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FINANCIAL AND INVESTMENT INSTRUMENTS TO STRENGTHEN THE RESILIENCE OF AGRICULTURAL ENTERPRISES

Abstract. *The study is aimed at systematizing modern approaches to managing financial flows in the agricultural sector, identifying opportunities for attracting investment resources and formulating recommendations for increasing the level of financial security of agricultural producers. It was determined that in conditions of economic turbulence, military challenges and instability of the market environment, it is the effective management of financial resources that is the key factor in ensuring the stability and competitiveness of agricultural enterprises. A generalization of modern financial instruments used in domestic and European practice was carried out, including lending, leasing, agricultural risk insurance, agricultural receipts, securities, investment funds and mechanisms of public-private partnership. It was established that the most promising instruments for Ukrainian agricultural enterprises are those that combine state support and private capital, in particular, preferential lending, EU grant programs, target investment funds for the development of agribusiness, as well as the "green" bond market, focused on financing environmentally responsible production. The improvement of financial and investment mechanisms should be based on a combination of strategic planning, digitalization of financial processes and the implementation of systematic financial monitoring, which will allow timely identification of liquidity threats and adaptation of investment strategies to conditions of uncertainty. An approach to the formation of an integrated model of financial flow management is proposed, which will ensure balanced development of enterprises, increase their capitalization and stability in the domestic and foreign markets. The results of the study can be used to improve the mechanisms for managing the financial stability of enterprises in the agricultural sector, increase the efficiency of investment policy, optimize financial risks and form a strategy for long-term development in the conditions of post-crisis reconstruction of the economy of Ukraine.*

Keywords: *stability, instruments, investments, capital, risks.*

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ФІНАНСОВО-ІНВЕСТИЦІЙНІ ІНСТРУМЕНТИ ЗМІЦНЕННЯ СТІЙКОСТІ АГРАРНИХ ПІДПРИЄМСТВ

***Анотація.** Дослідження спрямоване на систематизацію сучасних підходів до управління фінансовими потоками в аграрному секторі, виявлення можливостей залучення інвестиційних ресурсів і формування рекомендацій щодо підвищення рівня фінансової безпеки сільськогосподарських виробників. Визначено, що в умовах економічної турбулентності, воєнних викликів та нестабільності ринкового середовища саме ефективне управління фінансовими ресурсами виступає ключовим чинником забезпечення стійкості та конкурентоспроможності аграрних підприємств. Проведено узагальнення сучасних фінансових інструментів, що застосовуються у вітчизняній та європейській практиці, серед яких — кредитування, лізинг, страхування агроризиків, аграрні розписки, цінні папери, інвестиційні фонди та механізми державно-приватного партнерства. Встановлено, що для українських аграрних підприємств найбільш перспективними є інструменти, які поєднують державну підтримку та приватний капітал, зокрема пільгове кредитування, грантові програми ЄС, цільові інвестиційні фонди розвитку агробізнесу, а також ринок «зелених» облигацій, орієнтований на фінансування екологічно відповідального виробництва. Удосконалення фінансово-інвестиційних механізмів має базуватися на поєднанні стратегічного планування, цифровізації фінансових процесів і впровадженні системного фінансового моніторингу, який дозволить своєчасно виявляти загрози ліквідності та адаптувати інвестиційні стратегії до умов невизначеності. Запропоновано підхід до формування інтегрованої моделі управління фінансовими потоками, що забезпечить збалансований розвиток підприємств, підвищення їх капіталізації та стійкості на внутрішньому і зовнішньому ринках. Результати дослідження можуть бути використані для вдосконалення механізмів управління фінансовою стійкістю підприємств аграрного сектору, підвищення ефективності інвестиційної політики, оптимізації фінансових ризиків та формування стратегії довгострокового розвитку в умовах посткризової відбудови економіки України.*

***Ключові слова:** стійкість, інструменти, інвестиції, капітал, ризики.*

Statement of the problem in a general way. In the context of the transformation of the Ukrainian economy and the consequences of hostilities, the issue of ensuring the financial stability of agricultural enterprises is of particular importance. The agricultural sector is one of the key drivers of economic growth, but its development is constrained by limited access to capital, instability of the investment environment, high credit risks and fluctuations in product prices.

