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## **Government Control over Innovative Ventures in the West European Countries**

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***Abstract:***

*The article analyzes strategies and mechanisms of government control over the innovative ventures in the countries of Western Europe. All countries use their own mechanisms and tools for innovative ventures stimulation on the government level and their effectiveness is quite different. The paper is concentrated on studying the experience of government control models over innovative ventures in Switzerland, Finland and Sweden; countries, which take top positions in innovation implementation strategies among the leading countries in the world. Main results of their government innovative policy were analyzed; conclusions about their applicability for the development of the Russian innovative ventures were made.*

***Key Words:*** *Innovative Ventures, Government Control, Licensing, Patents, Innovation Implementation in the Business Sector*

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## **1. Introduction**

Innovative ventures is the basis for the economy development of the world's leading countries, it is proved by the increasing contribution into the economic growth of these countries made by the innovative sector. In the world innovative development ranking the leading positions are occupied by the western European countries: the first five places were exclusively occupied by the West European countries in 2014, 6 countries made it to the top ten, and 12 countries made it to the top twenty. The urgent demand in innovation implementation into Russian economy makes the study of positive foreign experience in governmental control over innovative sector much needed.

## **2. Methods**

The study of efficient government controlling methods over the innovative ventures rests on the foreign and Russian research literature analyses. From the methodological point of view the most important are the studies of the late XX century: the research by Bresnahan, T., Gambardella, A., Saxenian, A. (Bresnahan, 2001), which is devoted to the study of innovative ventures in the countries of the world, noted for the impressive growth in the field of information and communicative technologies and innovative activity during 1990s. The research covers such new regions as Ireland, India, Israel, Taiwan, along with the already known and well-developed regions as North Virginia and Silicon Valley in the USA, Cambridge (Great Britain), and countries of Scandinavian Peninsula, Germany, France.

Also, the methodology based on the researches by Dutch scientist V.A. Lundvall «Why study national systems and national styles of innovation?» and «National Business Systems and National Systems of Innovation» (Lundvall, 1998; Lundvall, 1999; Havlíček et al., 2013; Thalassinou et al., 2012) as well as his investigations, carried out together with his colleagues in the past decade (Lundvall, 2003, 2005, 2007).

Research methods used in this paper to analyze state control techniques over the innovative ventures include global innovation index check, held by the World Organization of Intellectual property (WIPO) in 2011-2014 (The Global Innovation Index, 2011; The Global Innovation Index, 2012; The Global Innovation Index, 2013; The Global Innovation Index, 2014). Methodological base included but not limited by recent studies, monographs and articles of such authors as D. Brissaud and S. Tichkiewitch (Brissaud, 2000), S.R. Velamuri and M. Sosna (Velamuri, 2006), J. Ulijn, D. Drillon and F. Lasch (Ulijn, 2007), J. Hatzikian, (Hatzikian, 2007), G.J. Dees, (Dees, 2012), D.F. Spulber, (Spulber, 2012); C. Năstase, C.

Chasovschi, M. Popescu and C. Boghean (Năstase, 2012). Z. Mingaleva and I. Mirskikh (Mingaleva, 2013), H. Danilina (Danilina, 2013). International joint research papers conducted by Czech, French and Portuguese scientists were used, exploring how an idea becomes the innovation, taking into consideration key innovative factors: from an early-stage research to a final product or service (Gavenda, 2013).

A lot of questions which have been studied over the past years are devoted to the analysis on transfer of new technologies from the governmental scientific sector to the innovative ventures, including those which render technical services in the contracts of licensing technologies (Arora, 1996; Dees, 2012; Mingaleva, 2009) and in the banking sector (Thalassinos et al., 2013).

Among the Russian authors which deal with the investigation of innovative ventures and government mechanisms of its support both abroad and in Russia one should point out studies of T. V. Ignatova (Ignatova, 2008), N. V. Manina and V. Yu. Shevrov (Manina, 2012), Zh. A. Mingaleva (Mingaleva, 2010), A. V. Sharkova (Sharkova, 2012, 2013) and others.

### **3. Results**

According to the results of the research the total effectiveness of the government control mechanisms over innovative ventures in the countries of Western Europe is generally higher than in other regions of the world. Thus, according to the 2014 Global innovation index (as well as in the previous years) most of the Western European countries were in the top thirty of the ranking (except for Italy, Portuguese and Greece) and five countries occupied first five positions of the rating, outrunning the USA, Singapore, Hong-Kong, Canada, Israel, Korea, Australia, New Zealand and Japan which occupied 6th, 7th, 10th, 12th, 15-18th and 21st places of the world rating accordingly (The Global Innovation Index, 2014). The points awarded by the experts for the indices of innovative development in the countries and the country rating positions of the Western Europe are presented in the Table 1 (formed according to the Global Innovation Index, 2014). In the column 1 of the table 1 one can see the rating for the given index among the countries of the West Europe. In the column 2 one can see the rating position of a country according to this index in the world rating.

