

УДК 330.341: 631.164.23

S. Volyk,
PhD in Economics, Doctoral candidate,
Sumy National Agrarian University
ORCID ID: <https://orcid.org/0000-0001-7731-4882>

DOI: 10.32702/2306-6792.2024.2.59

SOURCES AND INSTRUMENTS OF INVESTMENT OF INNOVATIVE PROJECTS FOR THE DEVELOPMENT OF AGRICULTURAL ENTERPRISES

С. В. Волик,
к. е. н., докторант,
Сумський національний аграрний університет

ДЖЕРЕЛА ТА ІНСТРУМЕНТИ ІНВЕСТИВАННЯ ІННОВАЦІЙНИХ ПРОЕКТІВ РОЗВИТКУ АГРАРНИХ ПІДПРИЄМСТВ

The article is devoted to substantiating sources and characteristics of instruments for investing in innovative projects for developing agricultural enterprises. It is determined that an agricultural enterprise can choose different development strategies, such as passive waiting, active waiting, or preparation and stimulation of changes. It is also determined that avoidance and actively managing changes are critical to an enterprise's successful development, primarily through innovative technologies. Instruments for investing in innovative projects for developing agricultural enterprises have been proposed, among them self-financing, attraction of foreign investments, bank lending, and investment of funds received from the sale of assets. A matrix of selection of tools, means, and procedures of investment activity depending on the types of resource strategies has been developed: investment strategy of intensive development, investment strategy of sustainable development of enterprise, and anti-crisis investment strategy. It is proved that investments have a decisive influence on the effectiveness of agricultural enterprises at each stage (stage of advance, stage of production, stage of implementation) of the reproductive process. The first stage forms the basis for investment, the second creates the prerequisites for increasing the technological level of production, and the third provides competitive products that can take a stable position in global markets. The algorithm for determining the necessary financial resources to ensure production is disclosed includes the stages of determining the period, determining the average costs of production, and calculating the need for capital. It is substantiated that managing financial resources is a decisive factor for the effective development of agricultural enterprises and requires current and strategic financial planning. The importance of the mechanisms of the insurance market and a flexible tax system for the protection of property interests and stimulation of investment activity is also indicated. National target programs and the creation of venture funds are also identified as critical tools for achieving strategic goals in the development of agriculture.

Стаття присвячена обґрунтуванню джерел та характеристика інструментів інвестування інноваційних проектів розвитку аграрних підприємств. Встановлено, що аграрне підприємство має можливість вибору різних стратегій розвитку, таких як пасивне очікування, активне очікування чи підготовка та стимулювання змін. Також визначено, що уникнення та активне управління змінами є ключовими для успішного розвитку підприємства, особливо через використання інноваційних технологій. Запропоновано інструменти інвестування інноваційних проектів розвитку аграрних підприємств, серед них: самофінансування, залучення зовнішніх інвестицій, банківське кредитування та інвестування коштів, отриманих від продажу активів. Розроблено матрицю вибору інструментів, засобів та процедур інвестиційної діяльності в залежності від видів ресурсних стратегій: інвестиційної стратегії інтенсивного розвитку,

інвестиційної стратегії сталого розвитку підприємства, антикризової інвестиційної стратегії. Доведено, що інвестиції мають визначальний вплив на результативність аграрних підприємств на кожному етапі (етап авансування, етап виробництва, етап реалізації) відтворювального процесу. Перший етап формує основу для капіталовкладень, другий створює передумови для підвищення технологічного рівня виробництва, а третій забезпечує отримання конкурентоспроможної продукції, яка може зайняти стійке положення на глобальних ринках. Розкрито алгоритм визначення необхідних фінансових ресурсів для забезпечення виробництва, який включає етапи визначення періоду, визначення середніх витрат на виробництво та розрахунку потреби в капіталі. Обґрунтовано, що управління фінансовими ресурсами є вирішальним чинником для ефективного розвитку аграрних підприємств, і потребує поточного та стратегічного фінансового планування. Також вказано на важливість механізмів страхового ринку та гнучкої податкової системи для захисту майнових інтересів та стимулювання інвестиційної активності. Національні цільові програми та створення венчурних фондів також визначено як ключові інструменти для досягнення стратегічних цілей в розвитку сільського господарства.

