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ESTABLISHMENT OF THE NATIONAL INNOVATION SYSTEM AND IMPROVEMENT OF APPROACHES TO REGULATING THE DEVELOPMENT OF INNOVATIVE ENTREPRENEURSHIP IN UKRAINE

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ABSTRACT

The creation, financing, and use of higher-level technologies are of great importance in the economic growth of the national economy. Under these conditions, the task of forming and developing the national innovation system and solving the problem of increasing the regulation of the activities of domestic innovative business structures is of fundamental importance in Ukraine.

The article substantiates that the lack of a balanced state policy restrains the process of developing a network of innovative infrastructures, and the low level of domestic investments and budget allocations for science, the current criteria for classifying business entities as innovative-type enterprises, non-designated applications, and the termination of benefits to innovative enterprises negatively affect the formation of the national innovation system of Ukraine.

The regulation of the development of innovative enterprises is considered as a separate component of the general system of managing the innovative development of the economy, aimed at supporting its innovation-priority areas by creating an effective legislative framework and an appropriate financial and credit mechanism.

The article formulates the principles of improving the organizational, economic and information support of the process of regulation of the national innovation system; the peculiarities of the separation and interconnection of the main elements in the scheme of the phased implementation of the system of regulating the development of innovative entrepreneurship in Ukraine are determined.

A scheme for the phased implementation of the program of financial and credit regulation of the development of innovative entrepreneurship in Ukraine is proposed, as well as a scheme for improving the development of the national innovation system in the context of the implementation of the goals, objectives, and tasks of the innovative development of the Ukrainian economy.

Keywords: national innovation system, innovative entrepreneurship, regulation, financial and credit regulation, technologies, innovative activity, innovative culture, information support

JEL Classification: O31, O38, O39

INTRODUCTION

Modern approaches to the study of technological development are based on the analysis of the national innovation system (NIS), the strengthening of which is the most important task and an integral component of the state innovation policy. The experience of countries with a developed market economy shows that the development of innovative structures, which form the basis of NIS, mainly depends on the constant, reliable and regular flow of financial resources to finance the multitude of innovative developments produced by such entities of entrepreneurial activity.

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According to research conducted by the UN at the beginning of the 21st century, Ukraine, which was among the "thirty" countries of the world's intellectual elite, ranked one of the first in the world in terms of the number of scientific employees. The level of education of Ukrainians exceeded the average index of Eastern European countries.

Today, Ukraine has pioneering developments and applied developments in the field of laser, cryogenic, aerospace technology, means of communication and telecommunications, and software products; is among the "eight" countries that have the necessary scientific and technical potential for the creation of aerospace technology, and among the "ten" largest shipbuilding countries in the world.

However, unlike developed countries, in which 85-90% of GDP growth is provided by the production and export of science-intensive products, Ukraine's share of the high-tech product market, which is estimated at 2.5-3 trillion US dollars, is approximately 0.05- 0.1%.

In Ukraine, the existing regulation of the development of innovative entrepreneurship is ineffective, as a result of which, there is a slow rate of growth of innovatively active enterprises, non-use of the existing innovation potential, insufficient number of innovative developments.

Today and in the future, issues related to ensuring the effectiveness of regulating the development of innovative enterprises remain unresolved. This necessitates the development of new conceptual approaches to improve the processes of regulating the development of such enterprises with the help of effective NIS mechanisms.

LITERATURE REVIEW

The problem of improving the regulation of the development of innovative entrepreneurship, as well as the problem of financial support for innovative activity, is not new for economic science. For many years, the classics of economic science have been engaged in studying its theoretical, methodological and methodological foundations: H. Barnet [1], E. Mansfield [2], M. Tugan-Baranovsky [3], K. Freeman [4], J. Schumpeter [5].

Today, the regulation of the development of innovative entrepreneurship is the subject and object of research of many economists, the leading ones of whom are: A. Kuznetsova [6], O. Kuzmin [7], I. Lutiy [8], D. Chervanov [9], A. Yakovlev [10] and others.

Economists V. G. Medinskyi and L. G. Sharshukova [11] identified three main groups of small innovative enterprises (SIEs): 1) independent small innovative enterprises, which are completely independent of any other market structure and do not work on her order; 2) SIEs working to order are created thanks to the support of a sponsor or customer, who helps with the entire SIE and receives a unique product; 3) built-in SIEs, which are embedded in the structure of large and powerful enterprises and are full-fledged competitors of the divisions of the company itself.

Summarizing the experience of foreign specialists [4, 12, 13], H. Wozniak concludes that all of them understand "innovative entrepreneurship as small enterprises created for the development and implementation of innovations" [14, C. 573]. The peculiarities of the organization of such enterprises are "a focus on the search for fundamentally new products and processes associated with high commercial and technical risk" [14, C. 574], and "organizational separation from large-scale production, creative emphasis in work" [7, p. 87].

Scientific works of V. Berbeka [15], O. Lapko [16], S. Onyshko [17] are devoted to the study of theoretical and methodological features of the creation and functioning of NIS. These scientists substantiated that the effectiveness and uniform development of NIS will depend on the effectiveness of the financial support of each individual innovative structure, which is based on a system of evaluations, which includes: planning-analytical, marketing, and technical-technological evaluations, as well as evaluations of the quality of personnel, innovation, and strategic development

V. Heiets [18], M. Kozoryz [19], O. Kovalyuk [20] emphasized the importance of information provision of the process of development of innovative entrepreneurship as a subsystem that ensures the possibility of the innovation process in the economy.

Despite the large amount of work in this area, the problems of methodical and practical implementation of NIS, the task of activating innovative entrepreneurship, will continue to be relevant.

AIMS AND OBJECTIVES

The purpose of the article is to justify the directions of the development of NIS, the improvement of regulation of innovative entrepreneurship. To solve the purpose of the article:

- the factors that inhibit the development and functioning of NIS are identified;
- a scheme for the phased implementation of the program of financial and credit regulation of the development of innovative entrepreneurial business in Ukraine is proposed;
- the conditions for the development of innovative structures in Ukraine are outlined;
- a structural and functional scheme of NIS implementation was formed.