Financial and investment instruments such as leasing, crop receipts, venture investments, state guarantees, and green bonds can act as an effective mechanism for strengthening the financial base of enterprises. At the same time, the question of adapting these instruments to Ukrainian realities, determining the optimal structure of the financial portfolio of an agricultural enterprise and developing methods for assessing the impact of investments on its sustainability remains open.

Analysis of recent studies and publications. The issues of formation and effective use of financial instruments to strengthen the resilience of enterprises in the agricultural sector are considered in the works of such scientists as O. Hudz, M. Demyanenko, I. Kyrylenko, M. Malik, Y. Lupenko, B. Paskhaver, O. Nepochatenko, P. Sabluk and others.

It is advisable to direct further research to the formation of a model of financial risk management, optimization of the ratio of equity and debt capital, as well as to the analysis of the effectiveness of attracting institutional investors to the development of agricultural business. This will create the basis for increasing the competitiveness of the agricultural sector in the long term.

The article is aimed at determining the role and effectiveness of financial and investment instruments in strengthening the economic stability of agricultural enterprises in an unstable external environment.

Summary of the main material of the study The financial stability of an agricultural enterprise is determined by its ability to withstand significant economic and operational shocks, restore financial stability and continue to operate after the onset of crisis events. This concept is broader than traditional indicators of solvency or liquidity, as it considers the ability of the enterprise to manage systemic risks, such as geopolitical volatility, constant inflationary pressures, as well as significant price fluctuations in world commodity markets. In the current crisis, financing instruments should be aimed not only at ongoing liquidity support, but also at ensuring the long-term structural resilience of assets and liabilities.

Strengthening the resilience of agricultural enterprises requires an integrated approach to financial and investment management. Resilience in this context refers to the ability of agribusiness to withstand external shocks (e.g. climate change, fluctuations in raw material prices, geopolitical instability) and ensure long-term profitability and operational continuity.

In terms of purpose, tools that strengthen resilience can be divided into the following functional groups:

1. Instruments for financing operating activities and working capital: Include bank lending, preferential government programs and financial leasing.
2. Instruments for Capital Investment and Modernization (CAPEX): Covers compensation programs, grants and concessional loans from international financial institutions (IFIs).
3. Tools for risk management: Include the use of derivatives for hedging price risks and agricultural insurance.
4. Instruments for capital restructuring: Raising equity capital and issuing bonds.

The financial stability of agricultural enterprises is based on various sources of financing. The most effective in the context of digitalization are combined mechanisms that combine their own resources with investment revenues and state support, which allows enterprises to minimize risks and increase innovation activity.

Table 1 – Sources of financial support for the development of agricultural enterprises

Source of funding	Characteristic	Potential impact on development
Own funds of the enterprise	Profit, depreciation and amortization	Provide financial autonomy
Bank loans	Short and Long Term Loans	Expansion of production, risk of debt burden
State support	Subsidies, subsidies, compensations	Drives innovation and modernization
Investments of private investors	Investing in the development of agribusiness	Access to new technologies, capitalization growth

Source: developed on the basis of [3,4].

The cornerstone of sustainable agriculture is the ability of enterprises to obtain financing at reasonable interest rates. Investments are being made in modern, efficient and environmentally friendly technologies such as precision farming equipment, renewable energies (e.g. solar panels for irrigation pumps, biogas reactors for waste management) and improved water-saving irrigation systems. Government loan programs or specialized agricultural banks can offer more favorable conditions than commercial lenders, reducing the financial burden. Government interest rate subsidy

programs (such as programs aimed at upgrading machinery or implementing irrigation systems) reduce the cost of raising capital, allowing businesses to invest in improving productivity and adapting to climate change.

Traditional lending is the main source of working capital, but for the agricultural sector in Ukraine it is burdened with systemic problems that impede sustainable development. Agrarian enterprises, despite their economic potential, often face the problem of insufficient access to capital due to the high cost of loans and the limited supply of specialized agricultural loans.