Key words: resources, investments, innovations, strategy, investment instruments.

Ключові слова: ресурси, інвестиції, інновації, стратегія, інструменти інвестування.

STATEMENT OF THE PROBLEM

Sources and instruments of investment in innovative projects for the development of agricultural enterprises are of decisive importance for stimulating modernization and increasing the efficiency of production in agriculture. Investments provide access to financial resources for introducing the latest technologies, improving infrastructure, and developing markets for agricultural products. Sources of investment can be both internal reserves of enterprises and attraction of credit resources, investments from the state, or international financial institutions. Effective use of these sources allows agricultural enterprises to carry out innovative transformations, increase competitiveness, and ensure sustainable development in a changing agricultural environment. This approach contributes to the sustainable development of the agricultural sector and supports its important role in the country's economy.

ANALYSIS OF THE LATEST RESEARCH AND PUBLICATIONS

The issues of investment support for the innovative development of agrarian economy entities are the subject of scientific works of domestic scientists such as Zh. Garbar, K. Mayborodyuk, O. Datsiy, V. Kuzyoma, S. Pavlyuk, V. Onikienko, L. Emelianenko, I. Teron, A. Orel, S. Rudenko, T. Polozova, P. Sabluk, M. Kodenska, T. Sus, N. Suduk, O. Yemets, S. Movchun, O. Tsiupa, S. Shkarlet, V. Ilchuk and others. These scientific developments contain quite a thorough work on the theory, methodology, and investment methods supporting innovative innovation projects. At the same time, it should be noted that many problems related to the intensification of innovative development have yet to find their final solution so far.

FORMULATION

OF THE OBJECTIVES OF THE ARTICLE

This article aims to identify the sources and instruments of investment in innovative projects for the development of agricultural enterprises.

PRESENTATION OF THE PRIMARY MATERIAL OF THE RESEARCH

Planning of development and investment activities of agricultural enterprises is divided into strategic, which is determined by the general strategy of the enterprise, and tactical, which is based on strategic plans. An agricultural enterprise can choose between passive waiting, active waiting, or preparing and stimulating change.

An agricultural enterprise can choose between passive waiting, active waiting, or preparing and stimulating change. It is essential to prevent changes and stimulate them through innovative technologies. The choice of the type of behavior is determined by the overall strategy of economic development, such as development, stabilization, or reduction strategies. Resource and investment strategies to increase the efficiency of using the resource potential of agricultural enterprises are formed by the goals and stages of implementation of the chosen strategy, while the investment strategy is a critical factor in ensuring the effective development of resource potential in the future, because, as V.V. Onikienko notes, the strategic effect of innovations can be achieved in close interaction of economic entities, investments, and aggregate investments [4].

The macroeconomic environment analysis influences the definition of investment strategies and the choice of strategic alternatives, the internal conditions of the enterprise, its industry, and business interests. Having sufficient information about possible sources of influence on the enterprise, it is already possible to develop a program

