

The object of this study is the existing systems of regulatory identification of forms and methods of financial support and stimulation of innovative investment within the European Union. For the purposes of the study, existing approaches to determining the content of state policy in the field of innovative investment within the European Union were summarized. The existing methods and procedures of financial stimulation and innovative investment have been studied, their advantages and disadvantages were determined. It was established that the existing systems of support for innovative investment do not fully meet the needs of participants in innovative relations. The expediency of improving the existing methods of regulatory fixation of methods of financial stimulation of innovative investment is substantiated. The concept of the structure of the regulatory policy of innovative investment within the European Union has been proposed. Directions for improving current international agreements and treaties of the European Union in the field of innovative investment have been formed in the part related to the formation of a system of means of financial stimulation of innovative investment. An indicative system of promising means, methods, and techniques of financial stimulation of innovative investment has been defined.

The research is aimed at the formation of general theoretical foundations for improving the regulatory system of innovative investment, as well as the analysis and systematization of existing methods and techniques for identifying means of financial support for innovative investment. The research results could be used in the formation of international regulatory acts, acts of the national level, and serve as a basis for further scientific research on these issues

Keywords: innovative investment policy, innovative investment, measures of financial stimulation, financing

IMPROVING REGULATORY DIRECTIONS FOR FINANCIAL STIMULATION OF INNOVATIVE INVESTMENT IN THE EUROPEAN UNION

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1. Introduction

The European Union (hereinafter referred to as “the EU”) places the processes of innovative renewal of the production sector of its own economy as the main guarantee of its economic development. The economic development of the EU member states is based on direct dependence on the processes of mass distribution and implementation of innovations. They are the basis of all areas of planning and forecasting of the economy and state-building processes. During the analysis and study of the practice of implementing innovative activities and implementing innovative relations in the EU, their vulnerability to macroeconomic factors was determined. A managerial concept was formed according to which the implementation of innovations is not effective without external support and stimulation [1]. The main object of stimulation and support was chosen to be the intensification of innovative relations, rather than the functioning of the system of relations of state regulation [2]. As a result of applying such a conceptual approach, economic entities within the EU, involved in the innovation process, received a high level of competitiveness of their products, works and services. To fulfill this task, a number of official acts were formed within the framework of EU law, which define the rules of how the innovation process should be implemented [2].

At the same time, the EU faced a number of economic challenges, which were caused by the consequences of the

mass spread of innovative relations and processes. Thus, since 2017, the issue of limiting the owners of innovations has been actively discussed and actively implemented within the framework of the state innovation policy. The reason for this is the degree of competitiveness due to the presence of exclusive rights to the means of production. This leads to violations of the rules of competition in certain commodity markets. As a result of this, special approaches to the identification of techniques and methods of regulation of certain, most important, domains of innovation processes began to form. One of them was innovative investing, the determination of which has been the subject of numerous discussions in scientific circles.

The main features that should be taken into account when building regulatory structures for managing innovative investment are that, like any other innovative process, investing in innovation can have a significant economic effect. Moreover, the involvement of external (including centrally accumulated) financial resources contributes to a much more significant scaling and intensification of innovation processes. At the same time, the activity of the investor in innovative relations is a venture. This level of riskiness cannot be compensated exclusively by self-regulatory (market) mechanisms. It should be compensated by means of state (institutional in terms of EU law) support and stimulation. This means that innovative investment needs support and protection from states and relevant interstate unions and organizations.

Innovative investment is a process that is on the border between the public interests of the state and the private interests of business entities. The significant economic effect that innovative investment can bring, as well as its dependence on external support, require the formation of well-founded concepts of regulatory intervention. These concepts cannot be formed through research or experimentation. Such proposals are capable of forming scientific research and forecasting directions and consequences of normative regulation. They are the most expedient way of determining the system of financial support measures. Other techniques are not endowed with such an ability. This pre-determines the relevance of scientific research on this topic and entrusts scientists with the task of formulating proposals for improving the existing mechanisms for regulating the processes of stimulating innovative investment.

2. Literature review and problem statement

Issues related to the determination of means of financial support for investment activity and innovative investment are at the basis of many scientific studies conducted both within the framework of the general system of regulatory influence and in terms of separate means of stimulation and support, as well as at the level of individual economic systems of certain countries, as well as within interstate organizations and unions.

Thus, work [3] examines the conditions and circumstances that influence the commercial investment activity of business entities. A general list of negative factors influencing the relationship of innovative investment was formed. The main ones include the lack of equal access to temporarily free financial resources and advanced scientific knowledge. The regularities of the level of growth of the economy of a certain region are highlighted, depending on the level of access to financial resources and knowledge. The main inefficiencies of market self-regulatory mechanisms of innovative investment are singled out. However, this work is more descriptive in nature, and it did not offer solutions to the identified negative factors and circumstances.

In paper [4], the level of dependence of the activity of innovative enterprises on the degree of tax burden was investigated. It was established that a significant level of tax pressure not only reduces the number of participants in innovation processes but also significantly reduces the amount of investment. It was concluded that a high level of tax burden, combined with a significant level of riskiness of the innovation process, bears an extremely negative microeconomic value. The direct proportional dependence of the number of innovative investment participants on the level of tax pressure was substantiated. Means of minimizing certain negative economic phenomena were proposed. The main ones include the provision of tax preferences and financial support for innovations at the expense of communities and the state.