Banks often assess agribusiness as high-risk, which leads to inflated interest rates. An additional problem is the imperfection of the legislative framework, regulatory gaps, high corruption and bureaucracy, which creates obstacles to the transparency and efficiency of financial transactions – the cost of borrowing increases. The implementation of systemic reforms, in particular land reforms, can help improve the investment climate and attract the necessary capital. At the stage of economic recovery, international partners emphasize the need to continue support policies to ensure the availability of loans for farmers and monitor the prices of critical resources (including fuel)

Targeted financial support from governments and international organizations plays a crucial role in stimulating the implementation of environmentally friendly practices. These include grants for the certification of organic farming, subsidies for the introduction of water-saving irrigation methods (e.g. drip irrigation), financial assistance for the implementation of soil conservation measures, or support for investment in agricultural practices that promote biodiversity.

Green Bonds" is a relatively new, but powerful and fast-growing financial instrument designed to finance environmental and sustainable projects [8]. Although the detailed practice of their application in the Ukrainian agricultural sector is still being formed, this tool has significant potential. It can become the foundation for new eco-projects in the regions, allowing agricultural holdings and enterprises to attract international capital that is focused on ESG (Environmental, Social, Governance) criteria. Securing financing for environmentally friendly and sustainable practices is a

prerequisite for long-term sustainability in the face of global climate challenges. The Common Agricultural Policy of the European Union proposes various subsidies aimed at promoting environmental sustainability and rural development. Such financial incentives can significantly influence the decision to switch to more sustainable methods, even if the initial costs are higher.

Agricultural enterprises are inherently exposed to a variety of risks, including adverse weather events (droughts, floods, frosts), pest outbreaks, and market price volatility. Effective financial risk management mechanisms are vital to their sustainability. The agricultural sector is especially vulnerable to weather conditions.

Forward contracts and futures are instruments that allow farmers to fix the selling price of their products (for example, wheat or corn) in advance, which protects against unwanted drops in market prices before harvest and ensures predictability of cash flows.

Crop and livestock insurance is a basic tool. The use of index insurance, which pays compensation based on objective meteorological data (e.g., rainfall levels in a particular region) and not just after a physical inspection of losses, significantly speeds up recovery from natural disasters.

Insurance of agricultural production activities in Ukraine is voluntary [2]. However, realizing the importance of food security, the state introduced a mechanism for partial reimbursement of the cost of the insurance premium (up to 60 %) to encourage farmers to insure risks. The government plans to resume the provision of state support for agricultural insurance, which will significantly reduce the financial burden for producers.

Despite government support that increases the affordability of insurance (coverage of up to 60 % of the premium), there is a critical limit to sustainability in the current environment. Insurance companies, as a rule, insure crops only against various kinds of dangerous natural phenomena. They express their reluctance to cover losses caused by military actions, maneuvers, terrorist acts or seizure of property by order of state authorities [12].

The inability to insure the biggest risk – military – leaves a significant residual systemic risk on the balance sheet of the agricultural enterprise. That is, no combination

of private financial instruments can ensure complete sustainability. Strengthening resilience requires the implementation of specialized state or international programs to guarantee military risk.

The agricultural market is constantly faced with unpredictable price movements in commodity markets. Hedging, carried out through financial derivatives such as futures and options, allows businesses to fix prices for future sales of products. This allows agricultural enterprises to receive a stable income, even despite future price dynamics [11].

Parametric insurance, which pays out based on predetermined weather triggers rather than actual losses, is becoming increasingly popular due to its effectiveness. The availability of these tools provides a social safety net, encouraging investment in long-term sustainable strategies rather than short-term survival.

Continuous innovation is of paramount importance for agriculture. Research and development in areas such as the development of drought-tolerant crop varieties, pest-resistant strains, precision farming technologies (e.g. GPS-guided tractors, drone crop monitoring) and pest and disease control strategies are important. Public-private partnerships can play an important role in financing and directing research and development efforts to address specific development challenges. Partnerships can be effective in designing and implementing large-scale projects, such as sustainable land management initiatives, water management projects, or creating value chains that promote fair trade and environmental responsibility.

Sustainability is impossible without investments aimed at reducing dependence on external factors. The introduction of precision farming technologies – the use of GPS, sensors, differential fertilization systems and protective equipment – can significantly reduce operating costs and minimize the environmental footprint. Investments in processing (for example, the construction of elevators with the possibility of deep processing of grain into flour or oil) allow an agricultural enterprise to capture a larger share of added value, reducing dependence on wholesale prices for raw materials, which creates a "buffer" against market volatility.

