



# Strategic Vectors of the State Financial and Credit Incentives for Innovation

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**Abstract.** Innovation is an important factor in the development of the country's economy, its regions, and business entities. Therefore, the regulation of innovative processes and their activation should be put on priority positions in state policy. The purpose of the article is to analyze the modern features of the state financial and credit stimulation of innovation and determine its strategic vectors taking into account the needs, opportunities, and threats in the field of economic and social development. We set the task to determine strategic guidelines for the influence of the state with the help of financial and credit levers on innovative activities. For this, an analysis of the state's modern participation in creating a favorable financial environment for the innovative development of the economy was carried out, problems in the field of state financial and credit support for innovation were identified. Recommendations have been developed to strengthen the influence of financial and credit levers on the activation of innovative processes and ensuring a high level of scientific and technical development, strengthening national security, and improving the quality of life of the population. The feasibility of using separate budgetary, tax, credit instruments to stimulate innovation is justified. The prospects of lending to innovation on the principles of public-private partnership and the need for state financial and credit support for innovative entrepreneurship have been proved. A conceptual scheme for the implementation of strategic guidelines for state financial and credit incentives for innovation was proposed, which can be used by the Cabinet of Ministers of Ukraine, regional and district states administrations, the Ministry of Economic Development and Trade, and the Ministry of Finance in the formation of strategies for innovative development of the economy and social sphere. The Cabinet of Ministers of Ukraine and the National Bank of Ukraine can use the recommendations on the creation of the Ukrainian State Development Bank as the central financial institution in the field of financial and credit support for innovative projects priority for the state and society.

**Keywords:** State financial and credit incentives · Innovative activities · Budget financing · Tax incentives · Technology transfer · State investment lending · State development bank · Public-private partnership · Innovative startup

## 1 Introduction

The decisive direction of the development of the modern world economy is the growth of the competitiveness of national economies based on scientific and technological innovations. The expansion of investment spheres, the complication of structural economic transformations, the introduction of the latest technologies requires stable financing of economic development on an innovative basis. Modern problems of financial support for innovative development are exacerbated by the emergence of new threats and risks of economic activity, a reduction in financial opportunities for supporting the innovation sector both from the state and from private investors, and the insufficient formation of innovative infrastructure.

The uncertainty of the end result of innovation, and the considerable cost of its implementation, reinforce the need to improve government intervention in the innovative sphere of the economy. In this case, it is extremely important to create a state strategy for innovative development that would direct the actions of the levers and instruments of state financial and credit policy to promote innovation through the regulation of money circulation, investment, and lending to innovative projects. These circumstances actualize the issues of determining the strategic vectors of the state financial and credit stimulation of innovation, substantiating effective mechanisms of state influence on the activation of innovative processes. This article contains studies of methods and instruments of state financial and credit stimulation of innovation activity in conditions of transformational changes in the economy and social sphere. We have proposed a conceptual scheme for determining strategic guidelines for state influence using financial and credit levers to intensify innovative processes and create favorable conditions for high-tech production, development, and dissemination of innovations that can be used in the process of developing a strategy for innovative development of the state.

Our work has consistently covered the following issues:

- the essence of the state financial and credit stimulation of innovation activity has been clarified;
- a study of budgetary financing for innovation has been carried out;
- analysis of financing for innovation and technology transfer in strategic priority areas of socio-economic development was undertaken;
- the peculiarities of tax stimulation of innovative development of the economy are considered;
- delivery has been evaluated by the State Fund for Regional Development in the regions of Ukraine;
- state investment lending instruments and the possibility of establishing a Ukrainian State Development Bank were studied.
- issues of development of public-private partnership and state financial and credit support of innovative business are covered;
- the strategic guidelines of the state financial and credit stimulation of innovation are justified.

## 2 Literature Review

Issues of government regulation of innovation are the subject of scientific research by many scientists. In particular, methodological aspects of the formation of complex organizational and economic mechanisms of regulatory influence of the state on activation of innovative processes in economic and socio-humanitarian spheres received coverage in scientific works of L. J. Gitman [7], B. Santo [22], E. Hargadon [28], W. Sharp [29], and others. The work of these researchers relates to determining the effectiveness of innovation through the use of the information system, planning, and forecasting, analysis, and control, internally oriented audit and consulting, and anti-crisis programs for the development of the enterprise. However, the research of scientists does not pay attention to the development of the financial component of the state's innovation policy.