In study [5], the data of statistical observations of the EU on investment activity were analyzed. The dependence of the level of economic efficiency of innovative investment on the predictability of the consequences of the implementation of the innovation was formed. Methods and techniques of research and processing of statistical information were proposed, which could become a method for determining the degree of probability of innovation implementation in a certain economic sphere or industry. However, this study did not assess the impact of regulatory approaches within the

overall EU policy and did not form directions for improving the means of economic stimulation of innovative investment.

Work [6] studied and analyzed the universal model of innovation policy management at the level of a separate state. It was substantiated that innovative relations require the implementation of measures of financial and organizational support, especially at the initial stages of the implementation of innovations. It has been proven that such support should be provided by the state and its bodies. The main directions of stimulating influence on innovation processes were determined. They include the formation of innovation policy, the creation of an innovative economic climate, and the provision of a training system for specialists in the field of innovation relations. However, innovative investment was not considered as a special object of influence on the part of state policy, and a system of measures of stimulating content was not defined.

In study [7], general criteria for the effectiveness of investing in innovative relations were formed. The expediency of providing a system of education and science for the training of specialized personnel was substantiated. The need to intensify the processes of borrowing the experience of investing in innovation, which has already been implemented by someone, has been proven. The main functions of the state have been formed within the system of measures to stimulate innovative investment. Namely: creation of organizational and regulatory rules for private capital; systematization and planning of future economic development directions; a system of financial support measures. Regulatory measures of influence on innovation investment have not been studied. Only certain elements that, in the opinion of the author, could be useful in the international transfer of experience and the promotion of the development of innovative relations were studied.

In [8], the rules of venture capital investment in the form of crown funding activity were investigated. It has been proven that the EU ensures the functioning of a special system of regulation of investment activity by implementing a single digital integrated investment market. It has been established that in the EU there is a special regulatory regime for the activities of crown funding companies that perform the role of financial institutions. Their task is the formation and centralization of temporarily free financial resources of individual and institutional investors with the aim of their further distribution in favor of recipients. In the course of this work, the system of regulatory policy of innovative investment was not studied, and the means of their financial stimulation were not studied.

In work [9], a comparative study of measures to stimulate and support investment activity within the USA, the EU, the countries of the European Community, and developing countries was carried out. The dependence of the level of intensification of investment activity on measures of stimulating influence has been formed. It has been proven that if investment activities are included in self-regulatory mechanisms, the level of intensification of investment processes becomes lower. The dependence between the level of investment and the involvement of public entities in these processes was substantiated. However, the specificity of innovative investment were not studied within the scope of the study and the concept of stimulating regulatory influence was not formed.

All reviewed literature [1–9] testifies to the focus of scientific research on solving the issue of increasing the efficiency of forms of stimulation and support of investing in innovations. Based on them, it can be concluded that there are many problematic aspects of the implementation of financial support for innovative investment and a high level of private

and public interest in this activity. Thus, the issues of identification of the location and branch affiliation of innovative investment are not resolved. No substantiated proposals have been formed regarding the approximate model of measures for financial stimulation of innovative investment. No proposals have been made to improve the current regulatory and legal acts of the EU on this issue.

All this allows me to state that it is appropriate to conduct a study aimed at forming proposals for improving the system of measures for financial support and stimulating innovative investment. The conclusions formed within the scope of this study could become the basis for further scientific developments, as well as the basis for the formation of promising international and national regulatory acts.

3. The aim and objectives of the study

The purpose of this research is to form directions for improvement of stimulating measures of state regulation of innovative investment. The obtained achievements can be useful for changing the provisions of international acts, rules of the World Trade Organization, internal rules of EU member states, EU legislation, national legislation.

To achieve this goal, the following tasks are defined:

- to analyze the essence of approaches to determining the means and methods of stimulating financial regulatory influence on innovative investment in the EU;
- to formulate proposals for improving the means and techniques of stimulating financial regulatory influence on innovative investment in the EU.

4. The study materials and methods

The object of this study is the system of regulatory forms, methods, techniques, and stimulating measures of state regulation of innovative investment within the EU.

The research hypothesis assumes that existing regulatory mechanisms for the implementation of means of financial support and stimulation of innovative investment in the EU do not meet the actual needs of business and society and need improvement. When conducting this study, it was assumed that the inconsistency of the existing approach to the forms and means of supporting and stimulating innovative investment negatively affects the level of its scaling in the EU. The basis for this was an assessment of the essence of the methods and techniques of regulatory influence and a further assessment of the effectiveness of the implementation of investments in the EU.

In the course of the research, a simplification was used, within which the restrictive means of regulatory influence on innovative investment relations were not taken into account. It was used due to the fact that EU countries do not use discrediting (restrictive) regimes for innovation investment.

In the course of the study, the provisions of the regulatory acts of the European Union and acts of the World Trade Organization, information from open sources were used. In addition, recommendations of leading international institutions, statistical information, and public information were applied.