METHODS

The basis for writing the article was the scientific provisions of the theory of finance, innovative development, management theory and economic cycles.

To achieve the goal and solve the tasks, the following general theoretical and specific methods were used: theoretical generalization - to reveal the specifics of NIS; statistical and expert assessments - to clarify the main problems regarding the choice of forms of financing of NIS; comparison - for research and assessment of the state of financial and credit support for the development of innovative entrepreneurship in Ukraine; system analysis - to develop a number of recommendations for improving the process of financing the development of NIS and regulating the development of innovative entrepreneurship.

RESULTS

At the current stage, the main task of the innovation-oriented economy of Ukraine is the creation and development of a national innovation system.

NIS refers to the collective activity within a specific state of structures engaged in the production and commercial implementation of scientific knowledge and technologies. The most important part of NIS is the complex of financial and social institutions, which ensure the interaction of scientific and business structures and strong national roots with traditions, political and cultural features [21]. According to the Concept of the Development of the National Innovation System, the NIS consists of the subsystems presented in Figure. 1.

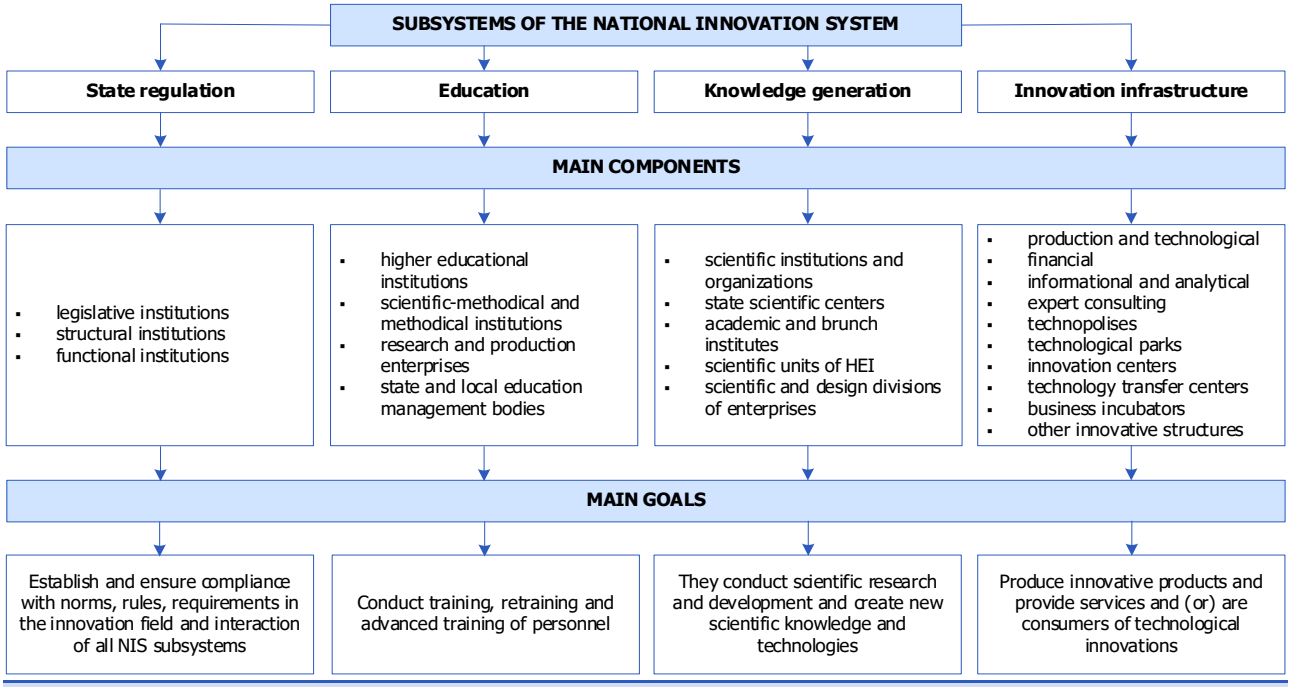

Figure 1. Structure of the national innovation system. *(Source: [15])*

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Within the main goals of each of the subsystems, today, clear directions for the development of NIS have been determined in accordance with its main goal - to ensure sustainable growth of labor productivity and competitiveness of domestic producers on the basis of technological modernization of the economy, increase their innovative activity and the introduction of new products, services, technologies, as well as methods organization and management of economic activity to achieve a new quality of human life and stable economic growth according to defined national priorities.

Today, it is possible to single out the factors that inhibit the development and functioning of NIS, namely:

- the lack of clear priorities for the innovative development of the national economy, and, as a result, the unfoundedness of the strategy of Ukraine's transition to an innovative model;
- the ineffectiveness of the current legislative framework for regulation of innovative activity, regulatory and legal vagueness of financing and stimulation of innovative entrepreneurship;
- the ineffectiveness of the organizational structure of management of innovative activities and inconsistency of the existing institutional structure of the NIS with the requirements of innovative development;
- the inefficient use of available financial resources for the implementation of state innovation policy and limited sources and forms of financial and credit support for the goals of the innovative development strategy of the national economy and NIS;
- the slow formation of NIS in Ukraine and, as a result, a modern and large-scale market for innovative products;
- the low level of innovative culture of the population.

The experience of foreign developed countries proves that the basis of innovative development of the country is innovative entrepreneurship, the essence of which is manifested in qualitatively new areas of integration of science with production, implementation of modern innovations to improve qualitative and quantitative indicators of socio-economic development. Foreign experience shows the great potential of small entrepreneurship and the innovative process. Thus, US small business, consuming only 2–5% of the total amount of expenditures on scientific and technical research, produces about 50% of the country's radical technological innovations [22]. In the Eurozone countries, about 52-54% of manufacturing enterprises belong to the "innovative" category. According to statistical data, the share of fundamentally new or improved products in the industry of these countries is about 29-31% of the total volume [23, p. 44].