The theory, methodology, and practice of state financial and credit regulation of innovative development of the economy are at the center of economic thought of scientists: - Y. Belinskaya [1], G. Bortnikova [2], T. Vasilyeva [4], O. Vovchak [5], V. Geets [6], A. Hudz [8], T. Zatonatskaya [11], Z. Krykhovetskaya [13], M. Krupki [14], O. Lyubich et al. [2, 26]. Krikhovetskaya argues that the modern role of the state in the development of innovation activities consists in targeted actions to create a favorable environment and in supporting banks, introducing incentives for long-term lending. This is true, but the scientist does not take into account other important financial instruments of state influence on innovative processes. Although B. Lundval believes that it is advisable to consider the combination of budget and tax instruments in the relationship as a component of the system of financial regulation, innovation in particular. These studies, in our opinion, somewhat narrow the sphere of state financial and credit regulation of innovation, put emphasis only on certain levers of intensification of innovative development.

In a broader sense, A. Popovich understands the role of the state in intensifying the innovative mechanism for the development of the economy, whose research is aimed at stimulating the financing of science and education, high-tech industries, and innovation as such and creating appropriate infrastructure for it [17]. L. Fedulova also concludes that the sustainable socio-economic development of the regions requires the creation of an effective state system of economic (tax, credit, insurance) stimulation of innovation, the restoration of preferential taxation for innovative business, and improved financing for the field of research and development [26]. The search for ways to improve financial methods to support innovative development is also inherent in the scientific work of V. Geetz, who notes that such a public policy goal as the support and development of innovative entrepreneurship by means of financial regulation should positively affect economic growth, increasing the competitiveness of products of domestic producers in both domestic and world markets [6]. It is positive that individual studies of financing for innovative development raise the problem of combining the efforts of the State and the private sector, prove that effective interaction between research activities and the productive sector of the economy in the context of a public-private partnership with the necessary financing will quickly modernize national enterprises, which will affect the improvement of the level and quality of life of the population [11]. However, the problem of determining the strategic directions of financial and credit incentives for innovation remains, which has not been investigated in these scientific works.

In general, an analysis of published works suggests that the main attention in the research of scientists is focused on the construction of state innovation policy, the characterization of financial and credit levers of state regulation of innovation. We do not diminish the scientific and practical value of scientific developments already carried out, but we believe that today the problem of state financial and credit incentives for innovation requires further comprehensive research, taking into account both modern features and prospects for the socio-economic development of Ukraine. To a particular extent, this concerns the identification of strategic vectors of state financial and credit incentives for innovation, to which our study is devoted.

### **3 Purpose of the Study**

The purpose of the article is to analyze the modern features of the state financial and credit stimulation of innovation and determine its strategic vectors taking into account the needs, opportunities, and threats in the field of economic and social development.

### **4 Methodologic**

The theoretical basis of our research was formed by fundamental provisions and principles of economic theory, the theory of finance, banking, innovation, scientific works of economists on the problems of state regulation of the economy, and financial and credit support for innovative development.

To obtain general results on establishing laws and trends of the state financial and credit stimulation of innovation, a systematic analysis methodology was applied.

We used the following general scientific methods of research and analysis of economic processes:

- synthesis, scientific abstraction, and morphological analysis - when examining literary sources and clarifying the essence of state financial and credit incentives for innovation;
- grouping method, index method, comparison method, graphical method - in the process of analysis: budget financing of innovation activities; technology transfer in strategic priority areas; budget financing for innovation in the regions;
- systematization, logical generalization, forecasting - when substantiating the main strategic guidelines of the state financial and credit stimulation of innovation.

### **5 Findings and Discussion**

The reform of the institutional architectonics of the domestic economy, the transformation of the financial and institutional space of Ukraine strengthen the role of the state in the implementation of the strategy of economic transformation. It is the state that should initiate and provide legal, organizational, economic, financial, and social prerequisites for the formation of an innovative model of development, create a favorable environment for scientific and innovative modernization of technical, technological, and intellectual

potential. In this sense, the formation of a mechanism for state financial and credit incentives for innovation is extremely important. Financial and credit incentives are considered as a set of legal, financial, and other measures aimed at strengthening interest in financing certain activities, intensifying investment and innovative processes by ensuring the need for financing of the relevant regions, sectors of the economy, entrepreneurial structures, and individual projects and ensuring on this basis the payback of invested financial resources [27].

We are impressed by the definition of innovation as:

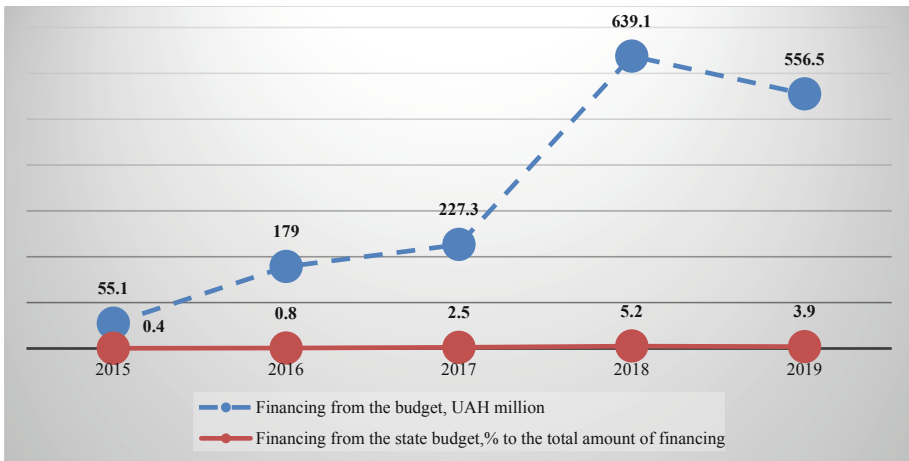
- A type of activity related to the transformation of ideas (research and development results or other scientific and technological achievements) into a new or improved product introduced on the market, into a new or improved technological process used in practical activities, or into a new approach to social services, with a set of scientific, technological, organizational, financial and commercial activities that collectively promote innovation.
- scientific, technological, organizational, and financial activities leading to the commercial introduction of a new (or improved) product or new (or improved) production process or equipment [30].

In domestic regulations, innovation is defined as an activity aimed at the use and commercialization of the results of scientific research and development and causes the release of new competitive goods and services to the market [19]. Therefore, in our opinion, the state financial and credit stimulation of innovation activity can be interpreted as the targeted influence of the state by mediating budget, tax, credit, monetary instruments on the processes of generating innovative ideas, developing and promoting innovative products in order to promote the development of innovative processes, intensify progressive technological changes and increase the competitiveness of the national economy. In the modern economy, the role of the state as a direct investor in innovative projects remains for basic life-supporting industries and the social industry, which are unattractive for private capital, as well as for industries of important state importance.

Budget financing of innovative projects according to Art. 17 of the Law of Ukraine “On Innovative Activity” provides [19]:

- full interest-free lending (on the conditions of inflation indexation) of priority innovative projects at the expense of the State budget of Ukraine, the budget of the Autonomous Republic of Crimea, and local budgets;
- partial (up to 50%) interest-free lending (on the conditions of inflation indexation) of innovative projects at the expense of the State budget of Ukraine, the budget of the Autonomous Republic of Crimea, and local budgets, provided that the remaining necessary funds of the project executor and (or) other subjects of innovation are attracted to the project financing;
- full or partial compensation (at the expense of the State budget of Ukraine, the budget of the Autonomous Republic of Crimea and local budgets) of interest paid by the subjects of innovation to commercial banks and other financial and credit institutions for lending innovative projects;
- provision of state guarantees to commercial banks that lend priority innovative projects;
- property insurance of the implementation of innovative projects by insurers.

In addition, the law provides for the possibility of creating state and communal innovative financial and credit institutions to support innovation. It is worth noting that in an innovative economy, budget investments should be directed mainly to financing the qualitative renewal of fixed assets for the production of goods and the provision of services, the introduction of progressive technologies, the implementation of socially and environmentally important investment and innovative projects, which stabilizes economic development and increases the level of well-being of the population. State support for priority areas of innovative development can be carried out by directly investing budget funds in objects of innovation. Figure 1 shows the dynamics of financing of innovation activities of industrial enterprises at the expense of the state budget.



**Fig. 1.** Dynamics of indicators of budgetary financing of innovative activity of industrial enterprises (Data are given without taking into account the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and parts of the temporarily occupied territories in Donetsk and Luhansk regions) Source: calculated and constructed by the author using [9]

As you can see, the volume of financing of innovation activities of industrial enterprises for the period 2015–2019. Increased by UAH 501.4 mln (9.1 times), which indicates the strengthening of state support for the innovative development of the industry. Although somewhat alarming is the decline in 2019. Compared to the 2018 budget financing of innovation activities of industrial enterprises by 82.6 million UAH. At the same time, it is worth noting that the share of the state budget in the total amount of spending on innovation in the industry is quite insignificant. That is, in reality, the legally provided measures of budgetary support for innovation are only declared on paper due to the residual nature of financing for innovation in Ukraine.

To stimulate innovation, a wide range of economic regulators - tax, credit and financial, etc., should be used in the first place. It is meant: the tax system, their rates, and benefits; the procedure and rates of depreciation; financing, lending and pricing systems; financial grants, subsidies; budget loans; antitrust measures; a system of expertise, control of investments; privatization of state property and construction in progress [18]. It is important to focus the state's efforts on financial and credit support for innovation in strategic priority areas. The Ukrainian Law "On Priority Directions of Innovation

Activity in Ukraine” declares that the priority directions of innovative development are scientifically and economically sound directions of innovation activity aimed at ensuring the economic security of the state, creating high-tech competitive environmentally friendly products, providing high-quality services and increasing the export potential of the state with effective use of domestic and world.