During the research, general scientific theoretical methods were used, namely: analysis, synthesis, deduction, induction, comparison, abstraction, generalization, system and functional methods, modeling methods, formal and logical interpretation of the content of scientific and economic categories and

concepts. These methods were used due to the fact that they create the prerequisites for conducting a theoretical study of the consequences and effectiveness of implementing measures for financial stimulation of innovative investment, without the need for large-scale legislative experiments. Their use is considered appropriate due to the fact that the field of innovative investment is a large-scale economic process, the consequences of intervention in which may have unpredictable consequences.

5. Results of investigating directions for the regulation of means of financial stimulation of innovative investment in the EU

5.1. Studying the approaches to determining means and methods for stimulating financial regulatory influence on innovative investment in the EU

Investment activity is a type of systematic and planned economic activity, which is related to the investment of a certain asset in the entrepreneurial process. The main goal is to achieve a commercial result through the activation of economic activity. The essence of investment activity and related relations is understood very widely. The main macroeconomic benefit of investing is the redistribution of temporarily free assets and resources between different sectors of the economy and ensuring the scaling of economic development. Within the EU, this issue received proper regulation and support. As a result, by the end of 2020, the total investment potential reached EUR 15.5 billion [3].

The investment process is combined with innovative activity and is defined as one of the most effective ways of investing financial resources for the purpose of obtaining profit [4]. However, innovative processes bring additional venture risks to the already risky investment activity. As a result, the number of innovative investments carried out at the expense of the private law domain (business entities) is significantly smaller than other forms of attracting investor assets. The study of statistical information within the EU shows that the share of private entities (businesses, transnational corporations, scientific institutions, economic entities, and individuals) is much smaller in terms of volume. Smaller, in case of their comparison with forms of financing at the expense of institutional institutions or public sector participants. The structure of key sources of funds, within the limits of innovative relations, is shown in Fig. 1 [4].

At the same time, when studying the structure of financial support for scientific research (research and development works) in the EU, it can be established that the majority of such works are carried out at the expense of funds from the private sector. The structure of financial support for scientific research (research and design works) in the EU is given in Table 1.

Table 1 gives data on the share of private funding of scientific research (research and development works) within the EU. The information is given as a percentage of the total amount of financial resources spent on research (research and development) within the EU. The data that was collected (if recorded) for the period from 2011 to 2021 is also provided. Comparison and analysis of information on the amount of funding allows me to draw conclusions about the main development trends (increase or decrease). In the course of such a comparison, it can be seen that the average amount of private funding of scientific research (research and development works) within the EU is 56–58 % of the total amount of financial resources involved in this field. The vast majority of these resources will be directed

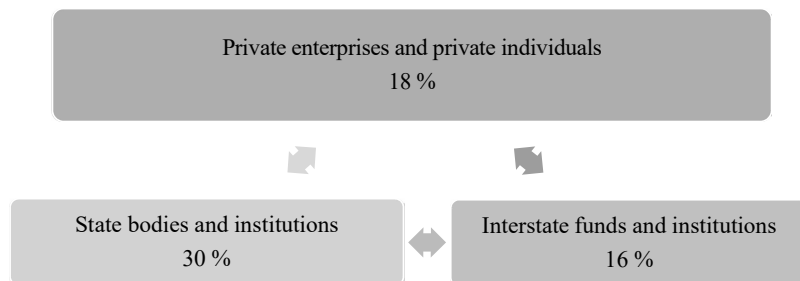


Fig. 1. The structure of key sources of origin of funds, within the limits of innovative relations [4]

to the development of innovative relations and indirectly testify to the existing economic potential and interest in this issue within the EU. Proper legal regulation should correspond to such volume of actual manifestations of economic transactions. That should not only ensure the functioning of the system of rules for the implementation of innovative activities and innovative investments but also determine the forms and means of their financial stimulation.

the “Frascati” guidelines 11]. This international document represents methodological guidelines for the formation of rules for the circulation of innovations within the borders of the EU member states. At the same time, these recommendations do not contain direct regulatory rules. They only recommend EU member states to form a uniform regulatory regime. The most useful are the general principles of the formation of regulatory influence, which include:

- implementation of effective regulation of the status of innovations at the level of official regulatory acts;
- implementation at the level of countries of the most democratic ways of transferring innovations;
- fixation of such measures and ways of supporting and stimulating the implementation of innovations, which will be equal for all participants of innovative relations;
- limiting the opportunities of the participants of the innovation process by the need to comply with ecological, nature protection and man-made requirements;
- introduction of a system of internal monitoring of ineffective regulatory acts [11].

A continuation of this concept of regulatory influence is the system of measures to stimulate and support innovation, established by the Framework Program “Horizon Europe” [12]. This regulatory document defines a multi-level system of measures to support and develop the innovation implementation process. The levels of innovation support measures within the European Union are shown in Fig. 2 [12].