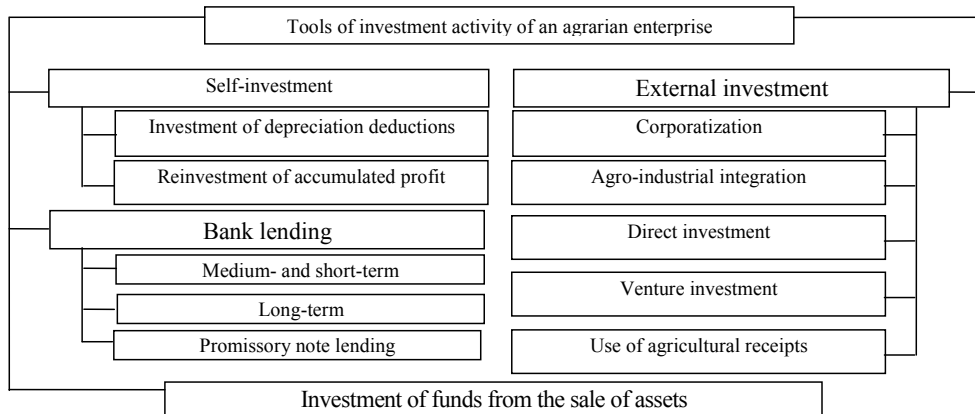


Fig. 1. Structure of instruments of investment activity of an agricultural enterprise

Source: Systematized, summarized, and grouped by the author.

of active preparation of material and technical support and the use of reserves to improve the efficiency of agricultural enterprises. Simultaneously, the investment strategy is pivotal in defining priorities regarding the directions and forms of investment, the methodology for accumulating investment resources, and the sequential stages involved in achieving long-term investment objectives. This strategy plays a crucial role in guiding how and where investments are directed, ensuring that resources are gathered and allocated in a manner that aligns with the overarching investment goals. The strategy also outlines a clear roadmap for the implementation process, detailing the necessary steps to be taken over time to realize these long-term investment ambitions effectively. This structured approach is essential for coherent and successful investment planning and execution.

To maximize the effect of the application of investment strategies, you can choose one of the investment strategies: intensive development, sustainable development, or anti-crisis strategy, depending on the financial and economic condition of the agricultural enterprise. Each of these strategies should include mini-strategies that consider the functioning of pre-defined investment vehicles, including a strategy for preparing a strategic business unit for investment, a strategy for the formation of investment resources, and an investment process management strategy.

The main difference between an anti-crisis investment strategy and others is in the decision-making criteria. For a financially stable enterprise that is profitable and attractive for investment, the investment strategy's main goal is to ensure long-term strategic development goals. In the event of a financial crisis or a threat to it, the strategic goals of management become less relevant, and in the

short term, managerial decision-making is focused on overcoming the negative impact of the external environment, maintaining viability, and avoiding bankruptcy of the enterprise.

Those responsible for managing the investment activities of agricultural enterprises use various tools to attract and optimize the use of investment resources. An invest-

ment instrument is a tool used by agricultural enterprises to attract and use investment resources to develop resource potential and increase economic activity.

Structurally, investment activity instruments can be presented as a diagram (Fig. 1), where the following categories are distinguished: self-financing, attraction of foreign investments, bank lending, and investment of funds received from the sale of assets.

Considering each category of instruments of investment activity of an agricultural enterprise separately, we can determine the functional aspects of each of them. For example, self-financing can be done through depreciation and reinvestment of accumulated profits. As for investing through bank lending includes all types of lending according to the time criterion and the issuance of promissory notes. There is also a group of external investment, which combines corporatization, agro-industrial integration, direct investment, venture investment, the use of crop receipts, etc.

The state's role in forming an effective investment mechanism for developing the resource potential of agricultural enterprises is manifested through its interest and capabilities. Decisive are the methods of state participation and incentives, which are subject to modifications. Under the influence of market conditions, administrative and centralized methods of state regulation gradually evolve into cooperative, integrative, and private-public ones. It also affects the relevant legal, regulatory, and information support, which forms the appropriate type of investment mechanism, manifesting itself in the interaction of the relevant institutions during the innovation process.

Table. Figure 1 presents a matrix of the selection of tools, means, and procedures of investment activity depending on the types of resource strategies.

Among the stages of the reproductive process in agriculture, the following stand out:

— Advance payment stage. During this stage, there is an accumulation of financial resources that were attracted in the process of investment, and their investment in various forms of capital;

— Production stage. At this stage, various forms of capital are used in the production process, but they do not ensure the creation of added value;

— implementation stage. Finished products are sold on the market, bringing profit to the enterprise. Profit serves as a source of financing for the purchase of means of production and the beginning of a new reproduction cycle.