The Government of Ukraine has identified the following priority areas of innovation activity at the national level for 2017–2021:

- development of new technologies of energy transportation, the introduction of energy-efficient, resource-saving technologies, development of alternative energy sources;
- mastering new technologies of high-tech development of transport system, rocket and space industry, aircraft and shipbuilding, weapons and military equipment;
- development of new technologies of materials production, their processing, and connection, creation of nanomaterials and nanotechnology industry;
- technological renewal and development of the agro-industrial complex;
- introduction of new technologies and equipment for quality medical care, treatment, pharmaceuticals;
- wide use of cleaner production and environmental protection technologies;
- development of modern information, communication technologies, robotics [5].

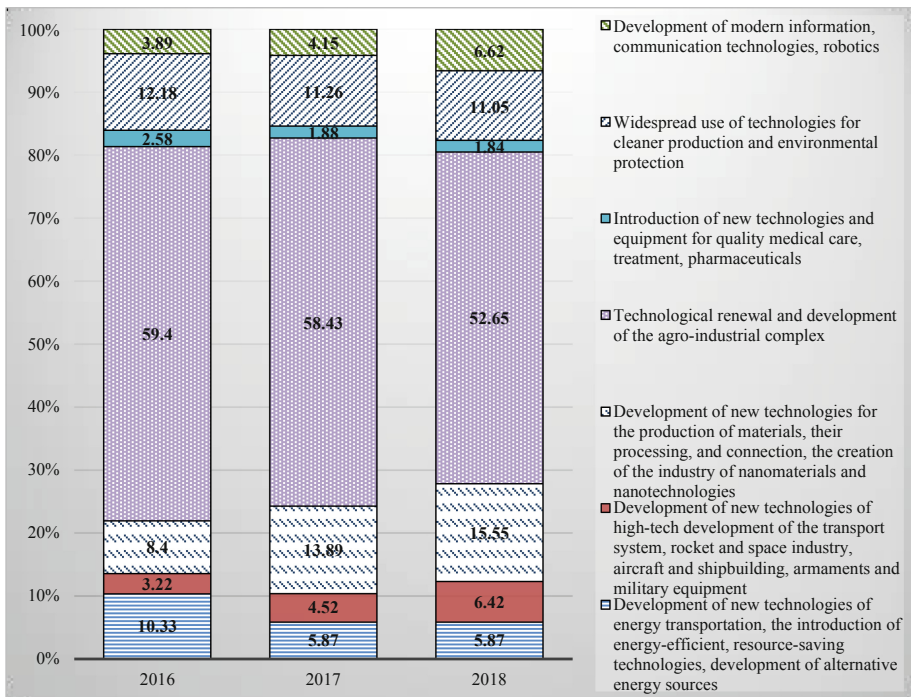


Fig. 2. Budget financing of innovation and technology transfer by strategic priority areas Source: calculated and constructed by the author using [23].

Figure 2 illustrates the processes of budgetary financing of innovation and technology transfer in strategic priority areas of socio-economic development.

The indicators shown in Fig. 2 exhibit that the largest share of budget financing for innovation and technology transfer is concentrated on the strategic priority “Technological renewal and development of the agro-industrial complex” (in 2016 - 59.4%; in 2017 - 58.43%; in 2018 - 52.65%). This is positive in that sufficient technical and technological support for agriculture contributes to improving the financial and economic condition and increasing the level of competitiveness of domestic farmers and the country’s economy as a whole. The least funded by the state is the strategic priority “Introduction of new technologies and equipment for high-quality medical care” (in 2016 - 2.58%; in 2017 - 1.88%; in 2018 - 1.84%). This trend is extremely negative, especially today, during the urgent need to concentrate all efforts, including financial ones, on countering the global pandemic, which has become a serious threat to the national security of the state. Total budget funding for strategic priorities of innovation and technology transfer activities in 2018. Amounted to 291452.83 thousand UAH, or 94.9% in the total amounts of budget financing for innovation, which is 12.5% more compared to 2017. In relation to GDP, the volume of financing in 2018 is indicated. Amounted to 0.0082% (in 2017 - 0.0087%, in 2016 - 0.0082%) [23]. Increased funding is needed to boost innovation.

As for the strategy of financing medicine, targeted financing of innovative scientific projects is still promising, which will allow the effective realization of the potential of medical science. Funding for medical science on a grant basis, involving the selection of the strongest research projects focused on specific results, is important. The selection and financing of scientific projects should be carried out by the National Research Fund as an independent state trust fund, the main powers of which should be: an independent examination of grant applications with the participation of scientists from around the world; selection of the highest quality projects that will contribute to the growth of the medical scientific potential of Ukraine; eliminating corruption during the selection process of research projects. We consider fair the proposal to grant the status of subjects of innovation to individuals-entrepreneurs and legal entities that have reoriented their production to the needs of combating the pandemic COVID-19 and engaged in the production of medical masks, antiseptics, medical equipment for hospitals, comprehensive means of protecting doctors, etc. This will allow not only to establish preferential taxation (or to exempt from it altogether), stimulating producers but also to attract mechanisms of public-private partnership and various sources of lending. The state, in this case, reserves the regulation of prices for such products entering the mass market in order to prevent speculation and monopolization. Thus, the state will be involved in the regulation of priority market segments, whose products are simultaneously in super-high demand and prevent the spread of the disease.

