

REALIZATION OF INSTITUTIONAL MECHANISMS OF PROVIDING INNOVATIVE SECURITY IN UKRAINE

Vasylytsiv Taras,
Doctor of economics, Professor

Voloshyn Volodymyr,
PhD, Senior Research Scientist

Shekhlovych Andriana

The relevance of the improvement of institutional mechanisms of providing an innovative security in Ukraine is caused by the lack or low level of effectiveness of some important institutions of the innovative security system. The purpose of the article is an improvement of theoretical, methodological and applied principles of formation and implementation institutional mechanisms to provide innovative security in Ukraine. In the research, the conceptual features of innovative security in the system of economic security are summarized. The institutional mechanisms and instruments of governance by the innovative security are developed. An innovative activity of subjects of the real economy sector and the level of innovation security in Ukraine is evaluated. The strategic priorities of reforming and the directions of implementation of institutional mechanisms of state innovative security system are substantiated. The institutional-legal and institutional-economic mechanisms of providing the state innovative security are determined. The development of institutional infrastructure of integration of research and innovative activity in the context of formation and implementation of institutional-organizational mechanism to provide state innovative security is substantiated.

Keywords: innovative security, institutional mechanisms, providing, strategic priorities, state innovation policy.

Contemporary stage of socio-economic development of Ukraine is characterized by a number of the threats to stability of economic security, including the decrease of competitiveness of domestic goods and services in domestic and foreign markets which leads to slower growth rates of GDP, low volumes of business and efficiency in basic sectors of the economy, insufficient providing of reproduction processes. One reason of such situation is a low innovative activity, particularly in the real sector of national economy. However, the situation is complicated by the decrease of innovative activity and the weakening of innovative security in Ukraine, which manifested in the reduction of the share used technologies of the highest technological structures, the destruction of innovative infrastructure and the loss of communication among business entities and research institutions, a low level of implementation innovations in the technical processes of economic activities and industries of national economy.

Despite the recognition of innovation activation is one of the priorities of socio-economic development and economic security in Ukraine, adoption and implementation of a number of strategies and programs at various levels of governance, key indicators of the state innovative security degrade. It reinforces the relevance of the application more comprehensive approach in Ukraine including the introduction of a system of institutional-legal, institutional-economic and institutional-organizational mechanisms, which can provide the recovery of innovative activity and improve the main parameters of the state innovative security.

Problems of formation of the economic security system, including by various structural and functional parameters are investigated in scientific works of such scholars as V. Andriychuk, J. Bazyliuk, I. Binko, L. Brown, B. Buzan, Z. Varnaliy, T. Vasylytsiv, O. Vlasyuk, V. Voloshyn, O. Ilyash, J. Zhalilo,

O. Lyashenko, H. Malhrem, H. Moule, L. Mieri, A. Mokiy, G. Pasternak-Taranushenko, E. de Soto, M. Fleychuk, M. Tsilinski, L. Shemayeva, V. Shlemko. Strategic priorities and practical aspects of an innovation activation and providing of the state innovative security are actualized in the scientific works of O. Amosha, Y. Bazhal, A. Halchynskiy, V. Geyets, E. Dennis, R. Lucas, V. Martyniuk, V. Nowicki, V. Seminozhenko, O. Sobkevych, R. Solow, A. Sukhorukov, L. Fedulova, M. Hvesyuk, Y. Shumpeter, N. Yurkiv.

However, the main obstacle to the restoration of innovation activity and the realization of potential of an innovation development of Ukraine's economy is lack of a systematic approach based on complex combination of institutional mechanisms, which simultaneously form a clear and transparent legal framework, lay the elements of innovation infrastructure, create proper incentives and motivations for all subjects of an innovative security system, provide an organizational governance structure by these processes, define the current and strategic perspectives of the innovative development and using its results for the purpose of inclusive growth in Ukraine.

The purpose of the article is an improvement of theoretical, methodological and applied principles of formation and implementation institutional mechanisms to provide the innovative security in Ukraine.

