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STATE MANAGEMENT OF INNOVATIVE DEVELOPMENT IN FOREIGN COUNTRIES

Innovation in the global economy is a key factor in improving the competitiveness of the world and is important in the context of globalization.

Innovation activity is an important factor in the development of entrepreneurship and the economy of the country as a whole, therefore, it is necessary to put regulation of innovation activity on the priority positions in the state policy, which would stimulate scientific activity and create innovative products. Therefore, the task of studying the methods of state regulation used in developed countries of the world, the identification of methods that would work effectively in Ukraine [2, p. 32].

The purpose of the work is to study the experience of developed countries regarding the formation and implementation of state innovation policy, as well as substantiation of proposals for the enhancement of innovation activity in Ukraine.

According to the Innovation Union Scoreboard 2018 in 2017, states are divided into 4 groups [1]:

– **Innovation Leaders** are all countries with a relative performance in 2017 more than 20% above the EU average in 2017 (Denmark, Luxembourg, The Netherlands, Finland, Sweden, The United Kingdom, Switzerland);

– **Strong Innovators** are all countries with a relative performance in 2017 between 90% and 120% of the EU average in 2017 (Belgium, Germany, Ireland, France, Austria, Slovenia, Iceland, Israel, Norway;

– **Moderate Innovators** are all countries with a relative performance in 2017 between 50% and 90% of the EU average in 2017 (Czech Republic, Estonia, Greece, Spain, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Romania, Slovakia, Serbia, Turkey);

– **Modest Innovators** are all countries with a relative performance in 2017 below 50% of the EU average in 2017 (Bulgaria, The Former Yugoslav Republic of Macedonia Ukraine).

The next document that highlights the level of innovation in the economies of the world is Global Innovation Index. The research assesses the elements of national economies in which innovative processes take place, in particular, institutes, human capital, research, infrastructure, market and business development. The Global Innovation Index includes more than 80 parameters, including the number of applications for intellectual property rights, created mobile applications, scientific and technical publications and the cost of education.

Every year, the Global Innovation Index ranks the innovation performance of nearly 130 economies around the world. In terms of income allocated 4 groups of countries (Table 1).

Table 1. Innovation leaders by income group [4]

Income level	Countries (ranks)
High income (above $12,236)	Switzerland – 68.40 Netherlands – 63.32 Sweden – 63.08
Upper-middle income ($3,956–12,235)	China – 53.06 Malaysia – 43.16 Bulgaria – 42.65
Lower-middle income ($1,006–3,955)	Ukraine – 38.52 Viet Nam – 37.94 Moldova – 37.63
Low income (under $1,005)	Tanzania – 28.07 Rwanda – 26.54 Senegal – 26.53

According to the rating in 2018 among the leading innovation countries (Table 2): the Netherlands, Sweden, the United Kingdom, Singapore, the USA, Finland, Denmark, Germany, Israel, South Korea, France, Japan, Canada, Australia. Switzerland took the lead in the rating. China entered the top-20 for the first time, and Ukraine – in the top-50 (38.52 points, 43 place) [4]. In 2018 rating includes 126 countries.

Table 2. Top-20 States for Global Innovation Index [4]

Country/Economy	Score (0–100)	Rank
Switzerland	68.40	1
Netherlands	63.32	2
Sweden	63.08	3
United Kingdom	60.13	4
Singapore	59.83	5
United States of America	59.81	6
Finland	59.63	7
Denmark	58.39	8
Germany	58.03	9
Ireland	57.19	10
Israel	56.79	11
Korea	56.63	12
Japan	54.95	13
Hong Kong (China)	54.62	14
Luxembourg	54.53	15
France	54.36	16
China	53.06	17
Canada	52.98	18
Norway	52.63	19
Australia	51.98	20

Our studies allowed us to distinguish between two models of state policy in the field of innovation support:

1) Anglo-American, which is characterized by the least interference of the state in the economy, including in the innovation activity;

2) Franco-Japanese, where the state most actively supports the innovation process by all possible methods.

In the first case, it is believed that market mechanisms themselves contribute to accelerating the innovation process, so enterprises have full autonomy in the innovation field. The state, meanwhile, focuses its efforts on creating favorable conditions for doing business, but does not directly provide financial and direct economic support for its implementation. In the second, on the contrary, there is a rather

significant influence of the state on the development of the innovation process in the form of direct subsidies and subsidies to enterprises and organizations that carry out innovative activities. Thus, the first model involves the use of mostly indirect methods of stimulating innovation (granting tax and credit privileges, insurance of innovative risks, depreciation allowances, incentives for R & D, formation of reserve funds, etc.), while the second one is characterized by a wide application of a set of methods of direct stimulation of innovation the process.

