

# Features of the Current Stage of Russia's Innovative Development

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**Abstract.** The article primarily focuses on the innovative development of the economy. This article reveals the essence of innovation policy and the need for it to focus on creating favorable conditions for the business environment.

Mixed-method research combines qualitative and quantitative methods. Data used in this research are based on a mix between primary and secondary sources. Secondary data were collected from Industry reports, books and other digital sources. This information was fundamental to perform a general analysis of the country current situation and the economic, and to understand which were the main point. Primary sources were collected through interview with scientists, entrepreneurs.

Numerous studies have shown that the main core for significant change is always big business. Globally change the economy in a short time can only be done by the major business that has switched to new technologies.

In the process of developing innovations, state support for the innovation environment of science, education and capital investments is fundamental. Now they are better supported. However, it is imperative that these measures should be continuous. For getting closer to the development level of leading countries, it is necessary to apply more measures.

In this study, an attempt is made to develop a set of innovative policy measures that would, in the short term, from the point of view of technological development, get closer to the leading countries.

## 1. Introduction

International experience shows that the decisive role at the very beginning of the development of the national innovation system belongs to the state, which establishes the basic rules of the market and acts as an active consumer of innovative solutions. According to the Strategy of Innovative Development of the Russian Federation for the period until 2020, one of the government's key goals is to create favorable business conditions, improve the provision of public services and identify technological priorities for the development of the economy.

The economy should form an internal demand for high technologies. Achieving such goals requires the use of the public procurement system, investment programs of state companies. In addition, development institutions require careful inventory accounting. He must restore the strategic vector of technological breakthroughs in his work. To free the economy of obsolete, inefficient and harmful

technologies, the country's economy must finally create a modern technical and ecological regulatory system.

The economy is very sensitive to this extremely complex problem. The government needs to work vigorously in cooperation with enterprises. The innovation development strategy is aimed at solving the problems and threats that Russia faces in the field of innovative development, in order to determine the goals, priorities, and tools of the national innovation policy.

Nevertheless, this important document prescribes long-term development stages for those who are directly involved in innovation activities. The level of innovation activity of each country affects its economic competitiveness in the international arena. There is still a discrepancy between Russia's positions in most of the world's ratings and its potential.

However, the past few years have led to positive trends in a wide range of indicators. In particular, ultimately, the creation of an innovative ecosystem will lead to the fact that private capital will dominate high-tech investment in Russia. It is no coincidence that a wide range of forms of public-private partnership is already being applied in the country, starting from the implementation of exclusively social and infrastructural projects of national importance for the development and adaptation of particularly promising technologies for new growth points in which the high technology potential of high technologies is concentrated.

## **2. Current situation of the general backwardness of Russia's innovation system**

Russia needs an impulse for innovative development and economic restructuring. It should be noted, that in the country today there are a number of achievements that cannot be neglected. The Russian government, in turn, has created many elements that are part of the innovation ecosystem, and all this has led to changes and transformations in many areas.

But do not forget that in the country of basic economic growth there were no innovations. Innovation must now be at the forefront since other potential drivers are not exhausted. They need to move towards innovation.

Russian and foreign researchers draw conclusions about the overall proposal of the innovation system in relatively decent limits in the field of education and infrastructure, as well as in public funding of R & D. The following lag in the innovation system reserve [1]:

1. Low profitability of R & D expenses. Namely, in spite of the fact that the state costs for the research and development are quite high, they do not lead to the projects' implementation. Unfortunately, projects do not help enterprises compete or create patents.

2. The limitations and weaknesses of the fundamental layers limit projects in obtaining support or promotion. They are based on the limited impact of the following factors in three main areas:

- innovative markets, which are characterized by low levels of competition, as well as high barriers in the development and implementation of innovative solutions. The government (represented by Central Bank) sells money to the commercial bank at very high rates. So the Government have to choose between earning money or developing innovations;

- an innovative culture that is characterized by weak demand of households for innovation, low prestige of scientists, inventors and entrepreneurs. The insignificant income of scientists undermines prestige. A high level of corruption reduces the activity of entrepreneurs[2].

3. Low demand for technological solutions from the business does not contribute to the demand for innovation as a key factor in the production process or a source for growth or competitiveness. R & D is supported only by the state, but not by the private investors. As a result, the country lags far behind the number of innovative companies and high-tech exports. Low business responsiveness is associated with high-interest rates on loans. They don't prefer to invest in questionable 10% of the profit a year from innovation, it is better to put on a deposit or take out abroad.

