

The Innovative Activity of Russian Business in the Conditions of Macroeconomic Instability

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Abstract—The article identifies the role of innovations in the economic development of a state and a region during innovative development transformation. Regional and industry differentiation by companies' innovative activity level is analysed. Priority areas of innovative activity development in pioneer businesses were identified. Conclusions are made concerning the necessity to carry out a policy aimed at encouraging innovative activities. A mechanism encouraging activity and boosting innovations in Russian economy entities was developed.

The theoretical and practical merit of the research arises from the possibility to use its results to identify promising areas of national economy modernization and to provide a basis for major methods and instruments of innovative state policy design and implementation.

Keywords—*innovations, innovative activity, marketing innovations, organizational innovations, technological inventions, innovations' effectiveness, engineering, innovative policy.*

I. INTRODUCTION

At the current stage of global and Russian economy development, there is a change of the technological mode and the long cycle of economic environment put forth by N. Kondratyev. Innovative technologies based on biotechnologies, nanotechnologies, global information networks, artificial intelligence system, etc. form the foundation of the new cycle's wave [1]. Innovative technologies help to significantly enhance production effectiveness, to lower the expenses, and to reduce capital and energy output ratio.

II. PERTINENCE AND SCIENTIFIC MERIT

Transition to innovative economic development is particularly relevant for Russia, as even enormous investments into an obsolete technological mode cannot produce proportionate output as they would only fuel inflation [2]. Active introduction and usage of innovative projects will enable to modernize the national economy, to reduce commodities dependence, to boost competitiveness on international markets, and, as a result, to improve living standards and life quality of Russians.

Scientific interest of the research results from the procedure proposed by its authors that aims at analysing and selecting criteria for scale and intensity assessment of innovative activities within national economy entities and their

encouragement in the modern environment. Scientific problem solved in the research covers not only the review of the current situation but also helps to identify the peculiarities of unbalanced development of scientific and technical modernization in Russian production sector in order to focus on priority areas of national economy's innovative development.

III. GOALS AND TASKS OF THE RESEARCH

The goal of the research is to develop theoretical and methodological provisions and practical recommendations to encourage and increase the effectiveness of innovative activities in national economy entities.

The tasks accomplished in the research:

- to clarify the conceptual and categorical framework in the field of innovative activity research;
- to provide basis for and utilize a set of criteria for intensity and sustainability of innovative activities that enable to assess the current level of their development and efficiency;
- to develop a mechanism for Russian businesses to encourage their innovative activities and boost their effectiveness in today's business environment.

Unfortunately, today the gap between Russia and developed countries in innovations is huge, namely about 10-12 times. In 2014, in the innovation country rating based on the global innovation index, Russia was ranked 49th among 143 countries examined [3]. Thailand, Qatar, Greece and Seychelles had nearly the same results. Among former Soviet republics, Moldova, Lithuania, Latvia, and Estonia ranked higher than Russia. Switzerland, the United Kingdom, Sweden, Finland, the Netherlands, the USA, Singapore, Denmark, Luxembourg and Hong Kong were in the top ten. Sudan, Togo, Yemen, Tajikistan, Pakistan and other Asian and African countries were in the end of the list.

It is important to note that this rating uses 80 variables that identify innovative potential and the conditions of its implementation. Two groups of criteria are used for this purpose: available resources and innovation input conditions as well as innovation output. In other words, the final index makes it possible to objectively assess innovative development of a country as it is, in fact, an input-to-output ratio [4].

IV. THE ANALYSIS OF THEORETICAL APPROACHES

When a new technological mode is developing and technological economic structure is changing, there are new leaders and outsiders. That is why introduction and use of innovative technologies and economic entities innovative activities encouragement becomes a priority goal both at the national and company level.

