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FINANCIAL ASPECTS OF INNOVATIVE DEVELOPMENT

ФІНАНСОВІ АСПЕКТИ ІННОВАЦІЙНОГО РОЗВИТКУ

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Innovation is a key factor in economic growth and competitiveness. It enables businesses to create new products and services, which increases their efficiency and profitability. However, innovation is costly. It requires significant financial resources, which are not always available to enterprises. This is one of the main problems hindering the innovative development of the economy. The purpose of this article is to study modern approaches to financing innovations, identify the factors that influence the choice of financing sources, identify existing problems, and develop proposals for their solution. The article examines the main sources of financing innovations, which include budget financing, company's own funds, and attracted and borrowed funds. It argues that effective financing of innovative activity requires a comprehensive approach that takes into account both internal and external factors. Solving the problems of financing innovations and increasing the efficiency of innovative projects is an important task for increasing the competitiveness of the economy. For the successful development of innovations, it is necessary to create a favorable environment for financing and develop effective mechanisms for evaluating the effectiveness of innovative projects. Solving the problems identified during the research will help increase the level of innovative activity in the country and contribute to the growth of its competitiveness.

Keywords: innovations, financing, innovative development, competitive advantages, efficiency, sources of financing, innovative projects.

Інновації є визначальним фактором забезпечення довгострокових конкурентних переваг. При цьому ефективність інноваційної діяльності безпосередньо залежить від обсягів фінансування інноваційних проєктів. Недостатній рівень фінансування інновацій на сьогодні є однією з основних проблем, що стримує інноваційний розвиток економіки. Питанням фінансування інновацій присвятили значну увагу вітчизняні та зарубіжні вчені. Проте у сучасних умовах необхідним є постійний моніторинг проблем інноваційної сфери, своєчасне їх виявлення та вирішення, а також удосконалення і розробка нових методів управління інноваційними процесами та пошук джерел фінансування інновацій як на рівні окремих підприємств, так і у загальнодержавних масштабах в цілому. Незважаючи на значні досягнення у дослідженні проблем фінансування інновацій, їхній рівень залишається недостатнім, а структура – недосконалою, що потребує подальшого наукового вивчення. Мета статті полягає у вивченні сучасних підходів до фінансування інновацій, визначенні факторів, що впливають на джерела фінансування, виявленні існуючих проблем та розробленні пропозицій щодо їх вирішення. У статті розглядаються основні джерела фінансування інновацій, які включають: бюджетне фінансування; власні кошти підприємства; залучені та позикові кошти. Обґрунтовується, що ефективне фінансування інноваційної діяльності вимагає комплексного підходу, який враховує як внутрішні, так і зовнішні фактори.

Для успішного розвитку інноваційної та технологічної сфери необхідно забезпечити їх належне фінансове забезпечення. Це означає, що потрібно знайти джерела фінансування, які будуть достатніми для реалізації інноваційних проєктів, а також розробити механізми ефективного використання цих коштів. Вирішення проблем фінансування інновацій та зменшення ефективності інноваційних проєктів є важливим завданням для підвищення конкурентоспроможності економіки. Для цього необхідно: створити сприятливе середовище для фінансування інновацій, включаючи державну підтримку та стимули для приватних інвесторів; розробити ефективні механізми оцінки ефективності інноваційних проєктів; створити інноваційну інфраструктуру, яка буде сприяти успіху інноваційних проєктів. Вирішення виявлених проблем допоможе підвищити рівень інноваційної активності в країні та сприятиме зростанню її конкурентоспроможності.

Ключові слова: інновації, фінансування, інноваційний розвиток, конкурентні переваги, ефективність, джерела фінансування, інноваційні проєкти.

Statement of the problem. Nowadays, innovation is a determining factor in ensuring lasting competitive advantages. The implementation of promising innovative projects can secure sustainable innovative development and the transition to a knowledge and technology-based economy.

The effectiveness of innovative activities directly depends on the level of financing for innovative projects. It is well-known that due to the lack of financial resources, many promising innovative ideas remain unrealized, hindering the improvement of the quality of life in the country.