**Table 1. Rating of the Western European Countries According to the Level of Innovative Development in 2014**

<b>Place in EU</b>	<b>Place in the world</b>	<b>Country</b>	<b>Assessment (points)</b>	<b>Percentage</b>
1	1	Switzerland	64.8	1.00
2	2	United Kingdom	62.4	0.99
3	3	Sweden	62.3	0.99
4	4	Finland	60.7	0.98
5	5	Netherlands	60.6	0.97
6	8	Denmark	57.5	0.95
7	9	Luxembourg	56.9	0.94
8	11	Ireland	56.9	0.93
9	13	Germany	56.0	0.92
10	14	Norway	55.6	0.91
11	19	Iceland	54.1	0.87
12	20	Austria	53.4	0.87
13	22	France	52.2	0.85
14	23	Belgium	51.7	0.85
15	25	Malta	50.4	0.83
16	27	Spain	49.3	0.82
17	31	Italy	45.7	0.79
18	32	Portugal	45.6	0.78
19	50	Greece	38.9	0.65

This general index is comprised of 81 individual indices among which we have analysed two indices directly related to the issue under investigation:

- Government effectiveness index (1.1.2. - Government effectiveness);
- Regulatory quality index (1.2.1 - regulatory quality).

As for the effectiveness of the government control mechanism over innovative ventures, we can say that according to the calculations performed within the framework of the above-mentioned 2014 Global Innovation Index, the effectiveness of the national government activity in the innovation support and development in the countries of West Europe is also one of the highest compared to other countries in the world in general. In 2014 the top five of the world rating for this index was occupied by 4 countries of the Western Europe (the first place was taken by Finland), the top ten had 6 countries of the Western Europe, the top twenty has 13 countries of Western Europe and top thirty had all the western European countries except for Italy and Greece (50th and 57th place in the world rating accordingly).

Table 2 represents the total results of the calculations of national governments activity effectiveness for the western European countries at year-end 2014 (formed according to the Global Innovation Index, 2014). In the column 1 of the table 2 one can see the rating for the given index among the countries of the Western Europe. In the column 2 one can see the rating position of a country according to this index in the world rating.

**Table 2. Rating of the Western European Countries for the Index of National Governments Activity Effectiveness in the Sphere of Innovations Support and Development in 2014**

Place in EU	Place in the world	Country	Assessment (points)	Percentage
1	1	Finland	100.0	1.00

2	3	Denmark	93.3	0.99
3	4	Sweden	92.7	0.98
4	5	Norway	91.4	0.97
5	6	Switzerland	91.0	0.96
6	8	Netherlands	88.9	0.95
7	11	Luxembourg	85.2	0.93
8	13	Belgium	83.3	0.92
9	14	Germany	82.9	0.91
10	15	Austria	82.4	0.90
11	16	Ireland	81.7	0.89
12	17	United Kingdom	81.6	0.89
13	19	Iceland	80.5	0.87
14	23	France	76.4	0.85
15	26	Malta	74.0	0.82
16	29	Spain	70.5	0.80
17	30	Portugal	68.5	0.80
18	50	Italy	51.8	0.65
19	57	Greece	49.1	0.61

However, Table 2 shows that according to government activity efficiency index the positions that majority of West European countries took in 2014 were lower than their total rating of innovative development. This speaks for the ambiguous quality of government control tools for innovative sphere and innovative ventures which are used within the framework of the competitive national innovative policies.

In order to evaluate the regulation quality of innovative activity within various national models framework one can use the index with the corresponding name - regulatory quality (see Table 3). In the column 1 of the table 3 one can see the rating for the given index among the countries of the Western Europe. In the column 2 one can see the ranking position of a country for the given index in the world ranking (formed according to the Global Innovation Index, 2014).