The main drawback of this system of state regulation of innovative relations is that it is aimed only at mass and rapid dissemination of information about innovation within the EU. This model of state regulation of innovation processes contains minimal restrictions on the freedom of participants in innovation relations. Such restrictions are aimed at excluding the possibility of abuse of certain participants of innovative relations with their position or the rights granted to them. The expediency and scope of the means of support are generally limited by the rules of free competition. And the list of innovations that can receive support is based on environmental safety requirements [12]. At the same time, the system of regulatory measures is

Table 1

The structure of financial support for scientific research (research and development works) in the EU [10]

Structure of financial support for research and development in the EU (in % of the total amount of financial support by sources of funding)								
Region/Year Designation	2011	2012	2013	2014	2015	2016	2019	2021
EU – 27 countries (since 2020)	56.26	56.47	56.66	56.81	56.86	58.01	58.98	57.65
Eurozone 19 countries (2015–2022)	56.81	57.09	57.07	57.50	57.58	58.35	59.46	58.12
Belgium	60.15	60.61	60.57	–	58.6	–	64.29	64.42
Bulgaria	16.93	20.77	19.51	22.25	35.58	43.61	37.64	32.93
Czech Republic	37.68	36.38	37.6	35.93	34.53	39.54	38.18	36.05
Denmark	61.16	59.9	59.03	–	59.11	–	59.56	–
Germany	65.59	66.07	65.44	65.98	65.67	65.22	64.46	62.78
Estonia	55.01	51.29	42.05	37.06	41.01	48.24	49.11	50.95
Ireland	48.88	50.18	52.61	52.16	48.69	49	66.05	55.52
Greece	32.74	31.01	30.28	29.84	31.4	40.22	41.43	38.30
Spain	44.31	45.64	46.3	46.41	45.85	46.7	49.09	50.24
France	55.04	55.33	55.07	55.65	–	55.97	56.75	55.43
Croatia	38.19	38.22	42.79	42.91	46.64	42.87	36.55	38.44
Italy	45.09	44.29	45.19	47.28	49.99	52.08	55.94	53.91
Cyprus	11.99	12.95	15.77	18.95	20.05	34.93	36.39	35.66
Latvia	24.85	23.73	21.79	27.83	20.04	21.56	24.28	33.47
Lithuania	28.23	26.47	27.47	32.71	28.53	38.97	34	36.06
Luxembourg	45.3	18.15	16.51	0.92	48.27	0.51	51.27	44.18
Hungary	47.46	46.88	46.8	48.28	49.72	56.43	52.9	50.57
Malta	50.05	43.95	39.71	46.46	45.63	54.47	58.66	61.30
Netherlands	51.12	51.56	55.44	55.44	54.42	55.83	57.6	56.52
Austria	46.17	45.69	48.75	47.7	49.74	52.99	54.85	52.96
Poland	28.12	32.3	37.33	39	39	53.1	50.68	50.97
Portugal	44.72	46.84	42.27	41.8	42.65	44.4	48.26	53.66
Romania	37.41	34.41	31.02	32.92	37.29	49.37	54.58	55.17
Slovenia	61.23	62.22	63.85	68.39	69.21	69.25	51.93	48.73
Slovakia	33.85	37.71	40.19	32.21	25.06	46.22	46.76	43.69
Finland	67.01	63.66	60.84	53.53	54.76	56.99	54.33	55.96
Sweden	57.64	–	60.96	–	57.26	–	62.42	60.65
Iceland	49.85	–	36.92	35.73	41.42	42.83	41.68	48.85

dual and is based on a combination of private law and public law means. Its main advantages are that it provides more effective protection for the participants of innovative relations.

place is occupied by the legal regulation of crown-funding activities [13]. Crowdfunding is offered as an alternative form of venture capital funding for startups and small and

medium-sized enterprises (SMEs) that typically rely on small investments. Its essence is that investment within the processes of implementation of innovative projects is carried out by a special intermediary. It is endowed with the status of a financial company, carries out this activity on the basis of trust management of the accumulated resources of individual and institutional investors [8]. Depositors of this financial company confirm their participation in it with special securities that are imitated by such a company [13].

Along with means of financial stimulation of innovative investment, in EU law, there is an additional system of means of stimulating influence based on special state guarantees. Since the EU is an intergovernmental entity, such guarantees (economic instruments of legal regulation of innovative investment) acquire unique features. Classification of legal guarantees (economic instruments of legal regulation of innovative investment) within the EU, is shown in Fig. 3 [14].

In 2009, as part of the process of revision and distribution of management powers in the EU, the Treaty of Lisbon was adopted, "On Amending the Treaty on Eu-

ropean Union and the Treaty Establishing the European Community" [14]. Within its limits, several principles were formed on the basis of which stabilization of investment processes in the EU is ensured. Thus, since the adoption of the Lisbon Treaty, all issues of ensuring investment processes began to be determined at the level of EU acts. In this way, additional guarantees for the protection of the rights of investment participants were introduced. From that moment, regardless of the country in which the investment activity was started, implemented, or carried out, the investor received the same rules for its implementation. No EU member country had the right to interfere in any investment process, stop or change it in a way different from the way determined by the EU institutions. The only acceptable method of intervention was the introduction of uniform regulatory rules for investment activities.