Recent global crises have significantly impacted the economic development of various countries, including Ukraine. These crises have underscored that only enterprises actively implementing innovations, especially in the real sector of the economy, can thrive under such conditions. Therefore, to mitigate the potential consequences of the crisis, entirely new approaches to the efficient allocation of resources, including financial ones, are required.

The importance of financing innovations lies in their role in socio-economic development. Ensuring the competitiveness of domestic enterprises' products is only possible by increasing the number of innovative developments that can drive the country's economic growth. Providing funding for innovations necessitates a continual search for new forms and sources of financing.

Analysis of recent research and publications. Prominent foreign scientists such as E. Denison, E. Domar, J.M. Keynes, D. Clark, R. Lucas, B. Twiss, R. Harrod, J. Schumpeter, and others have made significant contributions to addressing the challenges of innovative development. D. Garner, V. Geets, and others have dedicated substantial attention to the issue of financial support for innovative activities. Moreover, in the present-day context, it is imperative to continuously monitor the challenges in the sphere of innovation, promptly identify and resolve them, and enhance and develop new

methods for managing innovation processes. It is also crucial to explore sources of financing innovations at both the individual enterprise level and on a national scale as a whole.

Highlighting previously unresolved parts of the overall problem. Increasing the level of efficiency in innovative activities is impossible without ensuring a sufficient level of funding for innovation and the adoption of new knowledge and technologies. Therefore, for the effective financing of innovative development in the economy, it is necessary to clearly define priority goals and objectives, as well as the ways and methods to achieve them, which accurately reflect the role of finance in the country's economic functioning.

However, it should be noted that many problems related to stimulating innovative development have not been conclusively resolved. This primarily concerns the analysis of funding sources for innovative activities. Despite significant achievements in the research of innovation financing issues, their level remains insufficient, and the structure is imperfect, necessitating further scientific inquiry. It is essential to analyze investment financing sources and determine which of them have the most positive impact on the amount of financing for innovative activities.

Formulation of the goals of the article. The purpose of the article is to study modern approaches to financing innovations, determine the factors affecting the sources of financing, identify existing problems and develop proposals for their solution.

Presentation of the main research material. The transition to an innovative model of development, closely tied to the search for funding sources and increased efficiency in the use of financial resources, necessitates defining the country's position and role in the contemporary world. The nation's current economic development heavily relies on the level of innovation sector development, which

demands suitable technical, technological, scientific, and personnel support. It also calls for the implementation of new innovative projects and the adequate protection of scientific, innovative, and intellectual property. Simultaneously, scientists [1-14] view innovative and technological development within the context of financial support.

The financing of innovative development in our country is regulated by relevant legislation, including key regulatory acts such as the "Law of Ukraine on Innovative Activities," the "Law of Ukraine on Investment Activities," the "Law of Ukraine on Joint Investment Institutions," the "Law of Ukraine on Financial Leasing," the "Law of Ukraine on Capital Markets and Organized Commodity Markets," and the "Law of Ukraine on State Support of Investment Projects with Significant Investments in Ukraine." Additionally, pertinent provisions can be found in the Civil, Economic, and Customs Codes, as well as tax legislation.

To support scientific and scientific-technical activities, the National Research Fund of Ukraine was established in 2018. According to legislation, it serves as a specialized tool for the implementation of state policy and provides funding for measures aimed at the comprehensive development of Ukrainian science as the primary driver of the country's economic growth.

In accordance with Article 18 of the Law of Ukraine "On Innovative Activities", the

sources of financing for innovative activities include [5]: a) funds from the State Budget of Ukraine; b) funds from local budgets and the budget of the Autonomous Republic of Crimea; c) the proprietary funds of specialized state and communal innovative financial and credit institutions; d) proprietary or borrowed funds of entities engaged in innovative activities; e) funds (investments) from individuals and legal entities; f) other sources not prohibited by law.

Effective management of innovative activities always involves the following tasks: calculating financing requirements; conducting an in-depth analysis of potential sources of funding.

Once the overall financial needs are determined, it is essential to analyze the potential forms, methods, instruments, and sources of financing (see Figure 1).