Today in Ukraine, two segments of domestic small entrepreneurship can be distinguished - "classical" and innovative [24], which have both common and distinctive features, determined by the peculiarities of their functioning and role in the economic

Identifying the criteria for the innovativeness of enterprises and the relevant indicators for characterizing their condition and capacity for growth is extremely important for the implementation of the state policy of supporting innovative entrepreneurship in Ukraine (Table 1).

Table 1. Characteristics of the main criteria of innovativeness of entrepreneurial structures. *(Source: compiled on the basis of [6; 11; 25])*

Features that determine innovativeness	Indicators that determine these features
Science	▪ enterprise funds invested in scientific research and project development; ▪ an annual increase in costs for scientific and technical developments; ▪ the ratio of actual expenses for scientific research and income from the sale of products/provision of services; ▪ the share of employees engaged in the development and implementation of innovations in the total number of employees of the enterprise.
Competitive ability	▪ level of quality of products/services; ▪ peculiarities of pricing and determining the value of products; ▪ structure and market share; ▪ product differentiation and diversification; ▪ level of service.
Export capacity of products	▪ volumes of sales of the company's products abroad; ▪ income from the sale of products received in freely convertible currency ▪ the market share of individual countries or regional markets where the company's products are sold; ▪ the level of world prices for the company's products.
Product update	▪ the share of a new type of product in the total volume of production at the enterprise; ▪ the share of a new type of product that was not previously presented on the world or domestic markets
Technical and economic level of production	characteristics of new types of production equipment, apparatus, devices that can be evaluated as such that: ▪ exceed the world level; ▪ correspond to the world level; ▪ below world level or unrated.

Under the conditions of modernity in Ukraine, the 2nd and 3rd models of SIE development are the most relevant. If we talk about independent small innovative enterprises (the first model), then their functioning and development in Ukraine is somewhat complicated by the unpredictable and often changing financial condition of enterprises.

Small innovative firms are the basis of the existing mechanism for the creation and functioning of the main types of innovative structures that form the national innovation system and the essence of which is presented in Table. 2.

Table 2. Characteristics of the main types of innovative structures. *(Source: based on [11; 26])*

Type of innovative structures	Form of organization	Main tasks
Business incubators	Structures that provide assistance to new companies at the stage of their organization and formation in an interactive process (support for the development of innovative products, provision of premises, infrastructure facilities, services for the preparation of business plans, etc.)	Providing temporary collectives and creative groups, individual scientists, specialists, and entrepreneurs with opportunities for practical implementation of initiative innovative projects and promoting the transformation of these collectives and groups into small innovative technological firms (SITF)
Scientific, research, technological parks	Territorially separated scientific, research or scientific-production complexes, which include scientific research institutions and MITF, which are located on lease terms, as well as information and service complexes	Stimulating the formation of new SITFs using the results of scientific research, creating conditions for these enterprises that would allow them to go through all stages of the cycle of advancing scientific knowledge into the material sphere in a shorter time and with lower costs, promoting the transfer of technologies
Industrial parks (zones)	Territorial production complexes of regional significance	Ensuring a dynamic approach to solving the problems of regional economic development, taking into account the interests of local authorities and regional development strategies
Export processing zones	Territorial-production complexes (zones), the activity of which is primarily related to the international economy, but at the same time they strengthen the local economy	Realization of export potential and attraction of direct foreign investments, provision of business services, provision of access to infrastructure, use of tax benefits
Regional innovation networks	Association based on the territorial concentration of the network, which includes enterprises, research centers, state administration bodies, financial institutions, producers and consumers , connected by a technological chain of creation, production and use of innovations	Possibility of internal specialization and standardization, minimization of costs for the introduction of innovations
Technopolises	Territorial formations of the urban type with developed infrastructure of the service sphere	Creation and commercial development of the results of fundamental and scientific and applied research, support of small research and research and research and production enterprises in the field of high technologies
Clusters	Complexes based on the concentration of networks of producers, suppliers, and consumers	Ensuring close technological relationships between individual sectors of the economy to realize their specific potential scientific, technical, and innovative advantages

In order to create a national innovation system, high volumes of high-tech production and the country's scientific and technical potential are necessary, the formation of regulatory and legal support for innovative activity and a list of its infrastructure objects, the introduction of modern educational technologies based on the use of the Internet, the use of modern management technologies in the field of quality in small business.

However, the processes of creation of venture funds, technology parks and incubators of innovative business, innovation centers depend not only on the wishes of investors to invest money and the readiness of scientists to create new innovative products but also on a sufficient level of state support for the activities of these innovative structures.

Today, their creation is negatively affected by the lack of a state long-term development program, a low initiative of local authorities, lack of financial, tax and organizational support mechanisms from state structures.

It is worth noting that we propose to define the regulation of the development of innovative entrepreneurship as a component of the management system, which is aimed at identifying and supporting innovation-priority directions of the national economy through the development and introduction of effective legislative and financial and credit mechanisms to ensure the functioning of the national innovation system.

In accordance with the main development strategies that can be used by innovative business structures, using the sequence of development of the state program to promote the development of venture business in Ukraine [1; 27; 28] and

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having improved it, we offer a scheme for the phased implementation of the program for regulating the development of innovative entrepreneurial business in Ukraine (Figure 2).