In order to encourage innovations, it is essential to clearly define the term “innovative activities” which is interpreted differently in modern economic publications. As a rule, innovative activities are seen as innovative practices, though these terms are not synonymous and have certain differences. Thus, practices are a set of actions, certain work, while activities are about active engagement [5]. Some researchers see innovative activities as the most important characteristic of the company’s innovative practices [6]. Others believe that it is an activity carried out by business entities in developing and introducing new or improved technologies into the economy [7].

The following definition of innovative activities is quite detailed – it is a comprehensive feature of innovative practices of a business entity enabling it to unlock innovative, intellectual, resource, and other types of potential and connected to intense work on developing, introducing and disseminating innovations [8].

Thus, innovative activities of business organizations and industries deal with their ability to introduce and utilize inventions to boost competitiveness and gains and to secure a market share.

With that in mind, innovative activity as an economic category should be examined on three levels: the macro-level as innovative activity of a country in comparison with other countries in global economy; at the meso-level, namely the level of a region or an industry; and the micro-level of an individual company [9].

Retrospective analysis of innovative activities of businesses showed that in the Soviet Union innovative companies in manufacturing accounted for 60-70%. In the 1990s, the number was reduced dramatically to 4.7% in 1997 [10]. Today, the proportion of innovative companies in Russia is between 9-11% while in European Union the average rate is 44%.

On the regional level, the differences in innovation introduction and use are considerable. Last decade, the majority of Russian regions pointed out the need to encourage economic growth through innovations, competitive products manufacturing, new technologies, development of scientific potential [11]. This policy is implemented through regional initiatives of innovative development and the design of relevant laws and regulations. At the state level, the “Innovative Russia 2020” programme was outlined, pointing out the necessity to formulate and introduce innovative development strategies on the regional level [12]. Among the recommendations for encouraging innovations, there are such measures as the increase in budget expenses, including by means of state-private partnership, and the tax reduction for

innovative companies (exemptions from income and property taxes, investment credits on preferential terms etc.).

V. EXPERIMENTS

The current stage of economic development of the country is based on active use of innovative technologies [13] that are the key factor in boosting effectiveness and technological improvement of manufacturing process. Nevertheless, the percent of innovative companies in the national economy is decreasing. For instance, in 2014 about 10% of all business entities engaged in technological, organizational and marketing innovations, while in 2016 their number reduced to 8.4% (see Fig.1). It is a result of worsening macro-economic environment during this period and the decrease in investment and financial prospects, in particular for companies that engage in technological innovations, which take huge investments. The percent of such innovative businesses reduced during the examined period from 8.8% to 7.3% of the total number of companies.

Companies’ activities in the field of organizational innovations that transform a company’s structure is also less intense: in recent years, national businesses implement such innovations less and less, for instance, in 2016 only 2.4% of companies introduced innovations. Today due to economic and political instability, national businesses do not have opportunities to introduce even some innovative marketing methods.

The key factor that determines the opportunities for the implementation of an economic potential of a country as whole and its regions is the stimulation of innovative and investment activities of business entities. Besides, innovation stimulation in a region provides for a competitiveness boost that results in manufacturing of new products, the establishment of new production companies, the introduction of new types of integration, and cooperation between regional industries. Innovations introduced in a certain region strengthen [15] its economic security, diminishing risks and threats of a dead-end that results from a high level of dependency on interregional and international relations.

The availability of necessary resources, infrastructure [16] and local authorities’ policies [17] determine the traditional Russian gap between innovative potential development in the regions and their readiness to design, use, and introduce innovations. For instance, Central, Volga and Northwest Federal Districts boast the greatest concentration of innovative companies. Economically and politically unstable regions of the North Caucasus have the smallest number of innovative companies. That said, the overall Russian trend toward the decrease in innovative activities of companies during the taken period covers all the other regions of the country.