Therefore, the primary sources of financing innovative activities comprise: budget financing; company's proprietary funds; borrowed and loaned funds (see Figure 2).

Budgetary funding includes core funding to support fundamental scientific research, research areas of national importance, the development of scientific and technical infrastructure, the preservation of the national scientific heritage, and the training of scientific personnel. Program-specific financing is utilized to fund particular scientific and technical programs and projects aimed at implementing priority areas of science and technology.

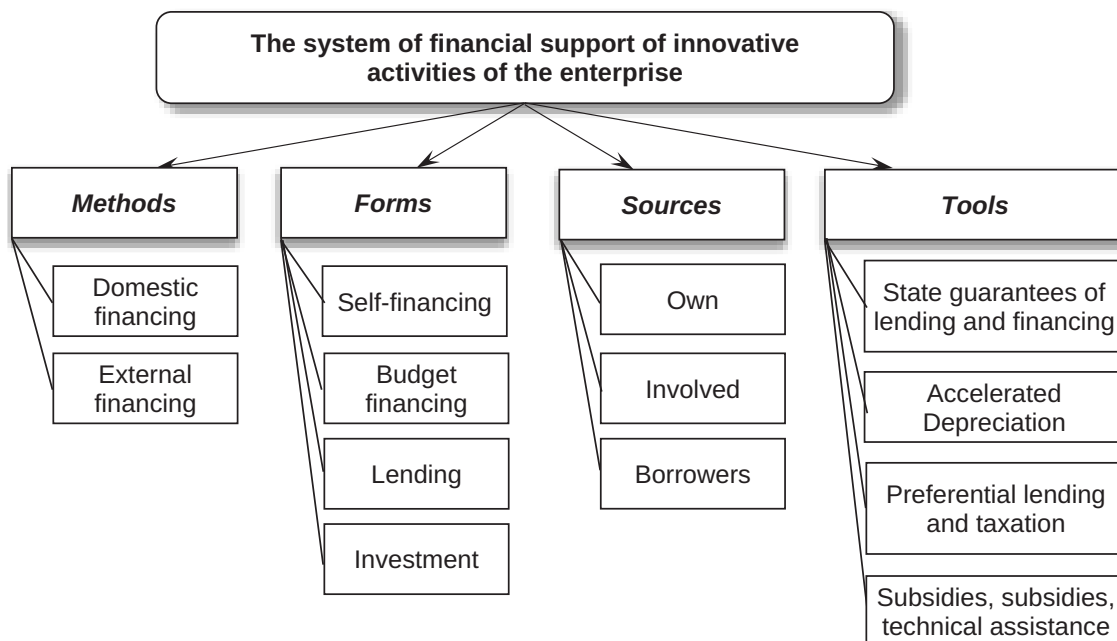


Figure 1. The structure of the system of financial support for innovative activities of the enterprise

Source: [6]