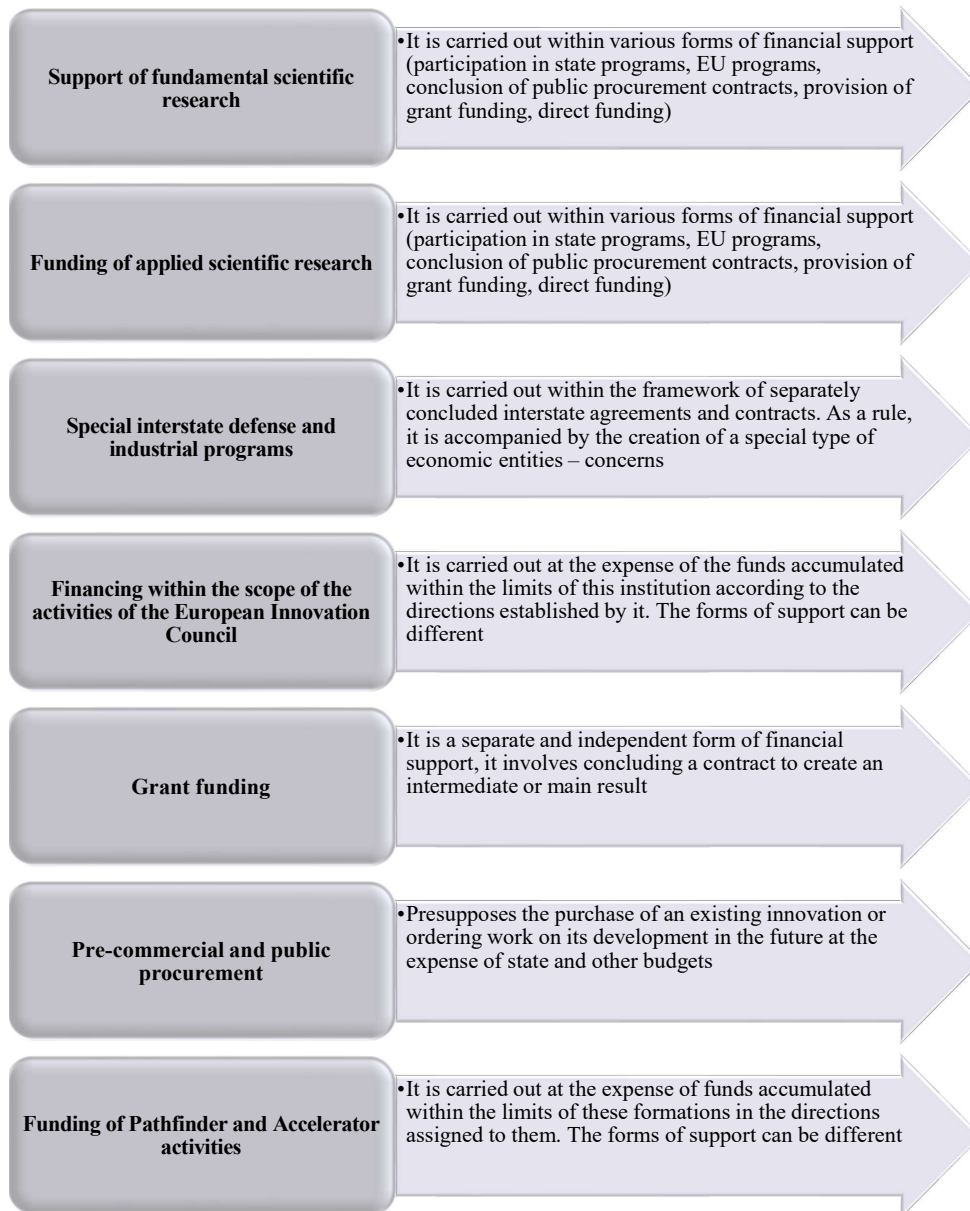


Fig. 2. Levels of innovation support measures within the European Union [12]

The analysis of the above regulatory acts reveals that the main object of their influence is innovative relations, and the main goal of the intervention is the spread of innovations. At the same time, investment is only one of the forms of stimulating innovative activity. Such an approach cannot satisfy all the needs of the participants in innovative investment relations. In general, the relations of innovative investment are those that require additional protection from the state and international institutions and require the formation of their own, separate, independent state policy of innovative investment [7].

During the last two years, a number of directives were adopted within the European Union, which are aimed at defining a special legal regime for the implementation of certain types of innovative investment. Among them, a special