Research and development companies account for the majority of innovative businesses in Russia with 30% percent of the total number of such businesses. The percent of innovative processing companies is high and stable (more than 13% of the innovative organizations in Russia), which results from the sheer number of processing plants operating in the country. The intense innovative activity of businesses in the industry is the result of a real need to bolster competitiveness of their products by introducing cutting-edge technologies and

organizational changes and improving management practices in the context of macro-economic instability.

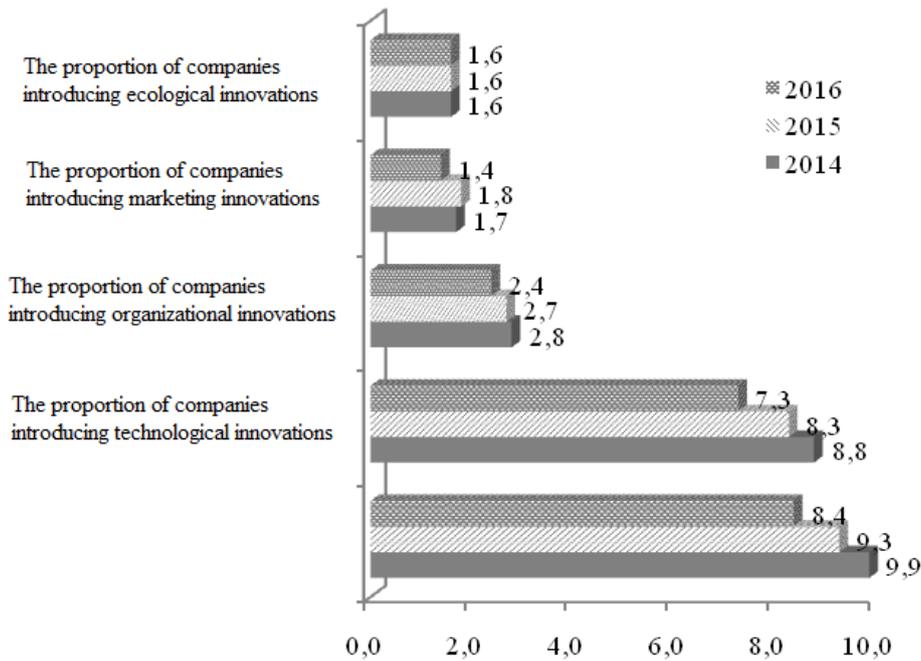


Fig. 1. Innovative activities of companies in Russian economy, % [14].

Today, innovative companies in the national economy introduce mostly technological innovations, namely new ideas concerning technological processes improvement, the development and introduction of new technologies, and the adoption of new or effective way of producing an existing product. Moreover, the preponderance of this type of innovations characterizes national innovative entities during the examined period. In this context, it is necessary to mention benefits for consumers that arise from the introduction of cutting-edge methods and technologies in manufacturing. These innovations increase the quality of human resources supporting innovative equipment and, as a result, boost salaries. At the same time, active use of innovations fills the consumer market with new quality products that meet people’s needs.

The demand for technological innovations arises from considerable economic gains that they provide for innovative companies. Innovations in equipment modernization, design

and engineering [19] are the most promising among technological improvements. Communication companies favour breakthrough production technologies more than others do. Production improvements are also popular in oil and gas and processing industries.

Innovative activities of businesses, as a rule, lead to considerable expenses that hinder such activities in small business sector of the national economy [2]. Technological innovations are the most expensive ones (Fig. 2). Companies that in 2016 participated in innovative processes spent more than 1,284 bln rubles on production innovations; that is 6% more than in 2014. In the context of the decreasing number of such innovative companies, we can assume that modern hardware, equipment, and production technologies are expensive. That is why in a stressful economic environment the rate of breakthrough production technologies introduction during the examined period is slowing down in all the spheres of economic activity.