4. "Glass ceilings": innovative start-ups and venture investors face a lack of growth and/or access mechanisms: business projects that are implemented in the local venture capital market do not achieve the required growth or do not find an entry point in the country, as a result, they leave abroad.

Analysts and experts made proposals aimed at restructuring the system of public administration of

innovative development - mainly with regard to the formation of unified priorities, increasing efficiency and distribution of powers, eliminating duplicate functions, cascading responsibilities and coordinating actions.

It is impossible not to notice the positive effect of the continuous efforts of the Russian state in the field of innovative development over the past 5-6 years after the adoption of IDS-2020. This is evidenced by such global ratings as the Doing Business of the World Bank, the Global Innovation Index of the INSEAD Business School and the Davos Economic Forum Global Competitiveness Index [3].

The Doing Business rating is a combination of two key government initiatives: the National Entrepreneurship Initiative and the Innovative Rating of the Development of Russian Regions. This shows that Russia moved from 123rd position in 2011 to 35th place in 2018, thereby reducing the gap between the leading countries, which at the same time improved the ways of doing business almost doubled (Figure 1).

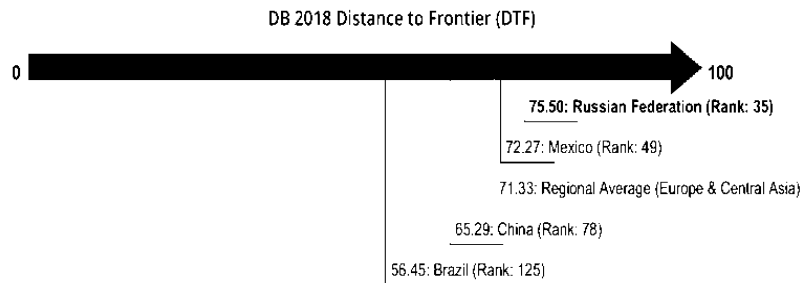


Figure 1. Starting a Business in Russia and comparator economies.

The Doing Business rating is only apologetic in measuring innovation, it focuses on attention and measures the success of government actions in providing a business environment for all types of companies. Nevertheless, a favorable environment is the line of our dashboard and a key prerequisite for innovative development [4].

According to the Global Innovation Index (GII), over the past six years, Russia has improved its performance, moving from 64th to 43rd position, ie, about 1.5 times. Almost the same picture can be seen in the Global Competitiveness Index (GCI), Russia scored 4.64 points out of 7 on the 2017-2018 Global Competitiveness Report (Figure 2).



Figure 2. Russia Competitiveness Index 2007-2018.

Competitiveness Index in Russia averaged 4.30 Points from 2007 until 2018, reaching an all time high of 4.64 Points in 2018 and a record low of 4.13 Points in 2007[5].

However, when studying the component and the accompanying indicators of the GII and GCI

ratings, which reflect the dynamics and the degree of innovative development, respectively (in the third rating - Doing Business does not have such a component - since this rating reflects only the created conditions by the state), the picture becomes slightly less optimistic. Our conclusions about the main problem of the high cost of loan capital are confirmed by international ratings [5] (Figure 3).

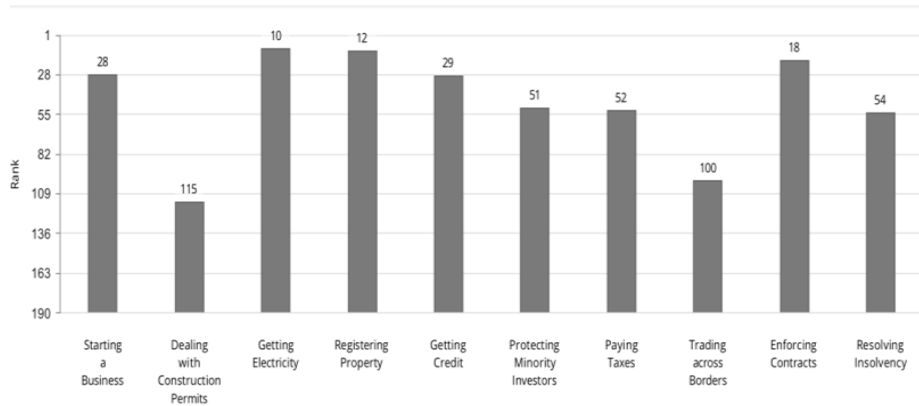


Figure 3. Rankings on Doing Business topics – Russia.