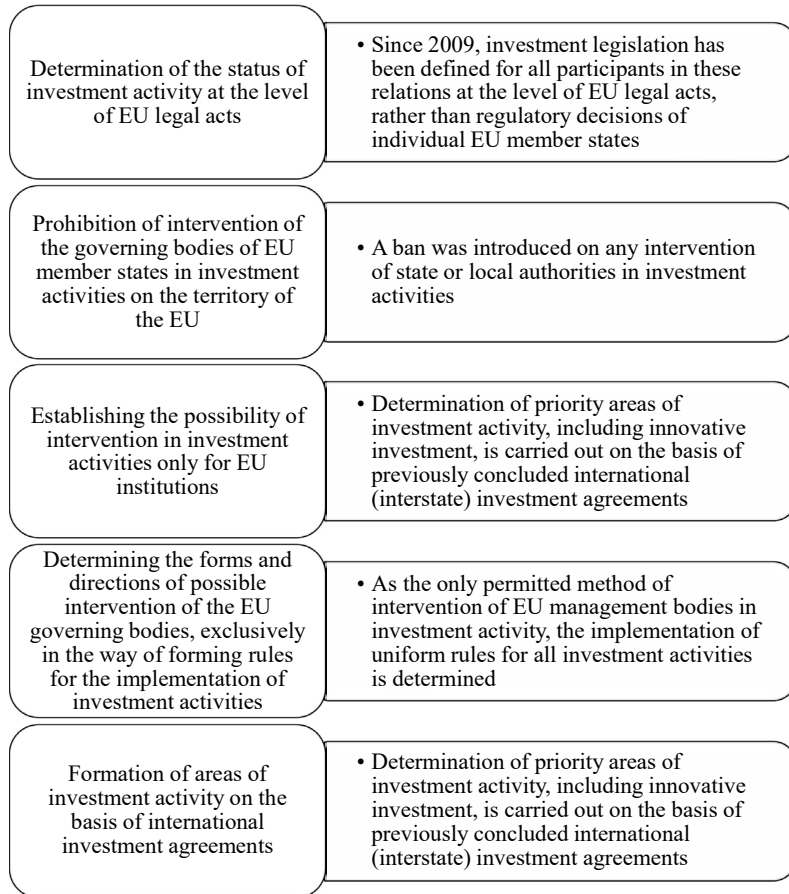


Fig. 3. Classification of legal guarantees (economic instruments of legal regulation of innovative investment) within the EU [14]

5. 2. Studying directions for improving the stimulating financial influence on innovative investment in the EU

All measures to stimulate and develop innovative investment should be carried out within the priority areas

of innovative development formed by EU member states, with the aim of concentrating measures of stimulating influence [3]. It is expedient to define the general legal regime of innovative investment as encouraging – restrictive. This means that most of the methods of regulatory influence that will be used by the state should be aimed at stimulating and developing innovative investment.

It is expedient to define this goal at the level of the general definition of the state policy of innovative investment. It should be understood as a system of forms, methods, means, techniques, and directions of intervention of authorities and bodies endowed with managerial powers, international institutions in the process of innovative investment within the EU.

All forms of financial stimulation of innovative investment, formed taking into account already existing forms of regulation of innovative processes and which are expedient to implement in this legal system, are shown in Fig. 4.

The specified forms of financial stimulation of innovative investment, as an element of a coherent state policy, should be enshrined in relevant regulatory documents within the framework of EU law. The main sources of such fixation should include the following:

- the management of “Oslo” (“Frascati” management);
- framework program “Horizon Europe”.

The use of these sources of regulatory fixation of means of financial stimulation of innovative investment will ensure their more effective distribution.

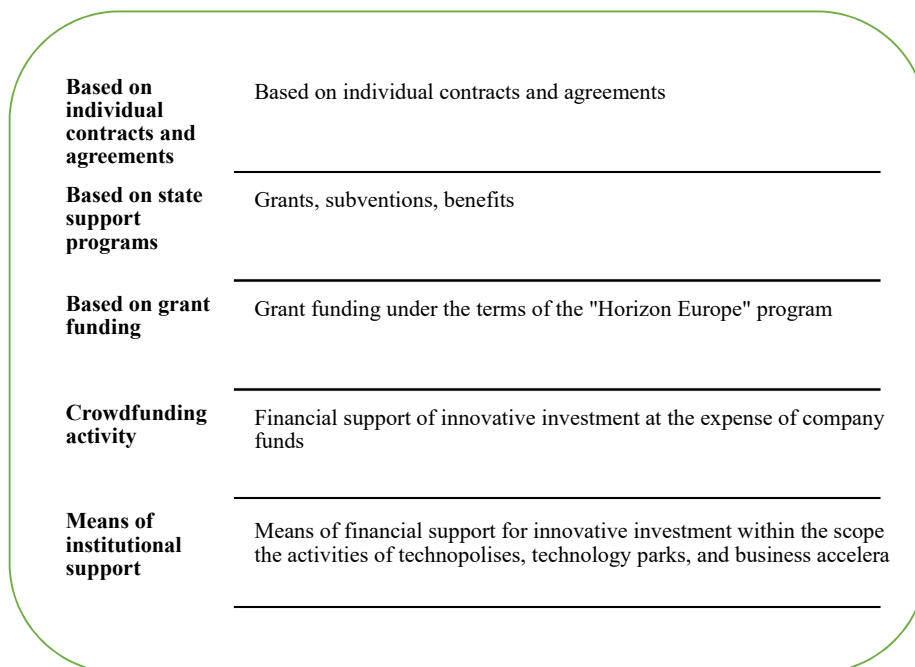


Fig. 4. A generalized model of the proposed means of financial support for innovative investment within the framework of EU law

6. Discussion of results of the research on ways to improve the financial stimulation of innovative investment in the EU

Innovative processes and innovative activities endowed with such economic potential that they actually belong to the domain of interests of entrepreneurs and the public-legal domain (the domain of state interests). Within the EU, EU member states, as well as EU institutional entities, intervene and regulate innovation relations through direct regulatory means. Such a system of means of influence and regulation is usually called state policy [6]. At the same time, the main advantage of the fact that innovative relations are included in the domain of direct state management is the degree of focus and intensification that becomes achievable. However, the guarantee of the effectiveness of the concept of state intervention in economic relations is the presence of systematicity, predictability, planning and certainty of such intervention. Conversely, if the state (or another institutional entity endowed with organizational and economic powers) regulates certain social processes in a chaotic and unpredictable way, the probability of achieving a positive effect from such intervention is significantly reduced. The main drawback of the model of direct regulatory influence of the state on economic relations is their individuality. Each country forms such an influence independently, determining the degree, means, procedures and methods of such intervention based on its personal macroeconomic and microeconomic features of the development of a certain region.