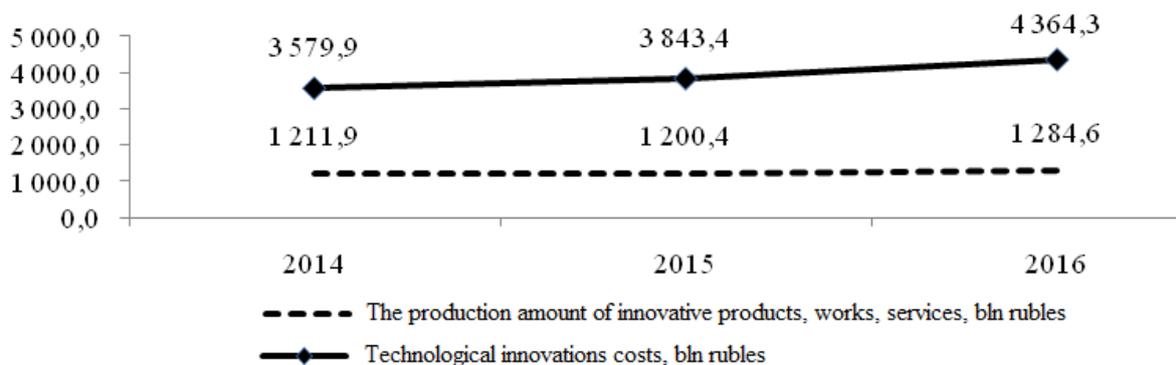


Fig. 2. The technological innovations expenses and innovative manufacturing of products, work and services in Russian innovative companies over time, bln rubles [18].

At the same time, the number of implemented innovative projects, manufactured innovative products, and services in the country grows every year. In other words, in recent years the most important criterion for innovative activities, namely effectiveness, has been showing a steady trend towards growth. For instance, in 2014 companies had little payoff from the money invested in innovations, while in 2016 the output of new ideas was considerably bigger than the investments made. Thus, it is possible to conclude that the effectiveness of innovative activities increases on the national level, and it is confirmed by the predominance of innovative products manufacturing rate over innovative expenses growth rate.

Today, Russian entrepreneurs also favour new ideas in the working environment organization, organizational structure of a company, and the improvement of management strategies. For example, 3% of innovative companies implement organizational innovations aimed at the introduction of new development strategies adapted to new business environment etc.

These days, innovations in design and packaging, sales mechanisms, presentation and promotion on the market, and price policies are less popular with innovative entities in the country.

The results of innovative activities of national economy entities influence the gross output production and economic growth rate. The quality of the economic development of the country is also determined by the implementation of its innovative potential as cutting-edge technologies and equipment introduced into manufacturing help to create new industries, boosting economic development [20].

VI. CONCLUSIONS

Finally, it is possible to say that, during the examined period, despite the decrease in the number of innovative companies and the increase of innovations' costs, the effectiveness of innovative activities of such companies in Russian economy has grown. Technological innovations are the most expensive and at the same time the most popular among innovative companies in the country. Moreover, today innovative companies also use other types of innovations that help them to successfully adapt to the ever-changing market environment. New ideas in marketing and organizational innovations make it possible for modern companies to get the best possible business profit.

As a whole, today in Russia there is a favourable economic, legal and organizational environment for companies' innovative activities [21]. The innovation policy implemented in the country is aimed at sustaining stable economic development of the country by increasing products' competitiveness, effective exploitation of scientific, and technical potential to address challenges of social and economic development.

Nevertheless, in order for innovations to develop in a more balanced and intense way, it is vital to implement a targeted policy adapted to the new business environment by designing various strategies, programmes, and management actions [8]. One of innovation and effectiveness encouraging mechanisms for Russian companies put together by the authors is shown in Fig. 3. This mechanism includes state support for innovative activities, differentiated support system for innovative

companies, innovative infrastructure development, the creation and maintaining of a favourable innovative environment, and analysis and improvements of innovative companies programmes' toolbox as a follow-up to the monitoring of their activities.