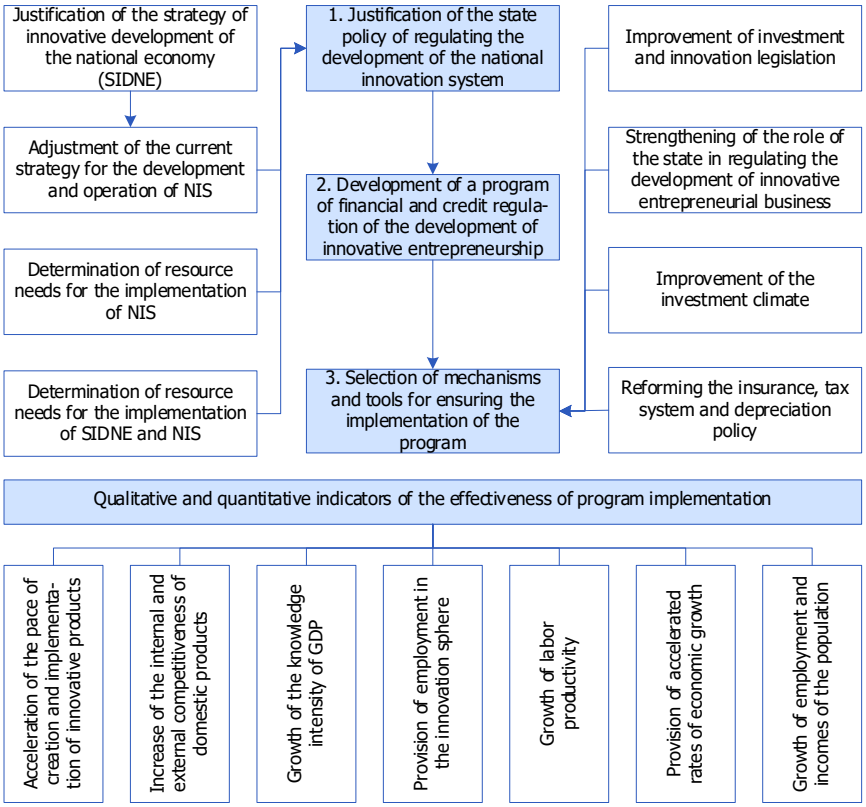

Figure 2. Scheme of the phased implementation of the program of regulation of the development of innovative entrepreneurship in Ukraine. *(Source: generated by the authors using [1; 27; 28])*

This scheme involves the sequential execution of three interconnected blocks:

- justification of the state policy of regulating the development of NIS (1);
- development of a program of financial and credit regulation of the development of innovative entrepreneurship (2);
- selection of mechanisms and tools for ensuring program implementation (3).

In our opinion, in order to substantiate the state policy of regulating the development of NIS (1), first of all, it is necessary:

1. To substantiate the strategy of innovative development of the national economy with the identification of state innovation priorities. Today, the strategy of the innovative development of the national economy is quite unclear, as it lacks mechanisms to ensure the implementation of the first priority state innovation priorities. In addition, the number of priorities is too large and covers almost all sectors of the economy. The experience of highly developed countries shows that such inclusiveness leads to innovative emasculation and dispersal of funding. For the Ukrainian economy today, it is necessary to narrow down the list of industries and the number of priorities. Optimizing the innovative direction of the economy will contribute to the saving of internal and external funds and their rational use to finance those priorities in which Ukraine has potential advantages and which will ensure an innovative breakthrough. First of all, this applies to genetic engineering, bio- and nanotechnologies, aero- and space technology. The main attention should be focused on those projects that are competitive on the world market and have high commercial potential.

2. To adjust the development and functioning strategy of NIS in accordance with specified priorities. To do this, use the opportunity to include Ukraine in the implementation of all possible framework programs for scientific research, technological development, innovation and the creation of a European scientific and research space. Actively conduct joint research with EU member countries within the defined research areas, develop international and scientific and technical cooperation.

3. To determine the resource needs of the implementation of the NIS. At the same time, abandon the existing practice of large-scale state financing of national innovation priorities, and apply the mechanism of project selection on a competitive

basis with the expansion of financing due to the attraction of extrabudgetary sources both on the domestic and foreign financial markets. Develop a clear mechanism for information and personnel support of NIS, taking into account the regional infrastructure of the functioning of innovative business structures.

4. To determine the existing and promising sources and forms of financial and credit support for the goals of NIS. To do this, effectively use the stock market mechanism, the entire range of financial and credit services provided by banking and non-banking financial and credit institutions, as well as international financial organizations. To activate the processes of creating "financial supermarkets" with the aim of pooling capital and investing it in the implementation of innovative projects implemented by innovative businesses at the regional and national levels.

Two other blocks of the phased implementation of the program of financial and credit regulation of the development of innovative entrepreneurial business in Ukraine, namely, its direct development and the selection of mechanisms and tools for ensuring implementation, will depend on the groups of factors that contribute to the development of NIS and that inhibit this process, as well as on ratio of identified positive and negative trends in the functioning of the national innovation system.

The conducted analysis made it possible to single out the factors that inhibit the development and functioning of the NIS, which include:

- the lack of clear priorities for the innovative development of the national economy, and therefore the unfoundedness of the strategy of Ukraine's transition to an innovative model;
- the ineffectiveness of the current legislative framework for the regulation of innovative activities and the regulatory and legal vagueness of financing and stimulation of innovative entrepreneurship;
- inefficiency of the organizational structure of management of innovative activities and inconsistency of the existing institutional structure of NIS with the requirements of innovative development;
- inefficient use of available financial resources for the implementation of the state innovation policy and limited sources and forms of financial and credit support for the goals of the innovative development strategy of the national economy and NIS;
- the slow formation of NIS in Ukraine and, as a result, a modern and large-scale market for innovative products;
- low level of innovative culture of the population.

We believe that it is possible to improve the process of development of the national innovation system by using the scheme presented in Figure 3.