The global practice has confirmed the effectiveness of tax incentives for innovative economic development. Using flexible tax instruments, the state is able to increase the level of motivation of economic entities to carry out innovation activities, to stimulate their development and implementation of the latest innovative products and technologies. In general, the effective levers of tax incentives for innovation include cancellation of costs for research and development (R & D) by reducing the tax base; investment tax credit; tax rate reduction; Establishing tax-free minimums for the subject; reducing the

tax component directly in the price of innovative products to reduce the cost of innovative products; exemption from tax grants to scientists and scholarships to scientists; exemption from royalties and patent payments; introduction of “tax holidays” for innovative enterprises; the creation of favorable tax zones (“harbors”); provision of tax benefits in lieu of application of a special coefficient to the main depreciation rate.

Today, state financial support for innovation activities in accordance with the norms of the Tax Code provides for exemption from taxation of value-added tax (VAT) operations for the free transfer of devices, equipment, materials, except excise, to scientific institutions and scientific organizations, higher education institutions III–IV accreditation levels, entered in the State Register of organizations to which state support is provided; release of subjects of aircraft construction from payment of the VAT on operations on delivery in the customs territory of Ukraine of results of research and research and design works which are performed for needs of the aircraft manufacturing industry. Tax amounts that are not paid to the budget and remain at the disposal of the taxpayer are used for R & D from aircraft construction, creation or re-equipment of the material and technical base, an increase of production volume, the introduction of the latest technologies [16].

The introduction of tax incentives for innovation actually means the invention of ways and boundaries of balancing between public and private interests, the result of which is the mutual satisfaction of the interests of each of the subjects. The state, giving way to its current fiscal interest in tax incentives for innovation, has the right to count on other needs, such as investing released resources in production, basic research, applied development, reducing the outflow from the country of holders of intellectual potential and the like. The taxpayer, in exchange for incurring significant financial expenses with long-term payback, has the right to expect a reduction in tax pressure, to comply with guarantees of long-term stability of legislation, etc. [21].

The positive impact in the sense of enhancing innovation is caused by the granting of income tax benefits to innovative enterprises. We are talking primarily about the exemption or partial exemption from the income tax of enterprises that implement scientific projects, introduce an innovative product into the technological production process. It is advisable to introduce “tax holidays” for several years regarding the profit received in the field of innovation of the enterprise. It should be borne in mind that the effectiveness of tax incentives to stimulate innovation is ensured by stable tax legislation, minimizing administrative procedures when they are issued.

The creation of the State Fund for Regional Development (GFRD) is an important tool of the state policy of financing investment and innovative development. The funds of the FIU are directed to the implementation of investment programs and projects of regional development (including cooperation projects and voluntary association of territorial communities) aimed at developing regions, creating an infrastructure for industrial and innovative parks, sports infrastructure, and meeting the priorities defined in the State Strategy for Regional Development and relevant regional development strategies, as well as for the implementation of winning projects “All-Ukrainian Public Budget” For the implementation of regional investment and innovation programs and projects aimed at the development of sports infrastructure and energy efficiency of state and communal educational and medical institutions, at least 10% of FIU funds are provided for each

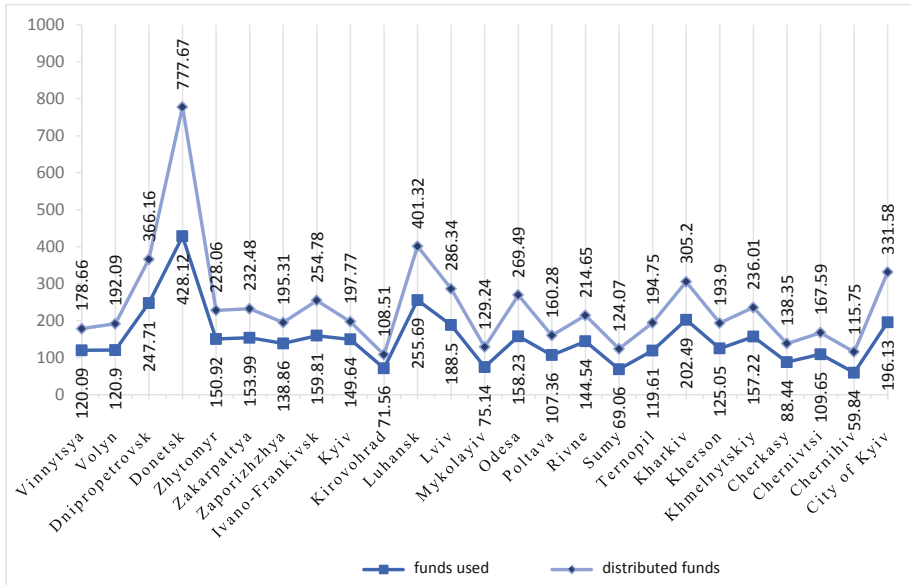
of these areas, and for the implementation of projects - winners “All-Ukrainian Public Budget” - no more than 10% of the funds of the GFRR [3].