The most common forms of methods for stimulating innovation processes in a number of countries of the world are reflected in Table 3.

Table 3. State regulation of innovation processes in foreign countries [2, p. 35; 5, p. 80]

Organizational structures of institutional support	Forms of stimulation	Organizational structures of the innovation process
1	2	3
USA		
Small Business Administration, National Science Foundation, Federal Offices, National Network of Centers for the Introduction of New Technologies, American Association for the Development of Science, Technology Administration, National Research Council, National Institute of Standards and Technology,	Preferential taxation, investment tax credit, preferential treatment of depreciation, subsidies, targeted budget allocations, deductions for R & D expenditures related to basic production and trading activities, from the amount of	Technological capital network (MKT), technopolises, scientific and technical parks, quasi-risk form of corporation organization, small innovative firms, research consortia and organizations, business incubators, scientific and technological centers, scientific and engineering centers, joint industrial-university research centers, venture companies

National Technical Information Service, Office of Technology Policy	taxable income	
Japan		
State Funds to Encourage R & D Activities, Small and Medium-Sized Venture Capital Fund, Small Business Financing Corporation, Center for Enterprise Development Support	Favorable loans, preferential taxation, subsidies	Japanese Research Development Corporation, Technopolis, Science and Technology Parks, Small Innovation Firms, Research Consortia and Organizations
France		
Special Governmental Organization, French Venture Capital Assistance Society, National Center for Scientific Research, National Agency for Research Implementation, National Agency for Advanced Studies, Public Private Bank for Small Business Innovative Business, Science and Technology Foundation	Grants, subsidies, long-term loans, tax credits, credit guarantees, preferential taxation	Technopolises, technoparks, small innovative firms, research consortia, venture capital firms, technology transfer centers
Germany		
Consortiums of small innovative business,	Targeted free subsidies,	Technopolises, technoparks, small

state specialized banks, Ministry of Economy Ministry of Science and Technology, Federation of Industrial Research Associations, Patent Center	subsidies, fees for technical expertise, preferential loans, credit insurance system, tax deductions and benefits, accelerated depreciation, targeted bank loans	innovative firms, research consortia, venture companies, technopolises
United Kingdom		
Council for Science and Technology, Government Councils for Research and others	Preferential taxation, subsidies, write-off of R & D expenses on the cost of production (services), credit guarantees	British technology group, technopolises, small innovative firms, science and technology parks, venture companies, research consortia

For EU countries, three-tiered innovation policy, covering regional, national and supranational components, is characterized. Governments of individual countries have fundamental research priorities, and regions are generally implementing a policy of promoting innovation. Examples of this area of development of the regional component of innovation policy were the widespread participation of particular regions of Great Britain in EU innovation programs, as well as the development and implementation of regional strategies for the innovation development of their own territories. Innovative cooperation enabled the use of production and financial resources, competitive advantages of enterprises of other countries, contributed to the increase of labor productivity and the development of capital-intensive products, enabling large projects to

be realized, which is extremely difficult without unifying efforts [2, p. 34].

The European Union uses several innovation policy tools and investment to fund innovation. Among them are direct government funding, primarily through grants, loans, grants, etc.; creation of infrastructure for innovation activity; tax incentives, special schemes for supporting risk financing, providing state guarantees [5, p. 79].

Tools of innovation policy in virtually all countries of the world are different. For example, in Portugal and Spain, a large set of fiscal incentives is used by all companies regardless of their size, and in the United Kingdom – only for small and medium-sized businesses. In countries with high levels of scientific and technological development (Sweden, Germany, Finland), they prefer direct financial support measures, which enables the state to determine which technologies or sectors of the economy need to be developed in the first place. Unlike indirect incentive methods, financial assistance is targeted. The state, and not the market, determines in which cases additional stimulation is necessary, and in which – not [5, p. 79].

In the UK, East Midlands, Wales and Scotland have their own innovative strategies and actively participate in EU innovation programs. The main focus of this activity is the Forum of Innovation Regions and Innovation Relay Centers - IRC. The Centers for the Promotion of Innovation have the status of independent technology and business advisory organizations that receive assistance from the European Commission [5, p. 79].

