place purchases under 223-FZ purchase R&D much more often than JSCs and LLCs that also place purchases under 223-FZ. In terms of the contract value of R&D purchases placed under 44-FZ, regional and federal customers are the leaders. Municipal customers make the least purchases of R&D both in terms of quantity and volume.

## **Conclusion**

This study shows the volume and scale of purchases of finished innovative products and purchases of strategic innovations in Russia for the period 2018–2023. The study revealed that contracting authorities regulated by 223-FZ are more likely to purchase R&D compared to contracting authorities regulated by 44-FZ. These differences in the frequency of innovation procurement may be explained by different goals of organizations and may also indicate the effectiveness of existing rules and regulations in the field of innovation procurement provided for contracting authorities regulated by 223-FZ.

Customer savings (calculated as % of price reduction) and competition in procurement, estimated through the number of submitted and admitted applications of suppliers, in the procurement of both finished innovative products and in R&D procurement are at a relatively low level. The reason for this may be the specifics of the structure of the innovation market, as well as the uniqueness of the objects of such purchases and the limited number of suppliers in the innovation market.

It seems expedient to develop uniform criteria for classifying products as innovative, to form and legislate a single conceptual and categorical apparatus in the field of innovation. It is also important to develop practical recommendations for customers on specifics in procurement of innovations, to develop a methodological base in terms of procurement of innovative products.

Considering the results of the dynamics of procurement of innovative products, it is important to consider the possibility of creating a federal unified register of innovative products in Russia.

## Reference list

1. Kashin D.V. Small and medium enterprises in public procurement: Factors affecting the decisions of public bodies // Vestnik of Saint Petersburg University. Management. 2021. 20(3). pp. 410–431 (journal article in Russian).
2. Kurnuhina K.S., Gostev D.V. and Hasanshin I.A. Development of innovative potential of public purchases in Russia // Actual Issues of the Modern Economics. 2020. 4. pp. 747–753 (journal article in Russian).
3. Razvadovskaya Yu.V., Hanina A.V. and Marchenko A.A. Institute of Public Procurement in the System of Innovative Development of the National Economy // Innovations. 2018. 7(237). pp. 58–64 (journal article in Russian).
4. Shadrina E., Vinogradov D. and Kashin D. Implicit Incentives in Green Public Procurement: Good Intentions versus Rigid Regulations // Ecological Economics. 2022. 198. Article 107458.
5. Tsygankov S.S., Maskaev A.I. and Volchik V.V. Public procurement and innovation policy in Russia: a perspective of narrative economics // Russian Journal of Economics and Law. 2024. 18(1), pp. 24–35 (journal article in Russian).
6. Tsygankova E. M. Public procurement of innovative products in Russia // Journal of Economic Regulation. 2018. 9(4). pp. 134–145 (journal article in Russian).
7. Vinogradov D.V., Kashin D.V. and Shadrina E.V. Institutional factors affect sustainability of public procurement of construction works in Russia // Journal of the New Economic Association. 2022. 4 (56). 141–170 (journal article in Russian).
8. Vol'chik V.V. Cygankov S.S., Fursa E.V., Shiryaev I.M. and Maskaev A.I. The institutions and mechanisms of the Russian innovation system's regulation in the mirror of narratives // Journal of Economic Regulation. 2022. 13(4). 6–23 (journal article in Russian).