The funds of the FIU became an important source for progressive innovation, and the Fund’s financing mechanism contributed to the establishment of partnerships among all investment actors in the implementation of regional development programs in accordance with the adopted strategy, implementation of a program-oriented approach to the implementation of financing, application of “shared” financing of investment projects - at the expense of the FIU and the Government approved the procedure for preparing, evaluating and selecting investment projects that can be implemented at the expense of the FIU, according to which investment projects are subject to mandatory co-financing from local budgets at the level of 10%. The government also proposed a procedure for distributing GFRR funds between regions, according to which 80% of the fund’s funds are distributed in proportion to the population living in the region and 20% - taking into account the level of socio-economic development of the region. In 2018, by region, the largest average concentration of GFRR funds on one construction project was observed in Kyiv (UAH 26.8 million), Dnipropetrovsk (UAH 24.4 million) and Odesa (UAH 32.4 million) regions, and the smallest - in Transcarpathian (4 million UAH), Lviv (4.1 million UAH) and Sumy (3.1 million UAH) regions in connection with the inclusion in the financing of a significant number of non-partisan projects for reconstruction or overhaul [12].

However, today there are a number of organizational problems that impede the effective financing of investment projects with the FIU. We are talking, first of all, about the facts of violation by regional commissions and local state administrations of certain conditions for the selection of investment programs and regional development projects, the irrational use of the funds received, their allocation not to the economic development of the regions, but mainly to social projects. The quality of projects submitted by regions to the FIU also deserves special attention. The documentation of many investment projects submitted for financing requires significant improvement. So, in the Kirovograd region, eight of the nine projects implemented at the expense of the Fund, in 2017–2018, needed to adjust the design estimates (including the Alexandria City House of Culture project - twice). Therefore, the estimated cost of seven projects has increased in comparison with their primary estimated cost in total by UAH 119,111,9 thousand or 86%, which has become one of the reasons for the unfinished work on them due to insufficient amounts of initial appropriations [12].

Figure 3 clearly shows the use of funds distributed with the GFRR by region of the country. In 2018, in all regions, there was an underutilization of allocated funds, which in a certain way restrained their investment development.

To improve the financing of investment projects at the expense of the FIU, it is necessary to select the most priority projects, clearly justify their economic efficiency and usefulness for the region, and give preference to innovative projects. It would be useful to identify a minimum level of funding for individual projects, which would reduce their number and allow greater concentration of financial resources and better management of their implementation. It is important to ensure transparency in the implementation of projects, create an effective system for monitoring them, and involve professional investment experts in the management of investment projects.



**Fig. 3.** Development of SFRD funds in 2018 by regions of Ukraine (million UAH (UAH - Ukrainian hryvnia)) Source: Compiled by the authors on the basis of [24].

An important tool for enhancing investment and innovative development is state investment lending, the implementation of which takes place in the form of preferential innovative credit, consumer state credit, tax investment credit, state lending of investment projects, state investment lending to business entities. Modernization of the financial market in the context of the formation of an innovative model of economic development and the aggravation of the need to create effective financial and credit support tools for investment and innovation activities have strengthened the role of the investment credit market. Ensuring transparency in the interaction of its participants, protecting their interests, strengthening confidence in financial instruments requires state regulatory intervention. Regulation of the market of the investment credit by the state can directly be carried out through the use of tools of an administrative and legal character, normative legal acts, standards, standards, the public budgetary expenditures on priority spheres of financial and credit support, etc. Indirect government regulation provides for the use of fiscal instruments, interest rates on central bank operations, reservation standards, conditions for refinancing credit institutions, etc.