Investments have a decisive impact on the effectiveness of agricultural enterprises at each stage of the reproduction process. The first stage forms the basis for investment, the second creates the prerequisites for increasing the technological level of production, and the third provides competitive products that can take a stable position in global markets.

The need for capital to finance current expenses within the framework of investment projects for the introduction of resource-saving technologies is associated with the difference in time between the moment of making cash expenditures (for the purchase of fixed assets, raw materials, materials, etc.) and the moment of receiving funds for products, for the production of which costs were made. This need is defined as the amount of financial resources required to finance fixed and intangible assets and financial resources to finance current assets.

The process of planning the necessary financial resources to ensure the production process begins with establishing directions and amounts of costs, including fixed and variable costs. These costs are calculated based on flow charts for growing crops in crop production and the production program in animal husbandry. The resulting value corresponds to the planned production cost. Further, possible reserves for reducing the production cost for each item of expenditure are determined, which, accordingly, allows for saving current assets.

Minimizing the cost of agricultural products and increasing its competitiveness becomes achievable through the innovative activity of an agricultural enterprise. Innovation refers to the profitable introduction of innovations in the form of new technologies, products, and processes.

Innovation activity is aimed at the practical use of scientific and scientific-technical results to create new, significantly improved products and production technologies. This helps to increase competitiveness and strengthen the market position of the enterprise.

Table 1. Matrix of selection of tools for the implementation of investment strategies

Tools, tools, procedures	Investment strategy of intensive development	Investment strategy for sustainable development of the enterprise	Anti-crisis investment strategy
Self-financing	+	+	+
Leasing	+	+	-
Short-term loans	+	+	-
Long-term loans	+	+	-
Promissory note lending	+	+	+
Investing Proceeds from the Sale of Assets	+	+	+
Corporatization	+	+	-
Agro-industrial integration	+	+	+
Private Equity	+	+	+
Venture Capital Investing	+	-	-
Use of crop receipts	+	+	+

Source: Developed by the author.

The available amount of financial resources and the planned financial flow are determined in the next stage. Calculations are carried out based on an investment project for the introduction of resource-saving technology or other innovation, detailing the stages of the investment process and taking into account the available resources at a particular point in time. These resources include depreciation and amortization; part of the profits are directed to reconstruction, technical re-equipment, and other investment programs.

The optimal period for attracting credits and loans is determined, considering the preservation of the enterprise's solvency and financial independence. This period covers the period from granting a bank loan to its full repayment and payment of interest for use.

Determining the necessary financial resources to ensure production includes the following stages:

1. Determination of the period during which funds will be used in current assets includes the following time parameters: duration of production, storage of raw materials and materials in the warehouse, storage of finished products, terms of payment to customers, and delivery of raw materials.

2. Determination of the average cost of production of products covers one-day material and personal costs, as well as overhead costs.

3. Calculating the need for capital to finance current assets can be performed using the cumulative or selective method.

The first stage involves determining the duration for which funds are spent on individual items of current assets. The total period during which capital is invested in current assets takes into account the different periods from payment for raw materials to receipt of funds for products and is determined as follows: (+) the period from the moment of payment for raw materials, materials

to their delivery; (-) the period of commodity loans to suppliers of factors of production; (+) the period of storage of raw materials, materials in the warehouse; (+) duration of production of products, works, services; (+) the period of storage of finished products in warehouses; (+) terms of granting commodity loans to consumers of products (the period from the moment of shipment of products to the moment of receipt of funds for them); (-) the period of use of advances received from other persons on account of subsequent deliveries of products.

The second stage includes forecast calculations of average daily costs for different production costs.

In the third stage, the capital requirement for financing current assets is directly calculated using the selected methods.

The need for financial resources to finance inventories depends on their initial cost, which includes the actual costs of information, intermediary, and other services related to the acquisition of inventories. This also includes the costs of import duties, indirect taxes, transportation, trucking work, transportation risk insurance, and costs associated with preparing inventory for use.