**Table 3. Rating of the Western European countries according to the regulatory quality of innovative activity in 2014**

Place in EU	Place in the world	Country	Assessment (points)	Significance (value) of the assessment	Percentage
1	3	Sweden	98.2	1.9	0.99
2	5	Finland	96.3	1.8	0.97
3	6	Denmark	95.7	1.8	0.96
4	8	Luxembourg	94.7	1.8	0.95
5	9	Netherlands	94.6	1.8	0.94
6	11	Switzerland	92.2	1.7	0.93
7	12	United Kingdom	91.7	1.6	0.92
8	13	Ireland	89.5	1.6	0.92
9	15	Germany	88.8	1.5	0.90
10	16	Norway	88.8	1.5	0.89
11	17	Austria	88.3	1.5	0.89
12	19	Malta	83.1	1.3	0.87
13	21	Belgium	80.7	1.2	0.86
14	26	France	77.8	1.1	0.82
15	28	Iceland	76.6	1.1	0.81
16	35	Spain	73.5	0.9	0.76
17	37	Portugal	70.0	0.8	0.75
18	39	Italy	67.9	0.7	0.73
19	49	Greece	61.8	0.5	0.66

The analysis of the calculated regulatory quality indices made for 2014 has shown that the countries of the Western Europe are behind a lot of other countries in this direction. In particular, the first two places for the regulatory quality of the innovation sphere were occupied by Singapore (1st place in the world rating) and Hong-Kong (2nd place in the world) (The Global Innovation Index, 2014).

The above-mentioned expert data shows that the effectiveness of various government control mechanisms in the Western European countries differs due to national peculiarities of government control models over innovative ventures in different Western European countries.

#### **4. Discussion**

The mechanisms of formation and implementation of innovation policy in Western European countries may vary depending on the world's ranking position of a country as well as its market significance, differences in organizational structure of business management and science, different functions of the government and business community in implementation of innovations and formation of innovative networks.

Nevertheless, in the countries of Western Europe with the developed market economies and sustainable traditions in the field of public management can be allocated to common features and patterns development including in the field of innovative entrepreneurship. Moreover, studies show that European Union aim as a whole and its UE member-states for the current decade is the establishment of a single vision by all parties to community tasks stimulation maximum innovation activity and the European states seeking to make their region one of the most innovative and dynamic in the world (Velamuri, 2006).

In particular, most of the western European countries hold to the tradition of state policy, which is oriented toward the spread of innovations, innovative ventures stimulation, creation of favourable innovative environment, in contrast to the support mechanisms which are leadership-oriented in science field and large-scale project implementation that occupy all the stages of the scientific-productive cycle (US or the so-called "American model") or mechanisms which are aimed at stimulation of the practical innovation implementation through the development of innovative infrastructure, provision of acceptance of the world scientific and technical progress development (the so-called "Eastern model" - Japan, South Korea) (Ignatova, 2007).

State regulation innovative entrepreneurship includes various tools and instruments. It can be expressed in special programmes, aimed at stimulation of innovations in definite spheres and branches of industry as well as provision of special grants for production companies. But government control of innovative ventures in all countries supposes the flexibility of the tax system in relations to innovators (Treryakova, 2011).

It should be noted that there is a need for coordination of government innovation policy with innovative development priorities of major corporate investors. In theory and practice of the modern regional economy the paradigm of competitive ability is subsequently being proved; according to which each territorial economic system is oriented to find and form its own competitive advantages ensuring its investment attractiveness, productivity and sustainability. The territorial segment of government



and administration, which is integrated into the common vertical of government authority, interacts with the corresponding segments of the vertical of holdings' economic authority; this determines the necessity of government stimulation of innovative activity in the big vertically integrated corporations (Mokrushyn, 2011). Government control over innovative ventures in the countries of Western Europe includes measures to control the following processes:

- innovative activity stimulation of enterprises and organisations of different economic sectors, including the priority support and creation of small innovative companies (Kosyakova, 2014; Mingaleva, 2013; Manina, 2012);
- the promotion of cooperation with universities production enterprises,, support for the inter-company cooperation in the sphere of innovation (Ulijn, 2007);
- improving of the intellectual property protection system (Spulber, 2012; Mingaleva, 2009);
- the development of consulting and information services (Velamuri, 2006);
- Improving the competitive law (Năstase, 2012).

Particular instruments of the mechanism of government control over innovative ventures and innovation policy, implemented in the countries of the European Union, currently are:

- Direct financing enterprises implementing innovative projects in the field of advanced technologies;
- Range of instruments to encourage small science-intensive business;
- Range of instruments to encourage cooperation between university science and enterprises which produce science-intensive products;
- The establishment of a single anti-monopoly legislation;
- The application of the system of accelerated appreciation of equipment;
- The application of the system of preferential taxation for the scientific, investigative, experimental and design projects;
- Implementing the brand new equipment for innovation-active enterprises financed from the governmental grants, soft loans etc.
- Grants aimed at reducing the cost for research and development of individual enterprises and organizations;
- Support to the private investors in innovative sphere (the so-called "business angels");
- Development of the system venture financing, including development of the share markets, strengthening of institutional investors etc.;

- Development of the education, including the sphere of innovations and innovative management;
- Development of training programs and retraining of professional and administration staff in innovative, scientific-driven, hi-tech spheres of economy;
- Creation of the network of scientific and technical information centres;
- Customization of immigration law, especially on issues of attracting high-skilled professional scientific and technical personnel from abroad;
- Creation and support of the hi-tech innovative clusters, creation of special economic zones for attraction of innovative companies (Bresnahan, 2001).