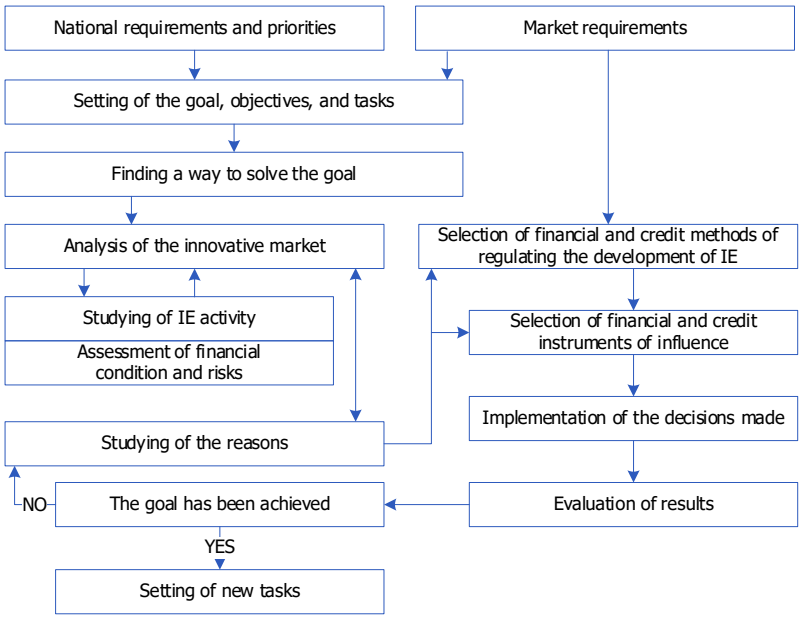

Figure 3. Scheme for improving the development of the national innovation system. *(Source: generated by the authors)*

This scheme provides for the implementation of a complex system of measures that will contribute to the improvement of the functioning of the NIS, and which provide for:

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- setting goals, objectives and tasks of development in accordance with the formed internal national priorities and market requirements;
- possible ways to achieve the goal based on an in-depth analysis of the innovation market with a study of performance indicators and assessment of the financial state of innovative entrepreneurship, as well as identification and assessment of the risks of implementation of innovative projects;
- the choice of financial and credit methods and instruments of influence on the regulation of the development of innovative business structures;
- evaluation of the results obtained from the implementation of the adopted decisions, their comparison with the expected ones with the identification of the causes of deviations and their further elimination.

The effective implementation of the proposed scheme depends primarily on the creation of conditions for the development of innovative structures in Ukraine, namely:

- forming a sound state policy and creating a program to support the functioning of innovative business structures, taking into account that they are the basis of the development of NIS;
- solving at the state level the issue related to the methodology of labor evaluation of different categories of workers in the innovation sphere;
- increase in budget financing of the share that should be used for the development of science, scientific service, education;
- development and implementation in practice of mechanisms of commercialization of the results of scientific research works at various stages of creation and implementation of innovative products;
- implementation at the regional and local levels of measures to establish and strengthen ties between state and private enterprises and scientists to revitalize the intellectual services market;
- implementation of management support for innovative structures;
- implementation of the policy of preferential financing of scientific and innovative developments in the production sector, improvement of the structure of production enterprises by including research laboratories in their composition.

Using these two schemes (Figure 2 and Figure 3) and taking into account the provisions of the Concept of the National Innovation System, the elimination of systemic deficiencies in the formation and implementation of NIS in Ukraine today can be ensured, based on the justification and specification of the main goal, goals and objectives innovative development of the Ukrainian economy, which are schematically presented in Figure 4.

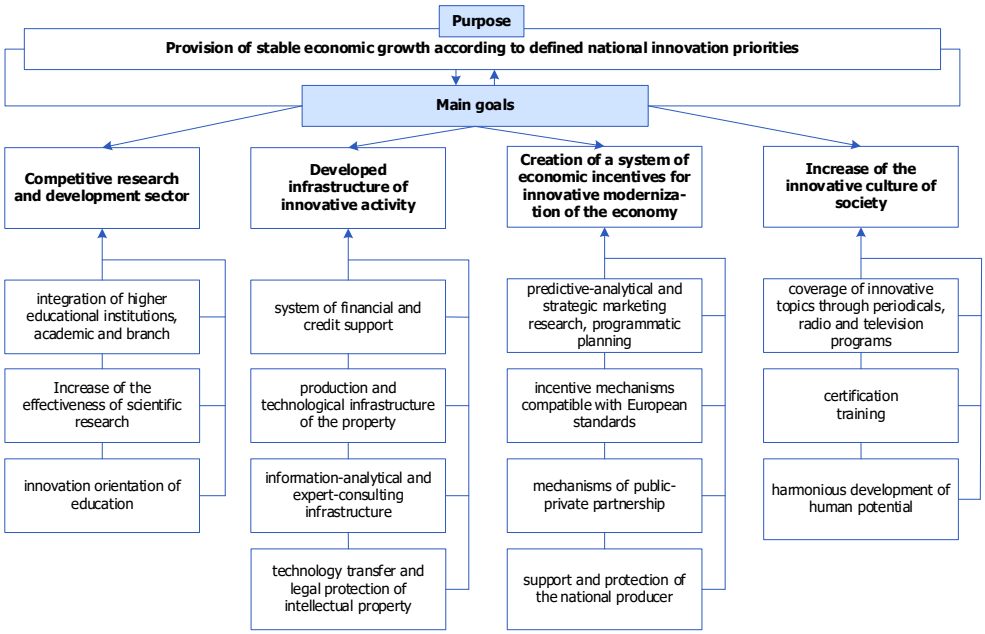

Figure 4. Scheme of implementation of the purpose, goals and objectives of the innovative development of the Ukrainian economy.
(Source: generated by the authors)

The main goal of national innovative development is to ensure stable economic growth according to the defined national innovative priorities. The ultimate task of the goal specified by us is to achieve a new quality of life for people. The realization of the defined goal must, first of all, be ensured by a steady increase in labor productivity and competitiveness of domestic producers based on the technological modernization of the economy and an increase in their innovative activity. It is possible under the condition of achieving a set of four interrelated goals of the innovative development of the Ukrainian economy, which are defined (Figure 4):

1. The creation of a competitive research and development sector and provision of conditions for its expanded reproduction through the integration of universities, branch and academic scientific institutions, increasing the effectiveness of scientific research and ensuring the innovative orientation of education;

2. The development of the infrastructure of innovative activity by improving the mechanisms of financial and credit support for the implementation of innovative projects and programs, development of production-technological, information-analytical and expert-consulting infrastructure of NIS, as well as improving the efficiency of technology transfer processes and ensuring legal protection of intellectual property;

3. The creation of a system of economic incentives for the modernization of the economy based on innovations by conducting effective predictive studies of innovative activity and its proper financing, introducing European norms for regulating the development of innovative entrepreneurship, ensuring the competitiveness of domestic products on the world market due to the introduction of domestic innovations and the creation of a reliable system of protection of the national producer;

4. The increase of the innovative culture of society by ensuring coverage of the relevance of innovative development issues in the mass media, improving the qualifications of personnel in the field of state regulation of innovative activities.