The value of work-in-progress and finished goods is determined by the cost of producing the corresponding inventory, including direct material and labor costs, overhead costs, fixed overheads, and so on.

At the final stage, it is decided how exactly the company can raise the necessary funds, considering the cost of capital calculation. Financial leasing can be used if it is necessary to update fixed assets. The financing level, first of all, depends on the volume and efficiency of production financing, and forecasting possible financial revenues is possible only if the future scenario of the development of an agricultural enterprise is optimized.

The variability of the market environment, competitive actions, and scientific and technological development require the search for new sources of income, the opening of new areas of activity, monitoring of the market environment, development planning, and attraction of financial resources. Thus, for the effective use of financial resources with the intensive development of the enterprise, current and strategic financial planning is necessary.

In addition to the described mechanisms, the mechanisms of the insurance market are used to protect the property interests of agricultural producers and stabilize production in agriculture. Traditionally, insurance is considered a means of

maintaining the continuity of the reproductive process.

A flexible tax system is an essential tool for indirectly influencing investment activity, contributing to an increase in the volume of savings by reducing the tax base by the amount of invested funds. To stimulate investment activity, it is proposed to use depreciation deductions for capital investments and attraction of funds from the population, commercial banks, and foreign investors. It is vital to consider price relations within the entire reproduction cycle, from the acquisition of material and technical resources for the production of products to its final sale.

At the state level, it is recommended to determine target programs and calculate the necessary investment amount. The priority area of investment should be the development of machinery and equipment for agriculture. The state investment policy should also promote the development of the capital market for agricultural producers, the market of means of production and new technologies, as well as ensure the production of the most important types of products that currently do not meet the needs of consumers. The aim is to improve the social development of rural areas, conserve land resources, and protect the environment.

Another promising tool for investment support of reproductive processes in agriculture can be the creation of a specialized venture fund with the participation of the state and the private sector to finance innovative projects. According to domestic legislation, a venture fund is a non-diversified investment fund that carries out private placement of securities among various investors. It can finance innovative projects and, according to the law, can be closed, which allows it to pay taxes only after the completion of the fund's activities. Investing in such a fund can be attractive to investors, as it provides an opportunity to optimize taxation, diversify risks, and exercise proper control over investment objects.

CONCLUSIONS

An agricultural enterprise can choose strategies such as passive waiting, active waiting, or preparing and stimulating change. The key is to avoid and actively manage change through innovative technologies. The choice of investment strategies, such as intensive development, sustainable development, or anti-crisis strategy, depends on the financial and economic condition of the agricultural enterprise. Each strategy includes mini-strategies for the formation of investment resources and management of the investment process, determining the priorities and sequence of stages for implementing long-term investment goals.

Responsibility for managing investment activities of agricultural enterprises is exercised through various instruments, such as self-financing, attraction of foreign investment, bank lending, and investment of funds received from the sale of assets.

Management of financial resources is becoming a decisive factor for the effective development of agricultural enterprises in a changing market environment and competition. Current and strategic financial planning is necessary to secure revenues and identify new areas of activity. Insurance market mechanisms can become an effective means of protecting the property interests of agricultural enterprises. A flexible tax system and the directed use of depreciation deductions can promote investment activity. National target programs and the creation of specialized venture funds are essential tools for achieving strategic goals in the development of agriculture.

Література:

1. Гарбар Ж. В., Майбородюк К. С. Інвестиційне забезпечення інноваційного розвитку сільськогосподарських підприємств України. Інвестиції: практика та досвід. 2021. № 12. С. 18—22.

2. Дацій О. І. Фінансове забезпечення інновацій в агропромисловому комплексі України. Проблеми інвестиційно-інноваційного розвитку. 2011. № 1. С. 65—76.

3. Кузьома В. В., Павлюк С. І. Інвестиційно-інноваційний механізм формування конкурентоспроможності аграрних підприємств в умовах сталого розвитку. Український журнал прикладної економіки. 2020. Том 5. № 3. С. 336—345.