Investment mechanisms allow enterprises to ensure long-term competitiveness and modernize production. Of particular importance are tools that promote the introduction of digital technologies and "green" practices. Integration into the global investment space opens up new opportunities for the agricultural sector of Ukraine [1].

Table 2 – Investment mechanisms for the development of agricultural enterprises

Mechanism	Essence	Expected result
Foreign direct investment	Capital raising of international companies	Technology transfer, new jobs
Venture funding	Investing in innovative agricultural projects	Stimulation of startups and agricultural technologies
Leasing	Financing of machinery and equipment	Updating the material and technical base
Agrobondi	Target bond issuance	Expanding access to long-term resources

Source: developed on the basis of [6,10].

For innovative agritech projects (AgriTech), such as the development of new varieties or the introduction of monitoring drones, the involvement of specialized investment funds can provide not only funding but also expertise.

Investment in rural infrastructure is crucial for the efficient functioning and development of agricultural enterprises. Improved transport networks (roads, railways) for timely market access, reliable energy supply (including renewable energy networks) and reliable water management systems (reservoirs, irrigation canals). Improved infrastructure reduces post-harvest losses, reduces transportation costs, and improves overall operational efficiency, contributing to economic viability and environmental sustainability [4].

Attracting foreign and domestic private investment can provide significant capital for the modernization of agricultural activities, the introduction of advanced technologies and access to new markets. However, it is imperative that such investments are consistent with the principles of sustainable development, ensuring fair labor practices, environmental protection, and community engagement. Investment funds focused on sustainable agriculture or impact investing are becoming important

sources of capital. Investments in vertical farming or agriculture with a controlled environment can contribute to food security and reduce land and water use.

Table 3 – Financial and investment management tools

Tool	Appointment	Importance for sustainable development
Business planning	Planning of investment projects	Risk mitigation, performance forecast
Financial Controlling	Monitoring of expenses and revenues	Ensuring transparency and optimization
Economic and mathematical modeling	Assessment of enterprise development scenarios	Making informed management decisions
Digital Financial Analysis Platforms	Use of ERP and big data	Increased accuracy and speed of analysis

Source: developed on the basis of [4,10,13].

Modern management tools allow agricultural enterprises not only to control financial flows, but also to strategically plan investments. The use of digital technologies provides flexibility of management and adaptation to changes in the external environment. This contributes to achieving a balance between profitability, innovation and social responsibility.

Despite the availability of a wide range of instruments, their effective application is complicated by a number of regulatory and market barriers. Access to government programs, such as the 25 % compensation, can be complicated by bureaucratic requirements that are difficult for small businesses to meet. The corporate capital market is underdeveloped: corporate bonds are too expensive, and venture capital shows significant volatility and a sharp drop in funding [10,13].

The most fundamental obstacle to strengthening resilience is the inability to insure key war risks. The lack of coverage for losses from hostilities means that the agricultural sector cannot fully protect its assets and production cycles, which is a source of systemic instability that cannot be eliminated by private financial mechanisms alone.

To strengthen the financial and operational stability of Ukrainian agricultural enterprises, the following set of strategic steps is recommended:

enterprises should prioritize the use of concessional debt (Program 5-7-9 %) to maintain liquidity and attract compensation of 25 % of the cost of equipment for targeted modernization of the technical fleet;

It is necessary to introduce mandatory hedging of price risks using derivatives to ensure the stability of income. This measure should be combined with maximum agricultural insurance (with state support) focused on covering natural risks.

for long-term projects with high added value (processing, irrigation), IFI loans (EBRD) and grant programs (USAID AGRO) should be actively used. In the future, the development of green bond instruments will attract international capital, which is vital for financing climate and environmental sustainability.

Conclusions Through the strategic implementation of financial and investment mechanisms, agricultural enterprises can strengthen sustainability, increase their productivity, minimize their impact on the environment and contribute to the achievement of broader sustainable development goals.

The effective use of financial and investment instruments allows agricultural enterprises not only to survive in conditions of uncertainty, but also to develop, modernize production and increase their long-term competitiveness in world markets.

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