The national peculiarities of the government control mechanism over the innovative ventures in the Western European countries and their national innovative policies implementations include such indices as the share of governmental expenditures for investigations and developments in the gross national product of certain states. It's worth mentioning that the leader here is Switzerland followed by Germany, Sweden and such countries as Japan, South Korea and the USA (the third, fifth and sixth places respectively).

The Study of government innovative policy in the Western European countries allowed us to point out the following mechanisms of government control over innovative ventures within their framework:

- mechanism of government control over innovative ventures on the basis of strategies of active interference by the state (federal and local authorities) into the work of innovation active enterprises and control of their activity with the help of direct instruments;
- mechanism of government control on the basis of decentralized control;
- mechanism of government control on the basis of mixed strategies of innovative activity and ventures control;

Distinctive peculiarities of these mechanisms are as follow:

1. Mechanism of government control over innovative ventures on the basis of active state interference into the innovative sphere. Within the implementation of such a mechanism innovative, scientific and scientific-technical activity is declared by a state to be the main one for the provision of stable economic growth of the national economy. Along with the education and science financing, this approach means provision of significant grants to the commercial companies, which carry out their own scientific investigations aiming to activate their innovative activity.

However, this approach brings significant changes in legislation, including tax one, as well as changes in the foreign policy of the state. The strategies of active interference are well expressed in France and the Netherlands.

2. The mechanism of state regulation innovative entrepreneurship based on decentralized control. This approach suggests more complicated mechanism of state control over innovations and science. States using this strategy, preserve leading positions for carrying out fundamental scientific research, but scientific-technical innovations and discoveries, performed within the framework of state scientific and research institutes, companies and laboratories are handed to the private companies after being officially registered for commercialisation. Thus, such mechanism doesn't mean strict directive binds which are typical for the active interference strategy. A state has functions of formation and support of innovative infrastructure. A state must create conditions which contribute to innovative activity of all the participants of the innovation sphere, especially the business sector. According to the goal the state gives resources for creation of the initial demand for innovations in the business sector. Companies implementing this strategy are fuelled by indirect stimulation such as tax benefits and other types of encouragement for innovative activity. Unlike the mechanisms based on the strategies of active interference when the state plays the main role in selection of priorities, the main thing for the strategies of decentralised control in scientific and technical and innovative activity is ventures sector, and the state is to provide it with favourable legislative, economic and other conditions for innovative activity. Among the countries of Western Europe this strategy is used in Great Britain, and among other countries - in the USA.
3. Mechanism of government control of innovative ventures on the basis of mixed strategies of innovative activity and ventures control. This approach is used now in the most western European countries; the most effective mixed type of this approach is implemented in Sweden, Finland and Switzerland. It comprises different strategies and is used in countries with a big part of the state sector of economy and the state directly supports export potential of the enterprises in this sector. While using this approach the mechanism of active interference is used for the state enterprises, and for the other subjects of business the strategy of decentralised control is used.

The peculiarity of implementation and strengthening of mixed approach is the that in recent years both state and private companies and organisations in the leading Western European countries started to develop methods and instruments to support innovative ventures and innovation management in business. Companies pay

specific attention to the methods in the sphere of innovative projects administration, development of business-plans for innovative production release and production modernisation, outsourcing and benchmarking. Technological modernisation of enterprises occurs mainly on the built-in technology and innovation market and is characterised more by commercial than technological content.

It should be noted that the innovative activity prevails in the European Union, and investments as well as scientific research and technologies become an absolute necessity in order to make European economy not just competitive one but to meet the competition in this very decade. In the meantime, the EU developed new innovative policy which was aimed to stimulate economic investment of the business sector and private enterprises into research and technical development financing. The governments of the Western European countries pay a lot of attention to the development of the patent legislation and aspects of its application.

## 5. Conclusion

National models and mechanisms of government control over innovative ventures in Western European countries show high implementation efficiency compared to other countries of the world and can be used as the positive experience for stimulation of innovative ventures in Russia. Close attention is paid to the creation and development of infrastructure for innovative activity as a part of government control over innovative ventures in the Western European countries, as well as to the stimulation of new knowledge transfer from research-and-development sector to the production, support of small innovative enterprises, and development of patent legislation and different aspects of its practical usage. Therefore, main directions of scientific research and practical activity within the framework of national and regional policy of stimulating innovative ventures in Russia and its regions should include the above-mentioned directions and aspects of activity.

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