At the stage of formation of post-industrial society the problem of implementation of the strategy of transition to an innovative model of economic development and comprehensive modernization of socio-economic system faced before economies of all countries. It is explained by the necessity of development of new approaches to ensure the national economic competitiveness in the world economy system. Obviously, the state economic security increasingly depends not only on natural resources but depends on its effective use on the basis of novelty and innovation, where the penetrating innovations into various sectors of the national economy cause their continuous modernization and transition to new forms and more effective development models.

According to the generalization results of scientific approaches to the justification of definition "state innovative security" [1, p. 210; 2, p. 250; 3, p. 53; 4, p. 105], it was given such treatment as a set of conditions to ensure the availability of institutional innovation infrastructure and its financial and resource providing and factors of economic activity, appropriate amounts of innovative activity, a high efficiency

of creation, the implementation and commercialization of its results in order to ensure a positive impact on the elements and components of economic security. The consequence is the development of socio-economic sphere, the improvement of indicators of macroeconomic development, the providing of qualitative and necessary structural changes and institutional reforms, the formation of the national competitiveness economy system.

It should be added that systematic and comprehensive innovation activity has a significant impact on the current state and prospects of ensuring of the state economic security. This conclusion is confirmed by the existence of interdependencies between the development of innovation and the providing of such structural and functional components of security, as manufacturing, financial, investment, scientific- technological, foreign-trade, etc. In addition, the importance of strengthening innovative security in the system tasks to guarantee an economic security is that the strengthening of innovative security enables to minimize the likelihood of realization of the most critical threats to national interests and state economic security.

It should be noted that the implementation of innovative model of economic development causes the necessity of involvement of effective institutional mechanisms of reproduction, development and use of scientific-technological and innovation potential, ensuring of active implementation of modern technologies in production activities and sale of new types of competitive products (services) and technological solutions. In modern conditions, the transformation of the economic system based on innovation and technological development requires the activation of state actions in the field of innovation management, the improvement of institutional mechanisms of providing state innovative security, in particular, firstly institutional-legal (by improvement of legal framework of innovation activity and security), secondly, institutional-economic (through the formation of the system of incentives and preconditions for enhancing of innovative activity), thirdly, institutional-organizational (by creation of an effective governance system by innovative development and safety).

While developing state governance mechanisms by innovative security should be identified the methods of direct (administrative and program-target), the realization of which is based on the implementation of direct government funding of innovative activity and provides the development and adoption of various strategies and programs aimed at the develop-

ment and intensification of innovative processes and indirect effects of the government to stimulate the development of innovative activity (legal, organizational-economic, social-psychological), which are focused on creation of favorable economic and legal environment for the implementation and ensuring of active and effective interaction of participants in the innovation process.

Despite the presence of significant scientific-technological and innovation potential in Ukraine, the technical-technological backwardness of the agricultural sector, a low level of industrial innovation production, innovations in the social sector, communal sphere, and the domination of raw materials export is preserved. The foreign military aggression became a significant negative factor of impact on the state of innovative security. As a result our state lost a part of the industrial-technological infrastructure and research potential, has undergone a weakening of investment attractiveness of the national economy, the activation of intellectual migration processes, the deepening of systemic problems of development of innovation and research activity in Ukraine.

The current state of the development of domestic scientific-technological sphere is characterized by systemic deformation – the pace of development, the structure, the level of using of scientific and technological results don't correspond to the needs of ensuring of the innovative security in Ukraine (table 1). A number of the legal and financial defects (the critical low volumes of the performance of scientific and

technical works with a weak practical applicability of their results, a low level and irrational allocation of costs to implement scientific and technical activities, a lack of necessary budget support, the deterioration of intellectual and human resources of ensuring of innovative security, an insufficient level of using and commercialization of research results) impedes an effective development of scientific-technological sphere.