Using the results of research and forecasts [29-31] and relying on the analytical forecast calculations of foreign economists regarding the optimal values of indicators of the development of innovation systems [28, 32, 33], we believe that the domestic innovation system can develop according to one of three scenarios (Table 3):

Table 3. Possible scenarios for the development of the national innovation system. *(Source: developed by the authors)*

	Realization of the goal		
	Full	**Partial**	**Uncontrolled development**
The share of innovative products in the volume of production	50%	25%	6-10%
The level of the knowledge intensity of products	7-10%	3-6%	Less than 3%
The level of innovative activity of enterprises	40- 60%	Up to 40%	Less than 20%
The level of the high-tech industry sector	25-30%	15-25%	Not more than 15%

The full implementation of the goal will ensure the inclusion of Ukraine in the global innovation space, which will contribute to the large-scale involvement of financial and human resources in the innovative development of the economy, the increase in the turnover of foreign trade in high-tech products and technologies.

Partial realization of the goal can only meet the needs of the domestic market. The uncontrolled development of the national innovation system will lead to the deepening of the deformation of the production structure, the decline of the innovation base at the regional and branch level, and the gradual decline in the quality of education.

In our opinion, NIS is developing uncontrollably today. This is evidenced by the high level of resource and energy intensity of final products of domestic production, Ukraine's loss of innovative niches on world markets, as well as disappointing indicators of the share of innovative products in the volume of production (4.69%), the low level of its knowledge intensity (2.4%), low indicators of the level of innovative activity of enterprises (8.91%) and the sector of high-tech production (6.3%).

The Concept of Development of NIS [34] states that the evolution of innovation policy in developed countries has gone through three generations of development, namely:

- innovation policy in its essence is the implementation of various variants of the "linear" model of the innovation process, in which the flow of new knowledge is considered mainly as a unidirectional process with limited feedback and a non-leading role of the market;

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- innovation policy acquires the status of a separate sphere of state regulation, which must be coordinated with traditional spheres of state regulation. At the same time, the innovation process is considered as a systemic phenomenon;
- innovation policy provides for innovation activity to take a central place among the goals in all spheres of state policy by defining a set of tasks and measures capable of increasing the level of innovation activity of business entities.

Today, it can be said that by all obvious parameters, the second stage (second generation) of innovation policy development is characteristic of Ukraine. This is evidenced by the fact that the basis of innovations is the results of scientific research and development, state policy is based on a set of measures to support innovative activity at all stages of the innovation process. Innovation policy is an area of state regulation along with such areas as education, science, industry, and finance.

In the conditions of the global financial crisis, the evolution of innovation policy, or in other words, the transition from the second to the third generation of the development of the national innovation system depends on how fully the functioning of all its subsystems will be ensured: state regulation; education; generation of new knowledge; innovative infrastructure; production of products and services (Figure 5).

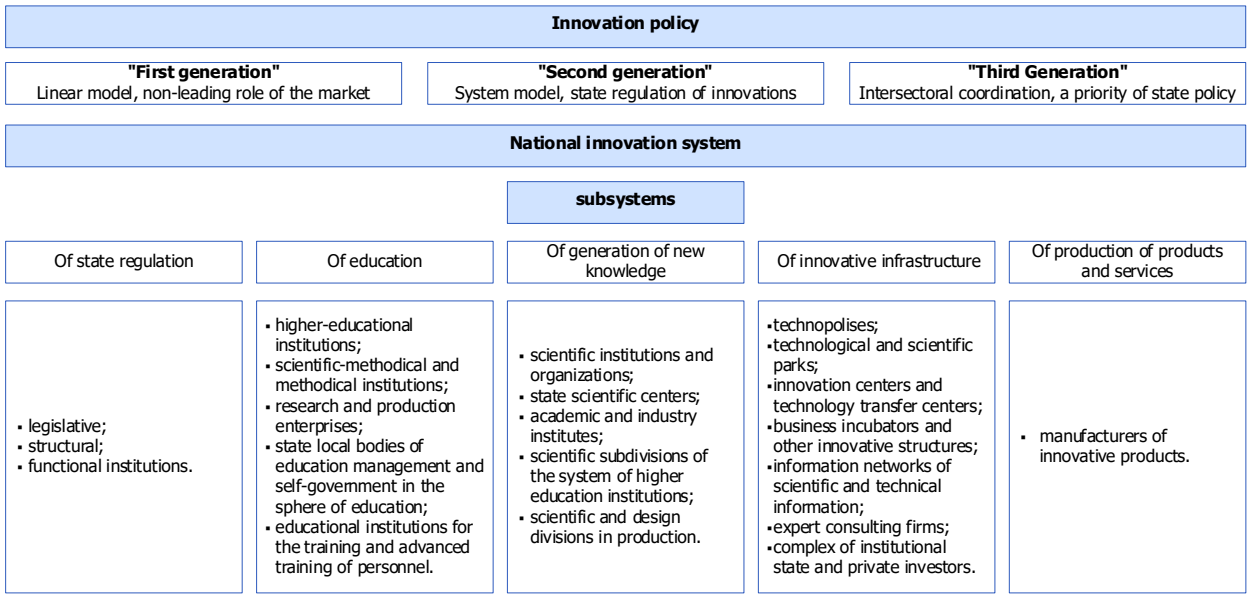

Figure 5. Structural and functional scheme of implementation of the national innovation system. *(Source: generated by the authors)*

We believe that the efficiency and uniform development of all the mentioned subsystems will depend primarily on how effective the regulation of the development of innovative entrepreneurship will be in general and the financial support of each individual innovation structure.