The Ukrainian State Development Bank should become the central financial institution in the field of financial and credit support of priority projects for the state and society in Ukraine (UGDB), which should be established by the adoption of the relevant Law of Ukraine as a new financial institution, which operates on the principles defined for National Promotion Banks operating in the European area and provides long-term credit support for investment and innovation projects, related to the restructuring and modernization of the economy through the provision of targeted loans with a reduced interest rate and free of charge. First of all, through guarantee operations, which should be carried out by the UGBR under the counterguarantium of the Government. For this purpose, it is advisable to recommend to the Cabinet of Ministers of Ukraine together with the National Bank of Ukraine to create a UGBR in the status of an open joint-stock company with an initial 100% ownership of shares in the state, as well as to provide for its next additional capitalization by issuing shares. In the future, it is also necessary to ensure the preservation of a controlling stake in the UGBR for the state. It would be important to envisage the involvement of the UGDB in co-financing the ongoing operations of international financial institutions (especially the World Bank's targeted structural loans), which would help to reduce the cost of financing and increase confidence in the financial system of Ukraine as a whole. To ensure transparent corporate governance, in addition to representatives of the Government, to attract international specialists and representatives of international financial organizations to the governing bodies of the UGBR.

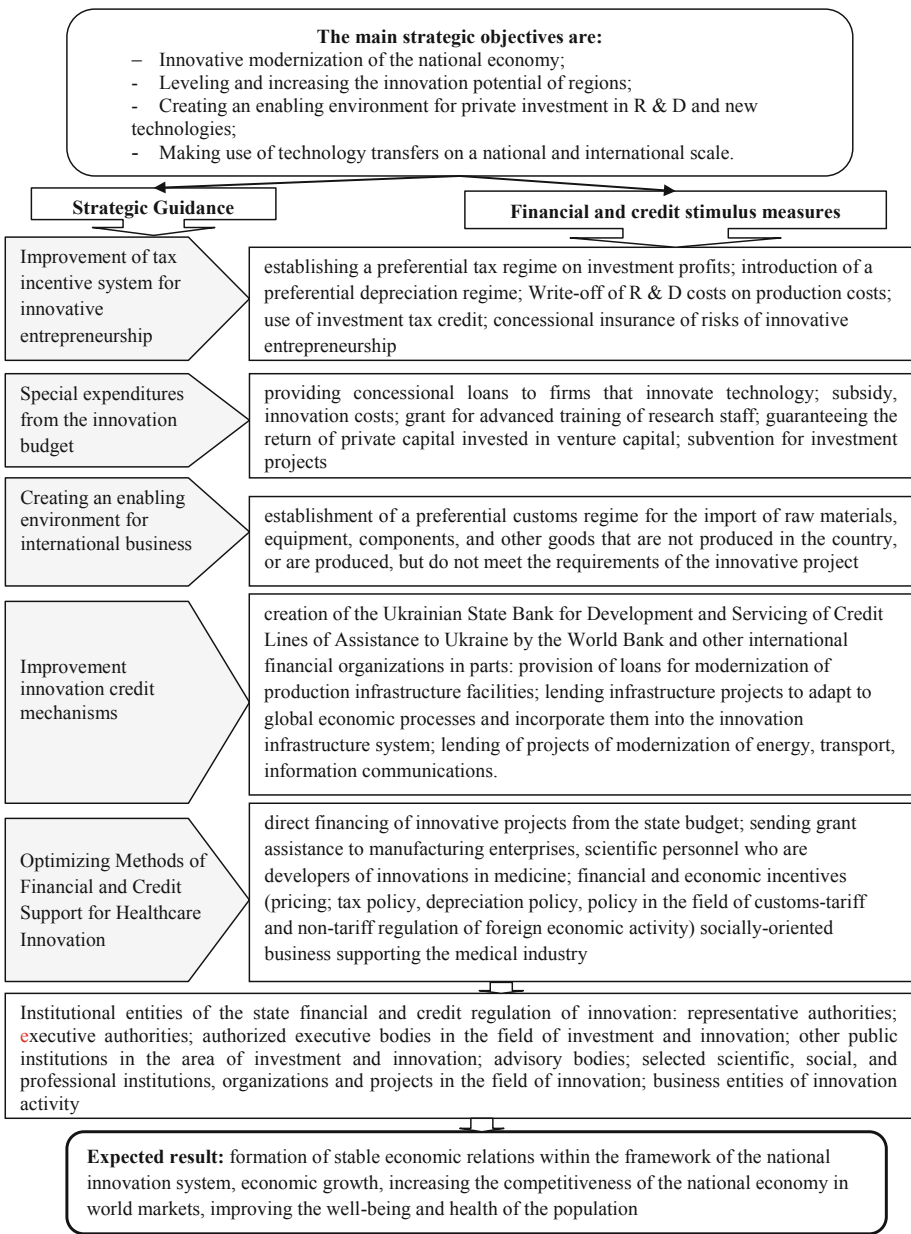
The strategic vector of stimulating innovative development is lending to innovation on the principles of public-private partnership (PPP). The prospect of its application is explained by the fact that there is an increase in the profitability of activities since highly profitable PPP projects with state guarantees fall into the loan portfolio. There are also opportunities to monitor the activities of the borrower enterprise at all stages of PPP implementation and continue lending to production after the end of the first loan, there is an opportunity to become a co-owner of the business. When lending innovation activities based on PPPs: enterprises will have access to inexpensive long-term resources for modernization and innovative development of production; Banks will improve their resource base by providing sufficient liquidity; the state ensures improvement of the investment climate and growth of confidence in the national currency [1]. The interest of enterprises in innovation through PPPs can be stimulated by the possibility of obtaining targeted grants for research and development, the application of tax incentives and budget support measures for technological modernization; subsidizing the acquisition of technologies through direct budgetary financing of their developers, the creation of regional funds for financing innovation, etc.