The conditions of global market environment dictate the necessity to intensify innovative activity as the most effective instrument for strengthening of innovative security and competitiveness of the national economy [6]. However, the analysis of innovation activity in Ukraine during 2005–2015 demonstrates the instability of development of this functional area (table 2). It is about a low level of innovation active industrial enterprises, whose numbers dramatically (almost half) fell in 2015 amounted to only 824 units, whereas in 2014–1609 units; insufficient volumes of sold innovative products in the industrial sector (the share in total volume of sold industrial products decreased from 6.5 % in 2005 to 1.4 % in 2015); the deepening of the gap between innovative sphere and financial-investment institutions (the main source of funding for innovative activity is own funds, whose share in 2015 was in the total volume 97.2 %), significant interregional and intersectoral asymmetry of innovative development with concentration of resources in old industrial areas and in regions, which export raw natural resources and products with low degree of processing.

Table 1. The characteristic of scientific activity in Ukraine in 2005, 2007, 2010–2015

Indicators	Years								Absolute deviations (+/-) / growth rates (%) 2015 to	
	2005	2007	2010	2011	2012	2013	2014	2015	2005	2014
The number of organizations which perform scientific and technical works, units.	1510	1404	1303	1255	1208	1143	999	978	64,8	97,9
The number of employees of organizations which perform scientific and technical work, thousand. pers.	170,6	155,5	141,1	134,7	129,9	123,2	109,6	101,6	59,6	92,7
The number of doctors of sciences, involved in the performance of scientific-technical activities, pers.	4200	4390	4400	4417	4500	4500	4260	4124	98,2	96,8
The number of candidates of sciences, involved in the performance of scientific-technical activities, pers.	17000	16976	16100	16203	15900	15900	14804	13929	81,9	94,1
The share of funding in GDP of Ukraine, %	1,17	0,86	0,82	0,73	0,75	0,77	0,66	0,62	-0,55	-0,04

Origin: compiled according [5].

Table 2. The indicators of innovative activity in Ukraine in 2005, 2007, 2010–2015

Indicators	Years								Absolute deviations (+/-) / growth rates (%) 2015 to	
	2005	2007	2010	2011	2012	2013	2014	2015	2005	2014
A share of industrial enterprises, which engaged in innovation activity, %	11,9	14,2	13,8	16,2	17,4	16,8	16,1	17,3	+5,4	+1,2
A share of industrial enterprises which implemented innovations, %	8,2	11,5	11,5	12,8	13,6	12,9	12,1	15,2	+7	+3,1
Total funding for innovation activity, bln UAH	5,7	10,9	8,1	14,3	11,5	9,6	7,7	13,8	2,5 p.	1,8 p.
Disbursed innovative kinds of products, names	3152	2526	2408	3238	3403	3138	3661	3136	99,5	85,7
of these new types of equipment	657	881	663	615	942	809	1314	966	147,1	73,5
A share of innovative products in total volume of implemented industrial products, %	6,5	6,7	3,8	3,8	3,3	3,3	2,5	1,4	-5,1	-1,1
A share of innovative products in total implemented of innovative products outside of Ukraine, %	50,0	36,5	40,7	29,8	36,9	44,8	29,2	37,4	-12,6	8,2

Origin: compiled according [5].

It should be noted that a low governance efficiency by the implementation of institutional mechanisms of providing innovative security is a cause of the lack of innovation activity of subjects of the real sector and critically low level of the state innovative security. It is about a lack of coordination and fragmentation of the state innovation policy, insufficient financing of the state programs of innovative activity, a lack of organizational and financial support for innovative enterprises, a lack of economic and socio-psychological motivations for enhancing innovative activity, a lack of an effective monitoring system for innovative activity and adjusting of state innovative policy in order to ensure its economic security [7].