The formation of an effectively functioning, balanced subsystem of financial support has a significant impact on all structural components of the subsystem, as well as on the system of financial and credit regulation of the development of innovative entrepreneurship in general.

Another component that provides the possibility of implementing innovative transformations and the importance of which is constantly growing in recent years is information support, which, like financial support, interacts with all the structural elements of the financial and credit mechanism for regulating the development of innovative entrepreneurship.

Decision-making regarding the choice of the path of innovation implementation at all stages of innovative transformations, regardless of the methods and means used, depends on the objectivity of the available information base. The reliability of the information provision of the mechanism for regulating the development of innovative entrepreneurship allows to reduce the degree of riskiness and increase the validity of the decisions made.

We believe that it is not advisable to create an independent information unit within the framework of each individual innovation structure, since the necessary data can be obtained in the general information base, taking into account the requirements for the quality of the received information (objectivity, timeliness, completeness, comprehensiveness, truthfulness, correctness, significance etc). Timely and reliable analysis of the received information will contribute to the adoption of reasonable management decisions and timely response to negative trends appearing in the market. This especially

applies to those innovative enterprises that are engaged in the development and promotion of fundamentally new types of goods and technologies, since the high degree of riskiness of such projects requires particularly careful justification of decision-making. At the same time, the increase in costs for obtaining information will not always be compensated by the benefits obtained from the decisions made. Therefore, the problem of determining the necessity and sufficiency of information support appears.

The formation of the information base for the regulation of innovative entrepreneurship, taking into account the possible interaction of multiple information flows, is shown in Figure 6.

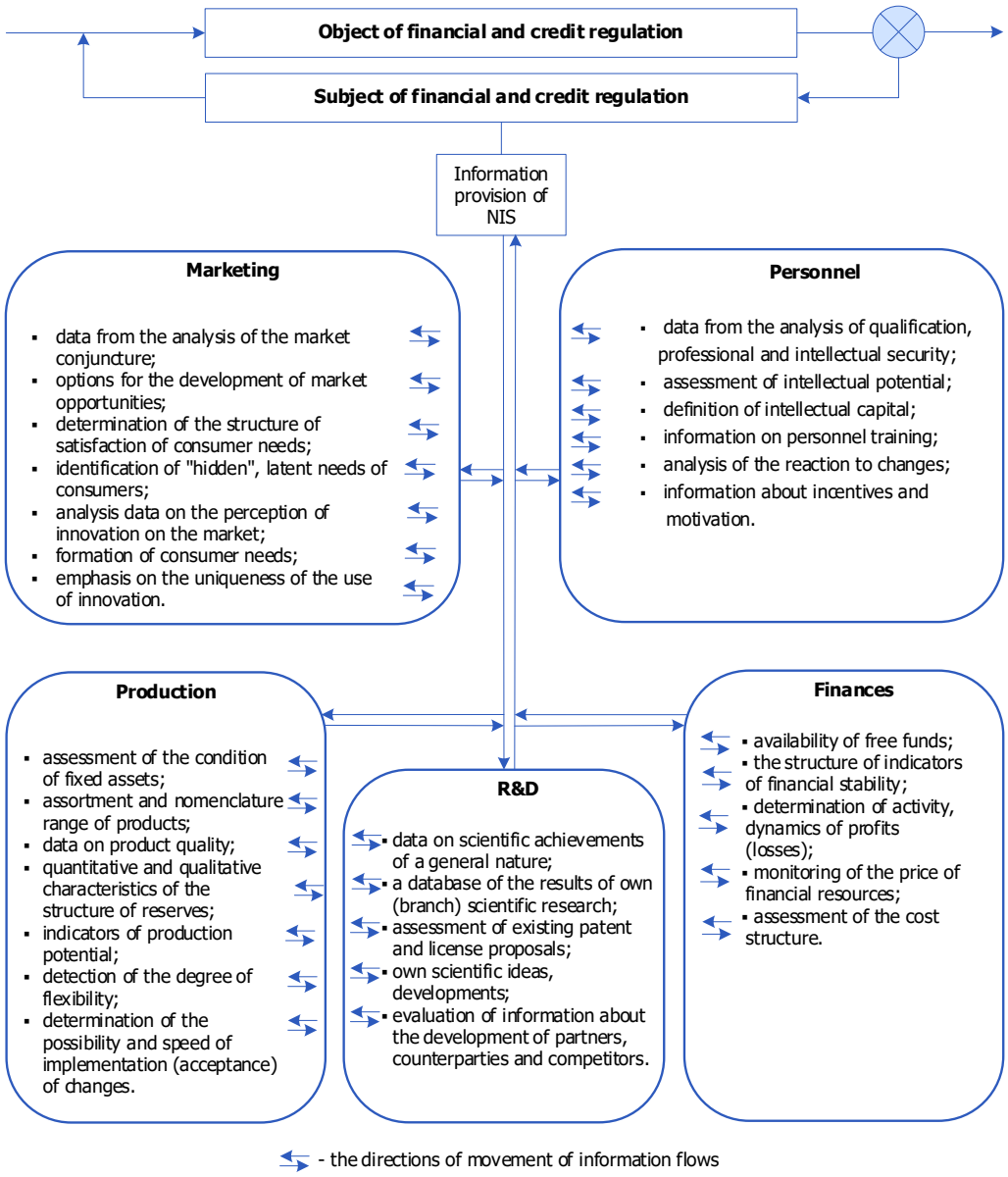

Figure 6. Information flows regulating the development of innovative entrepreneurship. *(Source: generated by the authors using [11])*

The amount of available information, the possibility of obtaining the necessary additional information, as well as the speed of its delivery to the relevant innovation structure or its separate division, play a special role in determining the list of promising innovations and innovative developments that will provide an innovative breakthrough both for an individual enterprise and for the economy in general.