In general, the regulatory influence of states on economic relations is different but certain common features are observed in certain aspects. In the course of researching the basic foundations on which models of state intervention in innovative investment relations are built, several basic concepts of their essence can be identified. Thus, the first category includes those countries where innovation investment is excluded from detailed regulatory influence, and most issues must be resolved on the basis of the private law autonomy of the will of the participants in investment relations, with the help of self-regulating market mechanisms. Such countries include the United States of America [9]. The second category of concepts of regulatory influence consists of countries that allow direct intervention within the limits of innovative investment but determine in advance the forms, directions, methods, and mechanisms of such intervention. EU countries belong to this category. And the third category, these are countries with a planned economy where innovative investment takes place in a way and in an order that is individually determined by the provisions of administrative decisions of certain governing bodies. The People's Republic of China belongs to this category.

The main advantage of innovative investment based on self-regulating market mechanisms and with minimal direct state intervention is that it is able to provide investment mechanisms in any sector of the economy. Such flexibility is usually not achievable for other models of managerial influence. This ensures the ability to quickly respond to macroeconomic changes and meet the needs of the economy. The main drawback of this concept of regulation is the direct and significant dependence of the investment recipient on the wishes of the investor. The investor occupies a higher priority position, which leads to the dependence of the investment order on his wishes and vision. And the recipient of the investment is only capable of making a decision to accept such conditions or refuse to accept them [9]. The EU economy mostly belongs to this category, as evidenced by the data shown in Fig. 1 and in Table 1.

The advantages and disadvantages of the innovative investment system based on the planning decisions of the relevant management bodies are determined by the abilities and skills of the official whose personal decisions are the basis of the relevant management acts. They can be highly effective and vice versa – lead to negative economic consequences. In the course of researching the specificity of identifying the regulation of innovative investment within the EU, first of all, it is necessary to decide what place the innovation investment policy occupies. It is not singled out as a separate variety. All measures of stimulation and intensification of these processes take place within the framework of general regulation of circulation and dissemination of innovations [5]. Thus, without determining the methods of identifying innovations within the limits of EU law, it is impossible to analyze the available and possible forms and means of financial support and stimulation of innovative investment.

It is important for the purposes of the research how the main object of regulatory influence – innovation – is defined within the framework of the “Oslo Recommendations”. It was proposed to understand either an improved product or a process (or their combination). That is significantly different from the unit's previous products or processes. And also, which was available to potential users (product) or put into use by a division (process). And innovative activity (innovative business activity) is defined as any development, financial and commercial activity carried out by a business entity and aimed at creating innovations for the firm. The following are defined as the main forms of innovative activity:

- research and development works (R&D);
- engineering, design, and other creative activities;
- marketing and brand equity activities;
- activity related to intellectual property (IP);
- employee training activities;
- software and database development activities;
- activities related to the purchase or lease of material assets;
- innovative management activity [11].

Within the framework of the “Oslo” recommendations (“Frascati” recommendations), certain principles of how innovative investment should be carried out have been formed. Corporate investment through the creation of a new business entity is defined as the only permissible form of innovative activity. The admissibility of state regulation of innovative investment has been determined, and state programs to be developed and approved at the level of individual EU member states have been determined as the main direction of financial support and stimulation of innovative investment.

This concept of state regulation of innovative investment contains minimal restrictions on the freedom of participants in innovative relations, which is its advantage. The main disadvantage is that the main object of their influence is innovative relations. Investment is defined exclusively as a way of supporting innovation processes, which should be determined on the basis of private law self-regulatory mechanisms.

The presence of separate regulatory acts regarding the procedure for carrying out certain types of innovative investment within the framework of EU law indicates the gradual implementation and formation of a model of state regulation of innovation investment. Such a model must necessarily take into account those provisions of EU legal acts that already directly or indirectly determine the rules for regulating these relations, namely: the Oslo Recommendations (Frascati Recommendations) and the Horizon Europe Framework Program. Thus, it is expedient to define the state policy in the field of

innovative investment as a system of forms, methods, means, techniques, and directions of intervention of authorities and bodies endowed with management powers, international institutions. It is aimed at the process of innovative investment within the EU. Such a policy should be built on the principles of regulation of innovation processes and activities determined by the provisions of the Oslo Recommendations (Frascati Recommendations). It should be aimed at establishing the regime of the greatest support for the scaling of innovative investment processes. This model of state intervention should be based on a system of financial support measures and stimulation of innovative investment. The specified system of support measures should be formed taking into account those directions, levels and forms of financial support that are defined by the provisions of the Horizon Europe Framework Program (Fig. 2), and also take into account the already implemented procedure for crowdfunding activities. In addition, it is necessary to take into account those measures of influence and support, which are classified as public guarantees and shown in Fig. 3. In contrast to studies [2–9], within the scope of this work, proposals were made for the improvement of universal normative rules for the regulation of innovative investment. These universal rules can be used within any type of innovative investment both at the level of national and international impact formation.