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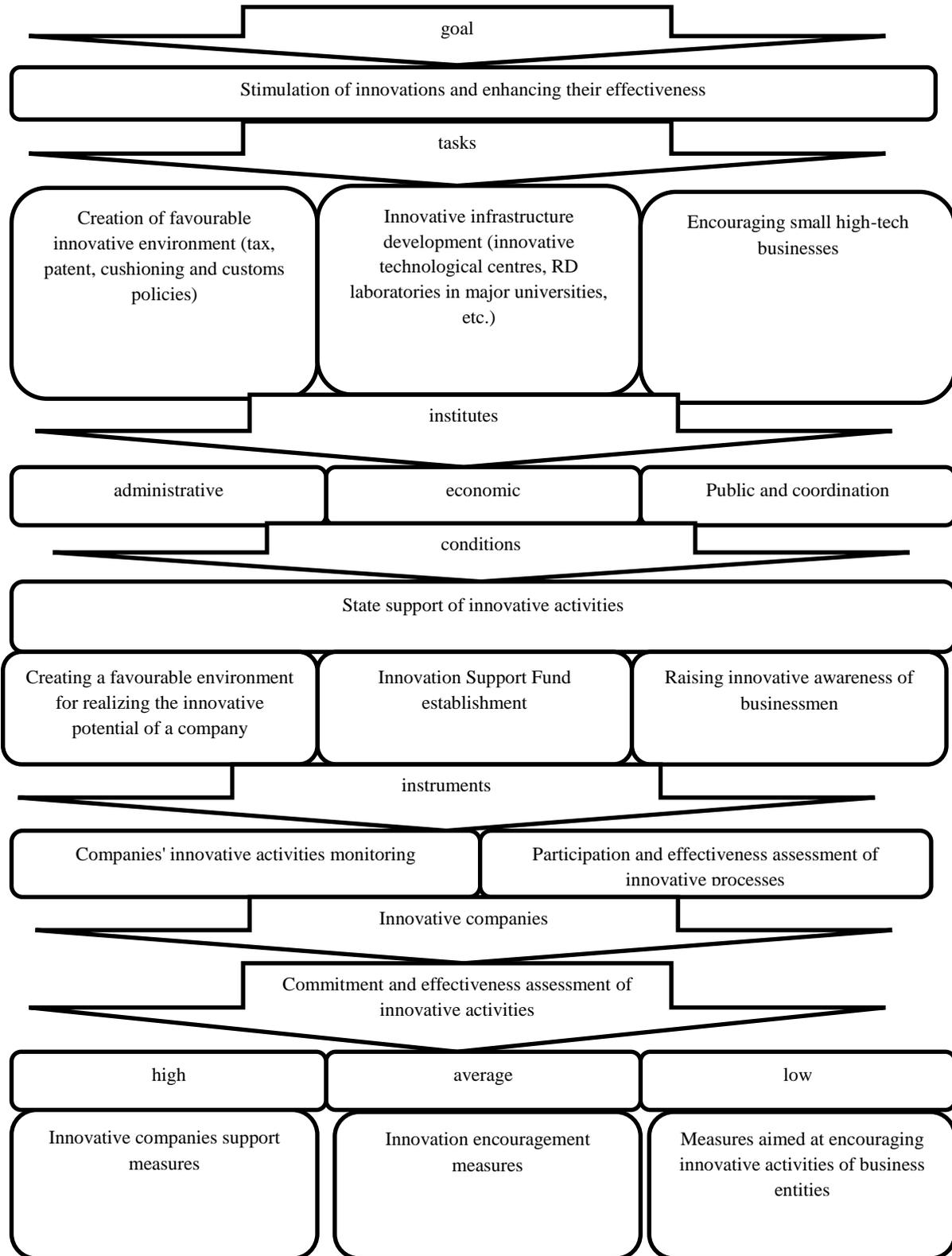


Fig. 3. Mechanism of boosting innovative activities for innovative companies in Russia.