During the justification of strategic goals of state policy in the innovative sphere is the necessary to consider the priority ways to counter the most critical current shortcomings and threats to the economic situation in Ukraine, including caused by disadvantages of innovative providing. In view of the identified threats, the strategic priorities of the reformation of the system of state governance policy by an innovative state security should be: (1) the formation and effective use of innovative providing of the processes of modernization of technical-technological base of real economy sector; (2) the creation of an environment to enhance and provide the efficiency of innovative activity in the country; (3) the increasing of innovative ingredient of the competitiveness of domestic economic entities; (4) the formation, development and ensuring of an effective functioning market of investment-innovative activity, intellectu-

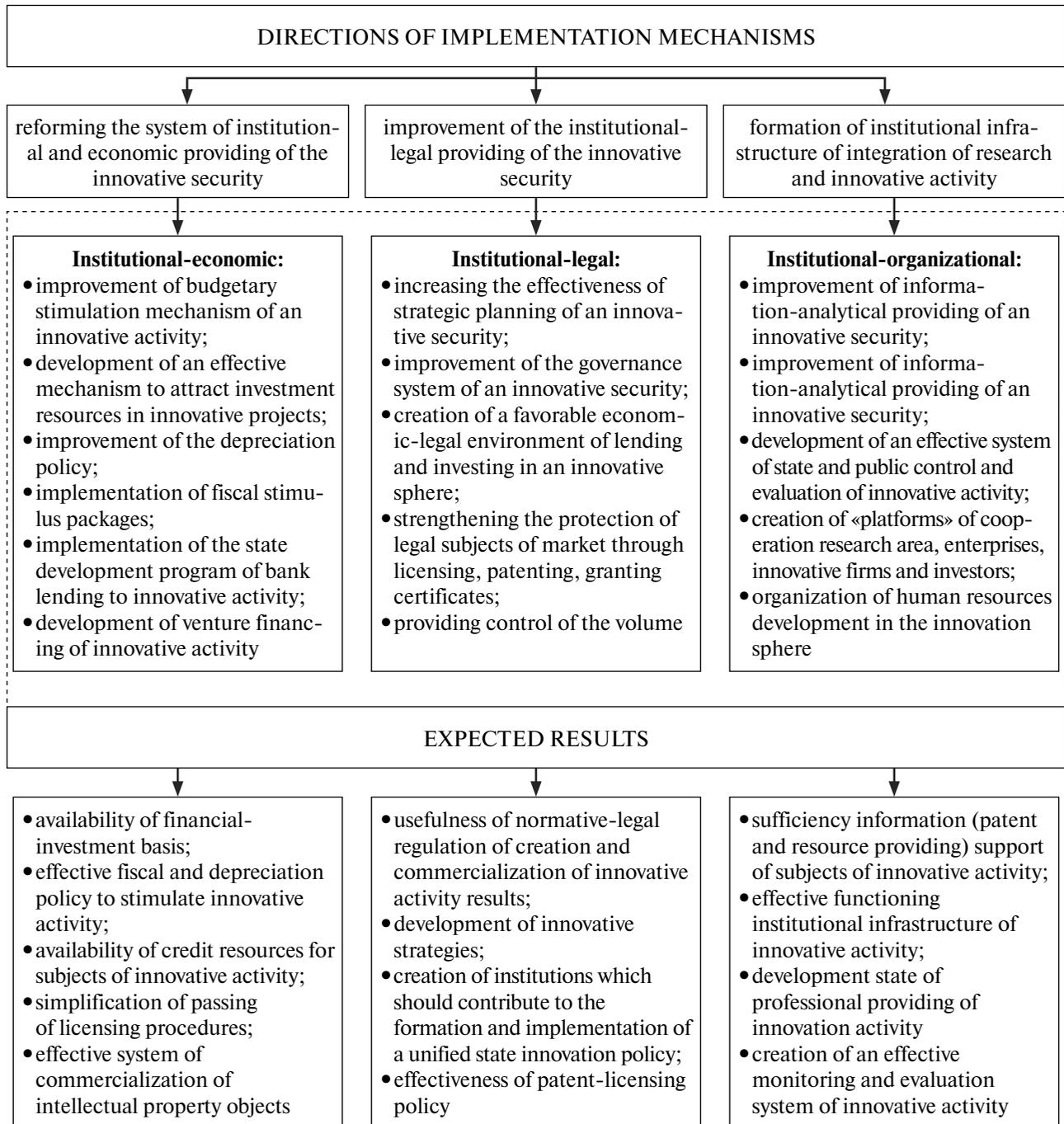
al property, technology commercialization; (5) the systematic strengthening of investment providing of innovation activity and implementation of its results; (6) the development of scientific-technological and industrial cooperation between Ukraine and the EU.