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DISCUSSION

Fulfillment of the requirements related to the quality of the information resource becomes a guarantee of the effectiveness of the financial and credit mechanism for regulating the development of innovative entrepreneurship. The information provision itself is a necessary component of the general system of managing the innovative development of the enterprise, the effectiveness of the innovative transformations implemented at the enterprise directly depends on the quality of its functioning.

We agree with scientists [6; 27; 31], who emphasize that the level of development of intellectual and personnel-qualification potential deserves special attention in the subsystem of information support. The innovative training of the staff should be sufficient for adequate perception of the latest technologies, constant knowledge building and raising of one's own level. The intellectually high level of training of personnel will guarantee the generation of ideas, bringing them to the level of technologies, structures, organizational and management solutions, that is, will directly create innovative developments and transformations, develop, and implement improvement measures.

In this regard, it is an objective necessity to create a subsystem of professional development, training and retraining of employees, which should be aimed at ensuring compliance with future innovation requirements. Therefore, the subsystem of intellectual and personnel-qualification support is included in the structure of the information support system of the financial and credit mechanism for regulating the development of innovative entrepreneurship and at the same time is a subsystem that ensures the possibility of the innovation process in the economy.

In addition, depending on the chosen direction of development, methods and means, the strategy of interaction with the process of creation and implementation of innovations, the relationship with scientific research, the degree of proximity to unique scientific results, the enterprise has the opportunity to independently carry out work related to innovation, which requires the presence of highly qualified specialists with appropriate technical, technological, scientific and practical training.

Using the available intellectual capital, the innovative enterprise has the opportunity to carry out a wide range of work: from cooperation at the stages of the innovation creation process (generation of ideas, introduction of rationalizing proposals, coordination of actions at the application stage of the development of the innovation), - to their exploitation, adaptation, modification, completion, provision additional consumer properties, etc.

CONCLUSIONS

Summing up, it can be stated that in order to improve the national innovation system in general and to regulate the activities of innovative entrepreneurial structures in particular, it is necessary:

- to organize and improve the legislation regulating the activity of innovative entrepreneurship and to adapt the legal framework of innovative activity to the principles and norms of the European Union;
- to develop scientific and methodological support for the creation and development of innovative structures of various types;
- to ensure effective formation and development of the system of certification and market promotion of innovative developments;
- to create units on issues of technology transfer, innovative activity and protection of intellectual property in the central bodies of the executive power;
- to ensure effective functioning of the subsystem of information support of innovative activity;
- to improve and simplify the examination and registration procedures of innovative structures and their projects;
- to improve the functioning models of existing innovative structures and create a developed network of regional innovative structures, including technoparks on the basis of higher educational institutions, scientific institutions, scientific and industrial complexes, etc.;
- to improve the system of financial and credit provision of the mechanism for regulating the activity of innovative business structures, including the financing of high technologies, the creation of venture and innovation funds;
- to intensify investment activities for the development of innovative infrastructure;
- to encourage the creation of innovative clusters on a competitive basis to solve specific problems in the field of innovative development;

- to promote the creation and activity of public organizations, associations, other forms of associations operating in the field of innovative activity.

The implementation of the listed measures to improve the functioning of the NIS will contribute to the development of a network of innovative structures and the creation of new jobs for highly qualified specialists, increasing the innovative activity of subjects of innovative activity and increasing the number of innovatively active enterprises, improving the use and protection of intellectual property, the quality of scientific and technical expertise of innovative projects, accelerating the pace of production of innovative products, attracting investments for the development of innovative infrastructure and the implementation of innovative projects, as well as increasing the competitiveness and national security of Ukraine.

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СТАНОВЛЕННЯ НАЦІОНАЛЬНОЇ ІННОВАЦІЙНОЇ СИСТЕМИ ТА УДОСКОНАЛЕННЯ ПІДХОДІВ ДО РЕГУЛЮВАННЯ РОЗВИТКУ ІННОВАЦІЙНОГО ПІДПРИЄМНИЦТВА В УКРАЇНІ

Важливе значення в економічному зростанні національної економіки має створення, фінансування та використання технологій більш високого рівня. За цих умов в Україні принципового значення набуває завдання формування та розвитку національної інноваційної системи та вирішення проблеми підвищення регулювання діяльності вітчизняних інноваційних підприємницьких структур.

У статті обґрунтовано, що відсутність виваженої державної політики стримує процес розвитку мережі інноваційних інфраструктур, а низький рівень вітчизняних інвестицій і бюджетних асигнувань на науку, чинні критерії віднесення суб'єктів господарської діяльності до підприємств інноваційного типу, застосування не за призначенням і припинення надання пільг інноваційним підприємствам негативно впливають на формування національної інноваційної системи України.

Регулювання розвитку інноваційних підприємств розглянуто як окрему складову загальної системи управління інноваційним розвитком економіки, спрямовану на підтримку її інноваційно-пріоритетних напрямів шляхом створення ефективної законодавчої бази та відповідного фінансово-кредитного механізму.

У статті сформульовано засади поліпшення організаційно-економічного та інформаційного забезпечення процесу регулювання національної інноваційної системи; визначено особливості виокремлення та взаємопоєднання основних елементів в схемі поетапної реалізації системи регулювання розвитку інноваційного підприємництва в Україні.

Запропоновано схему поетапної реалізації програми фінансово-кредитного регулювання розвитку інноваційного підприємництва в Україні, а також схему удосконалення розвитку національної інноваційної системи у контексті реалізації мети, цілей і завдань інноваційного розвитку української економіки.

Ключові слова: національна інноваційна система, інноваційне підприємництво, регулювання, фінансово-кредитне регулювання, технології, інноваційна діяльність, інноваційна культура, інформаційне забезпечення

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