All means of financial stimulation of innovative investment, which are defined by the provisions of the Framework Program “Horizon Europe” (Fig. 2), are focused on a certain system of economic instruments of innovative investment. The systematic analysis of the specified regulatory document allows forming an approximate classification of economic instruments of innovative investment. The criterion for such classification is the object of investment activity within which the innovation is implemented. The following economic instruments should be included in this classification:

- the initiation of a new type of economic activity based on innovations previously included in the authorized (compounded) capital of the business entity;
- carrying out scientific or scientific research works to bring the object of intellectual property right to the state of innovation, suitable for further industrial use;
- covering the costs of scaling up the existing production business process;
- implementation of “know-how” and other information of a technical nature, with the aim of intensifying indicators of the economic effectiveness of the already existing economic process.

The proposed directions for improving the regulation of means of financial stimulation of innovative investment are my vision of the direction of development of this issue. When forming them, the circumstances that are discussed in scientific circles were taken into account. In general, the identified directions are suitable both for use within the definition of official rules of their activity and for its further scientific development. The main advantage of the proposed main forms of stimulating innovative investment is that they contain universal regulatory structures that were not formed within the scope of previous scientific research. An additional advantage of this research is that its results can be used within the framework of the rule-making technique of forming prescriptions of acts of international legislation or acts of national legislation. Further development of this research will allow obtaining results of practical orientation. On its basis, drafts of international documents can be formed. The research is aimed only at improving the existing approach to determining the forms of stimulating innovative investment. It is not excluded that in the case of

formation on its basis of the process of changing their status, the proposed concept will require some refinement. However, in any case, all previous scientific studies either did not formulate such propositions or investigated separate aspects of this issue. Thus, various options for increasing the efficiency of investing in innovation were proposed. However, all these results do not have signs of integrity and are not aimed at all participants of innovative relations.

The main drawback of the study is the lack of objectively systematized information about the application of those forms of investment support for innovative activities that are already taking place. Regional features of innovation identification have a significant negative impact on the research of this issue. The diversity of such approaches determined the significant level of generalization of conclusions and research results. This shortcoming of the study must be taken into account in the case of further study of the outlined issues. It must be taken into account during the practical use of the results of scientific research. And the new normative prescriptions that may be formed should be based on the interpretation of the content and the concept of innovation previously recorded in such a legal system. Especially in the case when, on its basis, research will be conducted on the peculiarities of the means of protection of violated rights within the boundaries of individual countries. Another shortcoming of this study is the lack of regulatory fixation of the effective separation of investment activity from similar types of economic activity.

The results of this scientific research contain conclusions that could become the basis for the formation of official regulatory rules, prospective normative legal acts. The possibility of their implementation within the limits of official regulatory rules is their advantage over similar studies. Further development of this research may consist in the development of legal mechanisms for stimulating innovative investment, as well as technology transfer. On the basis of this study, it is possible to conduct further scientific research in the field of state regulation and regulatory influence. The main difficulties in the way of further development of this research will be the regional specificity in determining the essence of innovations and technologies and different national structures of state economic policy.

7. Conclusions

1. It was determined that the current system of state regulation of innovative activity within the EU is not aimed at comprehensive regulation of innovative investment. Within its limits, innovation investment is only a specific way of supporting and stimulating the development of the innovation process. The definition and basic principles of the approximate model of the state policy of innovative investment within the EU have been proposed. It is defined as the forms, methods, means, procedures, and directions of intervention of authorities and bodies endowed with management powers, international institutions in the process of innovative investment within the EU.

2. Proposals for the formation of a special system of means of financial stimulation of innovative investment have been formulated and its classification was proposed. The following were defined as such forms:

- based on individual contracts and agreements (investment contracts);
- based on state support programs (grants, subventions benefits);

- based on grant funding (Grant funding under the terms of the “Horizon Europe” program);
- crowdfunding activity;
- means of institutional support (means of financial support for innovative investment within the scope of the activities of technopolises, technology parks business accelerators).

The expediency of making changes to the provisions of such international treaties and agreements as:

- methodical recommendations “Oslo Guide” (“Frascati” Guide);
- the framework program of the European Union “Horizon Europe”.

The main features and distinguishing features are that the generated results solve the issue of identification of the place and branch affiliation of innovative investment within the limits of EU law. The proposed approximate model of measures for financial stimulation of innovative investment allows taking into account all the features of this process and making appropriate management decisions. And the formed proposals for the improvement of current regulatory and legal acts of the EU on this issue make it possible to create effective prerequisites for their normative consolidation.

Conflicts of interest

The author declares that he has no conflicts of interest in relation to the current study, including financial, personal, authorship, or any other, that could affect the study, as well as the results reported in this paper.

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Data availability

All data are available, either in numerical or graphical form, in the main text of the manuscript.

Use of artificial intelligence

The author confirms that he did not use artificial intelligence technologies when creating the current work.

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