Ukraine should develop comprehensive and targeted support for initial entrepreneurs. This, in fact, means the formation of a stable social layer, reducing social tension in society and eroding unemployment. It is advisable to focus national startup development programs on supporting innovative technologies, including in the field of computerization, digitization, ecology, energy saving. A separate direction should be the development of import substitution and the production of export products with high added value. The manager of the budget should be the national agency for the development of entrepreneurship. The role of banks - agents of the start-up business support program can be performed by state banks with a wide regional network, active in lending to small and medium-sized businesses [2].

In particular, Oschadbank, Ukrgazbank, and Privatbank, which have a developed regional network and are active in lending to entrepreneurship, can act as agent banks of the national start-up business support program. The program to support technology startups should include the State Innovative Financial and Credit Institution, provided that modern standards of corporate governance are ensured in terms of transparency and accountability in the allocation of funds, and prevention of corruption risks. In economically weak regions, in addition to national programs, it is advisable to introduce regional support programs for small and medium-sized businesses.

Based on the analysis of the financial and credit regulation of innovation activity, the identified problems, and the search for ways to solve them taking into account the strategic directions of socio-economic development, we propose a conceptual scheme for implementing the strategic guidelines of the state financial and credit stimulation of innovation activity (Fig. 4). We are convinced that the strategic vectors of the state financial and credit stimulation of innovation should be aimed at intensifying innovative processes through the improvement of the state tax, budgetary, customs policies, improving lending methods for innovation. As a strategic guide, we envisage the optimization of methods of financial and credit support for innovations in the field of health, which is an urgent need to improve the health of the population and create the latest effective means to prevent the harmful impact of world pandemics.

Successful implementation of the strategic guidelines of the state financial and credit stimulation of innovation requires the establishment of cooperation between the state, which is interested in increasing the innovative activity and well-being of citizens, business, ready to finance the latest developments, and scientific institutions, research institutions on mutually beneficial terms with the aim of integrating the educational and scientific sphere and real innovative production, which will lead to the emergence of scientific and production structures with a full technological cycle from innovative work to production [14]. Moreover, not all means of tax, depreciation, customs, price, and credit policy can be used for all without limiting innovative entrepreneurs. Targeting should be the basic principle of state assistance, while the corruption component should of course be excluded a priori. State efforts should focus on financial and credit stimulation of entrepreneurial activity and support of innovative technologies primarily in the fields of computerization, digitization, ecology, energy saving, import-substitution, and production of export products with high added value.



**Fig. 4.** Conceptual scheme of implementation of strategic guidelines of the state financial and credit stimulation of innovation activity Developed by authors.

## 6 Conclusion and Future Work

Thus, the development of an efficient and competitive economy requires effective government regulation of innovation, the creation of favorable conditions for the development and promotion of innovative products and technologies. The use of effective forms and methods of state financial and credit stimulation of innovation is a priority area of state investment policy. Its successful implementation affects the formation of a favorable investment and innovation climate, the introduction of an effective model of innovative development. An analysis of the state financial and credit support for innovation suggests that today the presence of a budget deficit makes it impossible to adequately finance innovative projects, the system of lending for innovation is imperfect. Significant financial support for the investment and innovative development of the territories is the funds of the FIU, the effective implementation of which requires solving a number of problems at the level of public administration, ensuring transparency and openness of information in the implementation of such a form of financing investment projects.

The result of the study is a conceptual scheme for the implementation of strategic guidelines for state financial and credit incentives for innovation. There is a need to direct the efforts of the state and society in the following areas: improvement of the tax incentive system for innovative entrepreneurship; special expenditures from the innovation budget; the creation of an enabling environment for international commercial activity; improving innovation credit facilities; optimization of methods of financial and credit support of innovations in the field of health care. Successful implementation of these strategic priorities will contribute to economic growth, increase the competitiveness of the national economy in world markets, improve the well-being and health of the population.

An important strategic priority is the state financial incentive for the development of innovative business. Grants, subsidies, loans are provincial to become effective tools of state support for technology startups. For initial innovative entrepreneurship, fiscal benefits need to be practiced: reducing or suspending taxation for the period of business formation, as well as exemption from taxes on the income of those investors who direct their funds to finance newly created companies. It is advisable to focus national programs for the development of startups on supporting innovative technologies, primarily in the fields of computerization, digitisation, ecology, energy conservation.

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