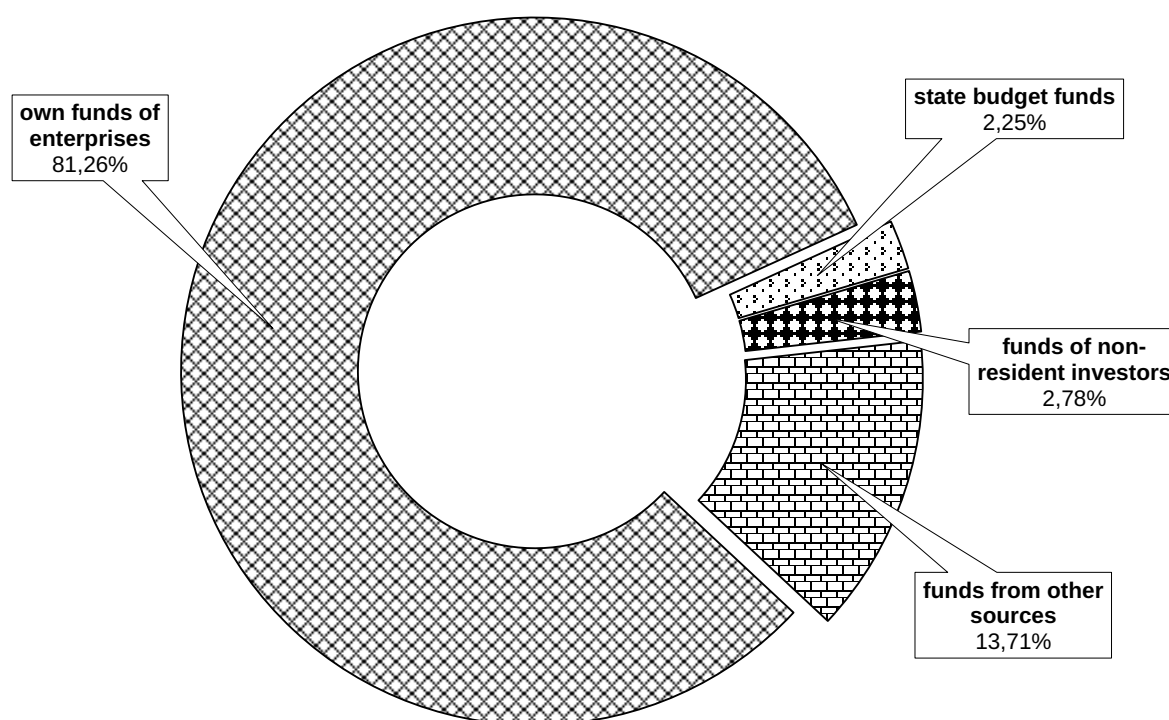


Figure 2. The structure of sources of funding for innovative activities (average data for the last 10 years)

Source: [7]

The primary source of financing for innovative activities is the company's proprietary funds, which encompass: profits retained by the enterprise after tax and other mandatory payments. This is a key indicator of the enterprise's commercial efficiency and serves as a significant source of financing for both the enterprise and the state; depreciation deductions, which are essential for the continuous renewal of the enterprise's fixed capital. Accelerated depreciation is a vital source of investment and encourages investments. However, uneven depreciation implies that the company is essentially borrowing from itself and investing funds belonging to future periods; previously completed long-term financial investments due in the current period; reinvested profits generated from the sale of core assets; insurance compensation for losses related to property loss; the portion of surplus current assets immobilized in investments; grants received from various sources.

Comparatively, the company's proprietary sources of investment differ in terms of simplicity and efficiency in raising capital when compared to funds acquired from external sources or received in the form of loans. Additionally, they typically yield a high return on capital as they do not necessitate the payment of interest on any loans. The use of proprietary resources significantly

reduces the risk of insolvency and bankruptcy for the enterprise, while simultaneously allowing for complete control over enterprise management.

Nevertheless, it's worth noting that proprietary sources of investment have their limitations. They do not always provide the opportunity to substantially expand investment activities, especially in favorable market conditions. Poor external oversight of the efficiency of proprietary investment resource utilization, coupled with unskilled management, can lead to severe financial problems for the enterprise.

In addition to proprietary funds, an enterprise can employ leveraged investments, such as: the issuance of company shares; the issuance of investment certificates (from investment funds and companies); contributions to authorized capital from third-party domestic and foreign investors; free targeted investments provided by government bodies and commercial entities, among other options.

The possibility of attracting equity capital is one of the primary options for securing investment sources for an enterprise. Utilizing shares for financing offers its advantages, including the absence of ongoing obligatory payments from profits. However, there are also drawbacks to using equity financing. Firstly, the costs associated with issuing shares are typically

higher than those of issuing bonds, primarily because bonds often have a higher face value. Secondly, there's the potential for losing control over the joint-stock company as the share capital increases. The issuance of shares cannot serve as a constant source of financial resources since the expansion of share capital leads to an increase in the number of company securities in the market, which can result in a decrease in their value.

Another important source of investment is loan funds, which encompass long-term loans, targeted government credit, investment tax credits, investment leasing, and investment sales. Bank loans play a crucial role in providing enterprises with financial resources, although they may not always be fully utilized due to challenging economic conditions.