4. Онікієнко В. В., Ємельяненко Л. М., Терон І. В. Інноваційна парадигма соціально-економічного розвитку України / за ред. В. В. Онікієнко. Київ : РВПС НАН України, 2006. 480 с.

5. ОREL А., Руденко С. Інноваційна орієнтація інвестиційної діяльності суб'єктів аграрного бізнесу. Вісник Сумського національного аграрного університету. 2019. Вип. 3 (81). С. 102—106.

6. Полозова Т. В. Формування інноваційно-інвестиційного механізму забезпечення конкурентоспроможності підприємства : монографія. Херсон : Гельветика, 2017. 592 с.

7. Саблук П. Т., Коденська М. Ю. Концептуальні засади розробки і реалізації інвестиційних програм в аграрно-промисловому виробництві. Київ : ННЦ "ІАЕ", 2012. 46 с.

8. Сус Т., Судук Н., Ємець О., Мовчун С., Цюпа О. Інноваційний розвиток аграрного сектора: моделі фінансування та оцінка впливу фінансування на регіональному рівні. Financial

and Credit Activity Problems of Theory and Practice. 2023. Vol. 2 (49). P. 181—193.

9. Шкарлет С. М., Ільчук В. П. Інноваційний розвиток підприємства. Чернівці : Черніг. нац. технол. ун-т, 2015. 307 с.

References:

1. Harbar, Zh.V. and Majborodiuk, K.S. (2021), "Investment support for innovative development of agricultural enterprises of Ukraine", *Investytsii: praktyka ta dosvid*, vol. 12, pp. 18—22.

2. Datsij, O.I. (2011), "Financial support of innovations in the agro-industrial complex of Ukraine", *Problemy investytsijno-innovatsijnoho rozvytku*, vol. 1, pp. 65—76.

3. Kuz'oma, V.V. and Pavliuk, S.I. (2020), "Investment-innovation mechanism of formation of competitiveness of agrarian enterprises in conditions of sustainable development", *Ukrains'kyj zhurnal prykladnoi ekonomiky*, vol. 5, no. 3, pp. 336—345.

4. Onikiienko, V.V., Yemel'ianenko L.M. and Teron I.V. (2006), *Innovatsijna paradyhma sotsial'no-ekonomichnoho rozvytku Ukrainy [Innovative paradigm of social and economic development of Ukraine]*, RVPs NAN Ukrainy, Kyiv, Ukraine.

5. Orel, A. and Rudenko, S. (2019), "Innovative orientation of investment activity of agrarian business subjects", *Visnyk Sums'koho natsional'noho ahrarnoho universytetu*, vol. 3 (81), pp. 102—106.

6. Polozova, T.V. (2017), *Formuvannia innovatsijno-investytsijnoho mekhanizmu zabezpechennia konkurentospromozhnosti pidpriemstva [Formation of the innovation-investment mechanism for ensuring the competitiveness of the enterprise]*, Hel'vetyka, Kherson, Ukraine.

7. Sabluk, P.T. and Kodens'ka, M.Yu. (2012), *Kontseptual'ni zasady rozrobky i realizatsii investytsijnykh prohram v ahrarno-promyslovomu vyrobnytstvi [Conceptual principles of development and implementation of investment programs in agricultural and industrial production]*, NNTs "IAE", Kyiv, Ukraine.

8. Sus, T., Suduk, N., Yemets', O., Movchun, S. and Tsiupa, O. (2023), "Innovative development of the agrarian sector: financing models and assessment of the impact of financing at the regional level", *Financial and Credit Activity Problems of Theory and Practice*, vol. 2 (49), pp. 181—193.

9. Shkarlet, S.M. and Il'chuk, V.P. (2015), *Innovatsijnyj rozvytok pidpriemstva [Innovative development of the enterprise]*, Chernih. nats. tekhnol. un-t, Chernihiv, Ukraine.

Стаття надійшла до редакції 10.01.2024 р.