Thus, the formation of the priorities of institutional providing of the state innovative security should be implemented for the institutional-economic, institutional-legal and institutional-organizational directions (figure 1).

The strengthening of financial-economic basis of institutional-economic mechanism of the providing state innovative security requires the implementation of financial-budget instruments to stimulate innovative activity, the attraction of investment resources into innovative projects, the fiscal stimulation, the development of a bank lending of innovative activity of industrial enterprises and the venture financing of innovation.

In our opinion, the reforming of the institutional-legal mechanism of providing the innovative security in Ukraine should be provided in the context of realization of analysis, planning, organization, motivation and control functions. It will allow to systematize the legislation in the innovation field, to reduce the destructive effect of some controversial provisions of the normative-legal acts, to structure the system of public administration by an innovation sphere along the functional principle, to form the appropriate level of information-analytical sup-

Fig. 1. The directions of implementation of institutional mechanisms of providing the state innovative security



Origin: author's development.

port of innovative activity at various levels of management hierarchy, including national and regional levels and a level of entities.

It should be noted that the formulation and implementation of institutional-organizational mechanism is the determining factor of the promotion of innovative activity. It is about the creation of a functioning innovative infrastructure of representatives of education, science and business and the providing of feedback of market and research areas.

The goal of development of innovative infrastructure should be the creation of conditions (by institutional transformations and economic stimulus) to unite the interests of all participants in the innovation process from the generation of knowledge to the realization of innovative products in domestic and foreign markets. In such case, the algorithm of formation of institutional-organizational mechanism of the providing state innovative security should implement as four interconnected stages, each of them pursues the performance of certain functions and has the final

result with regard to the specific process-functional approach, namely: the diagnostic analysis of endogenous and exogenous environment; the strategic planning for development of innovative infrastructure; the implementation of innovation policy; the evaluation and control of the performance of subjects of innovative infrastructure.

Conclusions

Based on the analysis of theoretical and methodological principles of the formation and implementation of institutional governance mechanisms and instruments by the state innovative security is grounded the necessity of separation of institutional-legal mechanism (normative-legal basis of the state innovative security), institutional-economic mechanism (the formation of economic stimulus to enhance innovative activity and the attraction of investment resources in the innovation process) institutional-organizational mechanism (the formation of intellectual-human, resource and information-analytical support of innovative activity, the providing of institutional-organizational conditions for development of innovative infrastructure).

It is established that there is a critically low level of the state innovative security in Ukraine and negative tendencies for its further decrease remain. This situation is confirmed by the macroeconomic conditions and the influence of factors, which prevent the effective use of domestic scientific-technological and innovation potential. In particular, there are in-

sufficient amounts of the scientific-technical works with a weak practical applicability of their results, a limited amount of the funding of scientific-technical and innovative activity, an insufficient intellectual-human providing of an innovative security, a low level of innovative active industrial enterprises, an insignificant volume and efficiency of the implementation of innovative products in the industrial sector, the strengthening of interregional and intersectoral asymmetry of innovative development. There is especially critical situation in a patenting sector and the implementation of scientific developments in the national economy.

Using the system-structural analysis the strategic priorities for reforming and directions of implementation institutional mechanisms of the innovative security system in Ukraine are identified by the basic directions of the state policy in this area. According to the institutional-legal direction – is an effective strategic planning of innovative security, the improvement of public administration system by the innovative security, the development of licensing and patenting; for institutional-economic direction – a fiscal-tax stimulation of innovative activity, a venture finance-investment providing of innovation security, a bank lending of innovative activity, an effective amortization policy; for institutional and organizational direction – an informational-analytical providing of innovative security, an effective control and evaluation system of innovative activity, the development of innovation infrastructure, an intellectual-human providing, the development of international scientific and technological cooperation.

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