Leasing and leasing arrangements come into play when there's a shortage of proprietary financial resources for implementing real investments or when investing in innovative projects with a short operational period or a high degree of technological change.

Scientists [12] discuss the most effective allocation of financial resources for investment activities, categorizing them into two groups: internal and external. Internal sources of investment encompass national sources such as enterprise's own funds, financial market resources, population savings, and budgetary investment allocations. External sources encompass foreign investments, credits, and loans. This classification reflects the structure of financial sources at the macroeconomic level of the national economy as a whole. However, at the microeconomic level of the enterprise, such distribution takes on different significance.

From the perspective of an enterprise, external sources of investment encompass budget investments, funds from credit institutions and organizations, insurance companies, non-state pension and investment funds, other institutional investors, as well as public savings and securities sales.

Internal sources of investment for a business comprise profits, depreciation, and investments made by the business owners. These sources are characterized by simplified and expedited fund attraction, devoid of interest payments. Moreover, they significantly reduce the risk of insolvency and bankruptcy for the enterprise, while retaining complete control within the ownership.

External sources of investment (loans and debts) come with their advantages, such as the

capacity to attract substantial funds and rigorous external control over investment activity efficiency, along with internal reserves for enhancement. However, there are challenges involved in their attraction and registration, including a protracted attraction process and the necessity to provide collateral for property at a cost. Utilizing external sources of investment may also elevate the risk of bankruptcy due to delayed loan payments, potentially leading to the loss of a portion of income from investment activities because of mandatory interest payments.

All of these investment sources complement proprietary resources and grant companies the ability to expand their investment endeavors in alignment with favorable market conditions.

As the market economy evolves, new forms and sources of project financing may emerge and develop. Their structure may change in response to shifts in market conditions, the financial and economic state of the country and the world, the financial stability of enterprises, and other factors.

At present, some main challenges concerning the financial support of innovative enterprise development in Ukraine include [8]: insufficient funding, including state funding; the underdevelopment of the established banking system mechanism for offering long-term loans; missed opportunities for participation in international programs; inadequate development of the venture financing system within the country; and limited enterprise interest in practically implementing the outcomes of domestic scientific and technical developments, which necessitate additional time and financial resources for application.

Therefore, providing financial support for innovative and technological initiatives necessitates the development of an appropriate model aimed at transforming the investment structure. This model should engage various bodies, including local self-government entities, the government, banking institutions, and should enhance venture financing, all while optimizing the utilization of enterprises' own financial resources. In simpler terms, this entails intensifying state funding for innovations. This may encompass the allocation of funds for priority areas of scientific and technological development, providing loans from extrabudgetary sources, extending credit through domestic banking institutions and institutional investors, and involving foreign entities in financing innovative activities. When one's own financial resources are insufficient to drive innovative and technological development,

it becomes crucial to select viable sources and effective mechanisms for employing the engaged financial resources [13].

Conclusions. In addition to implementing a set of measures to develop the innovation financing system, it is also necessary to consider other initiatives aimed at enhancing the effectiveness of innovative activities. These initiatives include:

- Developing the intellectual potential in the field of innovation by improving motivation for scientists and creating opportunities to attract talented youth, providing conditions for their scientific development and career growth in the realm of science and innovation.

- Addressing infrastructure challenges in support of innovative activities to foster a conducive environment for the realization of innovative ideas and projects.

- Establishing new systems of cooperation and interaction among all participants in the

innovation process that meet contemporary requirements and support the integration of innovative solutions.

- Enhancing the appeal of the scientific sector to investors to incentivize investment in research and innovation projects.

- Developing methods for forecasting the results of innovative activities to ensure more accurate management and decision-making.

- Creating opportunities for timely updates to the material and technological infrastructure for innovation.

Consequently, issues related to financing innovations and the effectiveness of innovative projects negatively impact the overall level of the country's economic competitiveness. Addressing the problems identified during this research will help increase the level of innovative activity in conditions of an unstable external environment and contribute to enhancing the efficiency of innovative endeavors.

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