Thus, in the GII rating, most of the growth was observed in the component Subindex Innovation Input Subindex, which reflects, in the same broad sense, the country's investment in innovative development, and also includes efforts to create a favorable innovation environment; from the point of view of this component, Russia's position rose in the same six years from 82 to 44, that is, the country improved its indicators almost twofold. So there is investment.

Regarding the second component, which reflects innovative activity as such - innovative products of Subindex - it should be noted that Russia has somewhat improved its position - from 51 to 47th place. It can be concluded that the basis and driving force behind the profitability of innovative enterprises are not investments. The CGI divides countries into three groups, depending on the main driving force of their economic development at this stage: countries driven by production factors; countries driven by production efficiency; production driven countries.

The first group includes the very poor countries who survive through cheap labor or natural resources, while the second group includes those that compete with each other through efficiency – that is, they produce what is already widely available, but they do it better. Then the countries of the first group; and only countries of the third group compete with their global innovative solutions, namely, create new products and technologies.

As of 2010, Russia was in the second group of countries and was unable to reach the first group for the next six years. Weak results should be considered and analyzed in the context of innovation policy, so that, at least, it becomes clear what the government should do or how to change the measures it has already taken to achieve a qualitatively new dynamics of innovative development [7].

### 3. Priority tools of innovative development of the economy and the results of their application

Let us consider groups of economic agents, to whom it is necessary first of all to direct the main state initiatives in the framework of the current innovation policy. Five groups of agents can be identified, which in fact can actually overlap: the state itself, the system of state administration of the innovation agenda; academic environment, that is, science and education, as well as the innovative spirit of society as a whole; entrepreneurs, startups and venture investors.

Individual inventors are People who have dedicated themselves to inventions that pursue their own goals (although they may be commercially motivated, but at the same time do not have the aspirations necessary to develop them in big business) and from any organized projects, they form the basis for creating stream ideas, suitable for further commercialization.

According to expert estimates, almost 10% of the adult population doesn't underuse it themselves

participate in one form or another from the invention of things. But unlike the leading innovative countries, the share of medium-sized businesses in Russia is very low - and is less than 21%. It should be noted that the average Russian business must have a weighty weight in order to quickly and sustainably respond to innovation policy. It is noteworthy that a similar problem exists in leading countries, where the results in response to measures that are implemented in the framework of innovation policy do not provide the necessary stability, even if the speed is consistent. Now let's look at big business. Large enterprises occupy a large part of the Russian economy, and this is much more than in developed countries [6].

They were aimed at big business, Russia's innovative strategic education automatically covers almost 80% of the economy. Such a huge proportion of large enterprises is already an indisputable argument in favor of limited efforts on innovative programs [8].

Large business in terms of the transformation of modern technologies can provide real commercial demand for the academic and business environment in the shortest possible time. This will provide a synergistic effect in existing operations with high-tech start-ups, an innovative environment and increase the efficiency of enterprise incentives. But if you look at it from the other side, a developed and improved scientific environment is a stimulating factor for the development of innovations in large companies.

A review of innovation policy in recent years shows that the state, being active in the original, has been and remains focused on: supporting science and education; providing favorable conditions for entrepreneurs and investors of the enterprise; The position was intended for financial and non-financial support for start-ups. Only in recent years has the state begun to vigorously promote innovations in large enterprises, the effect of which, however, has not yet been fixed on the dashboard [9]. It is noteworthy that both fundamental science and the active position of the state in organizing and financing scientific reviews are undoubtedly necessary and vital. Researchers note the payback of the material in the fundamental study.

The innovation policy center for creating a favorable business environment seems to lead to faster results, at least because of the initial goals of startups and risk investors with a quick and obvious result. However, the launch activity also shows the expected effect.

In changing the technological paradigm and structure of the economy, the core is high-tech startups, which are the sources of the most disruptive innovations. This is often the cause of the longer periods needed to find ideas and entrepreneurs, manage their companies and raise funds, develop a prototype, and finally expand the business. There are three ways to develop a strategy based on critical ways to limit the innovative development of a country by a majority [10].