Issues of the development of state innovation infrastructure are also given to the USA, Japan, China, India and Russia. However, the United States traditionally holds high positions in various ratings related to innovation. At the same time, in most developed countries, the level of state regulation of innovation activity increases in the form of measures of direct and indirect influence. Among the forms of interaction between the state and business in the field of innovations it is worth mentioning public-private partnership.

To fund fundamental and applied work in the United States, the state creates special funding programs:

a) Small Business Investment Companies (SBIC);

b) Small Business Transfer Technology Transfer Program (STTR);

c) Small Business Innovation Research Program (SBIR) [2, p. 34].

Such a kind of financing of innovation activity as venture financing is widespread. It can be noted that venture financing in developed countries is a powerful lever for the development of innovative projects.

The Japanese model for stimulating innovation involves providing preferential loans, preferential taxation and subsidies [2, p. 34]. The development of public-private partnership, international cooperation in the form of international innovation cooperation, including at the level of regions.

The global innovation divide remains wide, with high-income economies leading the innovation landscape and big gaps in terms of nearly all innovation input and output metrics between these leaders and other less-developed countries.

In scientific works, when considering the methods of state support for innovation, distinguish: European, American and Japanese approaches to innovation activation.

The reasons for differences in approaches to using innovation tools are difficult to determine, since it is necessary to take into account a large number of different factors, among which are the features of national culture and the history of the country, the current economic situation, which significantly influence the adoption of political decisions. In countries with a lower level of scientific and technological development than the average in the European Union, there are general measures that support a wide range of areas in all sectors of the economy. In this case, the government of these countries focuses on fiscal stimulus measures, which differ in that they allow the market and its participants to decide independently which sectors of the state's economy should be developed.

Thus, taking into account the experience of developed countries in the field of activating innovation, it is possible to distinguish between direct and indirect methods of stimulating the innovation sphere in Ukraine.

Direct methods include:

– budget financing or provision of loans on preferential terms to enterprises and organizations that carry out scientific developments and train qualified personnel;

– gratuitous transfer or provision of state property and land for privileged conditions for the organization of innovative enterprises;

– creation of scientific and service infrastructure in regions where research activities are concentrated;

– implementation of targeted programs aimed at increasing the innovative activity of the business;

– government orders, mainly in the form of research contracts, which provide an initial demand for innovation, and then widely used in the economy of the country;

– creation of scientific and technical zones with a special regime of innovation and investment activity [3, c. 56].

Among the indirect methods, the most priority are:

– tax incentives for investments in the innovation sphere;

– various privileges for subjects of economic activity, which specialize in scientific and technical directions;

– legislative norms that stimulate research activity.

In today's conditions of transnational interaction and globalization, leaders in world markets have countries whose economic development is based on innovation. The demand for innovation is always available, therefore they are the priority direction of policy of most countries, which aspire to economic growth. It is necessary to formulate such a state policy of regulation of innovation activity, which would enable to effectively stimulate the activities of innovative enterprises and scientific institutions, and also based on the implementation of innovations in the production and the full use of the country's scientific and technological potential, taking into account strategic development prospects.

Managing innovation activities in different countries varies by the degree of state intervention, the needs of society and the level of scientific and technological progress.

For many developed countries, a comprehensive approach to the regulation of innovation is typical, based on the use of both direct and indirect stimulation methods. The innovation environment in different countries is uneven, because each country is at its own level of development, technology levels, educational levels, levels of

innovation activity, etc. This combination of other factors predetermines a situation where innovative policy tools and mechanisms of their use can effectively operate in one country, while in other countries they are completely inappropriate, ineffective.

In addition, one of the priority tasks for our country should be the creation of an economic and legal mechanism for the development and introduction of state-of-the-art technologies and innovations in the practical sphere. These mechanisms should facilitate the formation of appropriate conditions for the development of enterprise innovation. It is also important to form the economic policy of the state regarding the introduction into production and the life of the newest technologies, the definition of real prospective sources of financial resources necessary for realization of the predictable directions of innovation development, stimulation and development of venture business, as well as the compliance of the normative and legal base of the scientific and educational levels of specialists for implementation of the cycle "idea – development – innovation – implementation", appropriate methods of managing these processes.

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