Support for beginners and corporate investors, in turn, faces the challenge of an open-loop innovation system. Unfortunately, a number of technological solutions and their developers are leaving our country, trying to squeeze into existing innovation centers, ousted by a common centripetal force without sufficient domestic demand that could help counter this force.

#### **4. The initiatives of the state innovation policy of Russia and their evaluation**

The entrepreneurial path involves the commercial use of the invention and its launch into production. Private investors or start-ups implement their innovations using the entrepreneurial path. This ensures the development of innovations, the growth of the number of useful ideas and inventions that can be commercialized and represent any value. Two conditions are necessary for the startups' emergency. First, there must be a sufficient number of commercial ideas. Their sufficiency is estimated as the percentage of inventions that have been patented by individuals. Russia is 9 times behind this indicator of the leading countries. Therefore, it is necessary to create conditions for increasing the activity of working innovators, to promote the emergence of new inventors, to improve their image and promote scientific research, new technologies, and entrepreneurship.

Venture way, which is interpreted as from the demand for technology to start-ups [11]. The second way means that there is a demand for innovations and investments as a necessary condition for the emergence of start-ups [12,13]. As a starting point, we consider the demand for ready-made

technologies. This demand shows the willingness of investors, especially private ones, to take risks and invest their capital in innovation. Thus, determining the possibilities of this path, it is necessary to estimate not only the total volume of venture investments, but also their structure: the percentage of private and public investments [14,15].

Corporate way, which means from research to innovative companies. The third way is realized on the basis of innovation activity in mature firms [16,17]. Evaluation of this path is possible in terms of patent activity (including international patents), which depends on the level of development of the research base in relevant sectors of the country's economy, the effectiveness of R & D expenditures, the degree of security of patent protection abroad [18]. Despite the fact that the country is significantly lagging behind in terms of international patent activity, the total number of mature innovative firms in Russia is closer to the world average. This is easy to explain: each Russian innovation company has fewer international patents[19,20].

The development of the corporate path, first of all, requires the improvement of the general level of the research base in large companies, as well as the strengthening of cooperation between business and scientific and educational institutions. It is necessary to support the activity of research centers in a large business, as well as the creation and functioning of collective centers that cooperate in research and development with various enterprises. Companies should be encouraged to look for new technological solutions[21,22].

Thus, in our opinion, in the Russian economy, only large enterprises can become the basis for relatively rapid and meaningful innovation and technological development.

Innovation activities of large businesses should be complemented by the efforts of small venture capital firms, which may lead to a synergistic effect from the initiatives they have undertaken [23,24].

The role of large mature firms in this process is very substantial, because they create the main demand for innovation. It leads to the deployment of innovative activity: attracting venture capital investments and developing inventive activity [25].

As a result, it is possible to directly influence a large part of the national economy, cause large enterprises in Russia produce 79% of its GDP (compared to an average of 42% in other countries)[26,27].

However, at present, large companies are not able or unwilling to actively develop innovations and demonstrate stagnation in the research area, as a result losing their competitiveness in the global market.

## 5. Conclusion

In conclusion, we would like to say that in Russia there is an urgent need to quickly overcome the bridging gap that separates it from other leading countries at the level of entrepreneurship and tolerance to a reasonable risk associated with entrepreneurial activity. Citizens still demonstrate inadequate ability to take the initiative and implement their ideas, while considering business as an instrument for their implementation.

The main goal of innovative development is to create conditions for the formation of competences in the field of innovative activities in people. In order to modernize the economy and focus on high-tech production, the main task remains to create a modern infrastructure to support technology companies.

The implementation of the innovation policy pursued by the executive bodies of the constituent entities of the Russian Federation and municipal entities will be an important prerequisite for improving the efficiency of innovation activities. It is advisable that the regions adopt the experience of successful innovation-active regions of the Russian Federation and scientific cities in order to improve the institutional environment and mechanisms for using innovative infrastructure. In today's interdependent world, no country can independently solve the problems of innovation.

As a result, the creation of a system based on networked cooperation (open innovation) is a key prerequisite for Russia's integration into the world community. Essential elements of the Strategy are

the support of domestic export-oriented companies and the promotion of import and transfer of technologies.

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