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Barriers to investment in dairy farming in Ukraine: How to overcome them

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Abstract. The relevance of this study was determined by the necessity to improve the investment attractiveness of dairy farming in Ukraine amid global challenges and internal economic difficulties. The aim of the paper was to identify the main barriers hindering investments in the sector, particularly in the context of modernisation and increasing production efficiency. The article investigates key investment areas in dairy farming, including capital, technological, and innovative contributions. International experience was analysed: in European Union countries, up to 25% of farmers' income is formed through subsidies, while in the United States of America over 40% of farms use government loans at interest rates of 1.125-2.5% per annum. It was established that in Ukraine during 2018-2024, the number of cows decreased by 37.4%, and milk production volume declined by 28.3%. Major investment barriers were identified: high loan interest rates (20-25% per annum), policy instability, worn-out infrastructure, and the consequences of war. The paper substantiates the feasibility of comprehensive state support, attraction of international financing, and modernisation as key directions for the sector's recovery. Based on the research results, a set of measures to stimulate investments in dairy farming is proposed, including development of state support programmes, simplification of regulatory procedures, engagement of international financial institutions, modernisation of logistics infrastructure, and support for cooperation among small and medium producers. The findings may be utilised by government authorities, investors, and agricultural enterprises for effective policy formulation, investment decision-making, and strategic planning of dairy farming development

Keywords: state regulation; technological modernisation; capital investment; economic resilience; war risks

INTRODUCTION

Dairy farming is a vital component of Ukraine's agro-industrial complex, ensuring the domestic market has dairy products and creating export potential. Despite favourable natural and climatic conditions and a historically established base for industry development, stagnation is observed. Milk production is decreasing, and its quality does not meet international standards. One of the main reasons for this situation is the insufficient level of investment, which does not allow for modernisation of production, improvement of livestock genetics, or introduction of advanced technologies for animal husbandry and milking.

Effective mechanisms for attracting investments in dairy farming rely on stable government policies, favourable financial instruments, and the development of cooperation among small and medium-sized producers. In countries with developed dairy sectors, subsidies, tax incentives, insurance mechanisms, and public-private

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partnership programmes are widely used. Studying these approaches and adapting them to Ukrainian realities could contribute to solving the investment attractiveness problem in the sector. Therefore, overcoming barriers to investment in dairy farming is relevant from both economic and social perspectives.

Previous research has addressed similar issues in the context of agriculture and livestock farming overall. For instance, P. Bórawski *et al*. (2020) emphasised the importance of state support in shaping the investment climate in the agro-industrial complex. The authors noted that without adequate financial and regulatory backing from the state, farmers cannot make necessary investments in technological upgrades and production expansion. Similarly, the study by O. Pashchenko *et al*. (2024) revealed that inefficient use of land resources in Ukraine is a key obstacle to dairy production development. They argued that simplifying land lease procedures and ensuring property rights guarantees would significantly enhance investment attractiveness for dairy farmers.

The research by D.T. Huong & N.T. Anh (2024) focused on financial barriers, particularly access to credit resources. They highlighted that even with state support, small and medium enterprises face difficulties obtaining loans due to high interest rates and lack of sufficient collateral. Another important aspect in these studies was the role of cooperatives. A.P. Pliakoura *et al*. (2022) asserted that forming agricultural cooperatives could substantially ease access to financing for small and medium farms by reducing risks and enabling larger investment volumes. Their study demonstrated that cooperatives not only improve production efficiency but also attract international investors. At the same time, H. Kaushik *et al*. (2024) assessed that poor rural infrastructure significantly complicates dairy farming development. The authors stressed that improving roads and access to energy and water resources is a prerequisite for dairy farms aiming to increase production volumes and enhance competitiveness. Meanwhile, research by S. Zollet & K. Maharjan (2021) focused on organisational barriers to investment attraction, pointing to the imperfections of the institutional structure of agriculture. They suggested that creating a favourable legal environment and reducing bureaucratic procedures for investors could markedly improve the situation.

L. Tulush *et al*. (2023) analysed the role of state subsidies in the development of dairy farming in Ukraine. They claimed that the lack of effective financial incentives is one of the main sectoral problems and that efficient subsidies allow dairy farming to develop even amid financial crises. B. Van Campenhout *et al*. (2021) expressed the view that international investments could be an important source for dairy sector development; however, improving the country's image on the international stage and creating conditions for attracting foreign capital are essential. T. Kalaitan *et al*. (2023) emphasised the importance of developing a long-term investment strategy for the dairy industry, arguing that without a clear development strategy, the sector will not be able to consistently attract investments necessary for technological upgrades. The studies by I. Budiman & A. Alta (2022) suggest that one of the main ways to attract investments is through partnerships with international companies, which facilitate technology transfer and knowledge sharing. The authors proposed cluster creation as a mechanism capable of uniting local producers and large investors for joint development of the dairy sector.

Thus, these studies highlighted various factors influencing the investment attractiveness of dairy farming. Despite the significant contribution of researchers to the study of investment issues in dairy farming, some aspects remain insufficiently explored. In particular, a comprehensive analysis of the relationship between political instability and long-term investment decisions is lacking. The role of modern financial instruments such as agricultural receipts or venture financing in attracting capital to the dairy sector is under-researched. Furthermore, the impact of international experience on creating an effective investment model for Ukraine has only been partially investigated. The aim of this research was to identify the main barriers to investing in Ukrainian dairy farming. The tasks included studying key aspects of investment in the dairy sector and global experience, analysing the current state of dairy farming in Ukraine, and evaluating the investment activity of enterprises to identify directions for improvement towards sustainable sector development.

MATERIALS AND METHODS

The study was based on a comprehensive approach to analysing investments in Ukraine's dairy sector, including the examination of statistical data, financial performance of enterprises, evaluation of state support programmes, and comparative analysis of international experience. The primary information sources comprised official statistical data from the State Statistics Service of Ukraine (n.d.). Quantitative and qualitative methods were employed throughout the research. Quantitative analysis involved processing statistical indicators of cattle population and milk production volumes in Ukraine for the period 2018-2024, which revealed a negative trend of reduction in livestock base and production capacities. The sector's structure by farm types was analysed, enabling identification of distinctive changes in corporate and personal dairy production

sectors. The chosen timeframe was justified by the need to assess long-term trends in Ukrainian dairy farming, encompassing periods of stable growth, crisis phenomena, the impact of the COVID-19 pandemic, and consequences of the full-scale military invasion.

Data and analytical materials from the Food and Agriculture Organisation (n.d.) were utilised to analyse global investment models in dairy farming. Investment attraction approaches in countries such as the United State of America (USA), Brazil, India, Denmark, Germany, Canada, Scandinavian countries, New Zealand, France, Australia, and Ireland were reviewed. These countries were selected due to their successful dairy industry development, diverse financing models, and effective combination of state support, innovation, and market mechanisms, facilitating adaptation of best practices to the Ukrainian context.

Volumes of state support for Ukraine's agricultural sector were analysed based on the Draft Law on Ukraine No 3460-IX (2023). The financing structure of programmes targeting agricultural producers, including concessional lending, equipment cost compensation, and access to the "5-7-9%" programme (Order of the Ministry of Finance of Ukraine No. 543, 2024), was assessed. This enabled an evaluation of the potential of public policy to overcome investment barriers in dairy farming. Thus, the study relied on a systemic analysis of Ukraine's dairy sector through the lens of investment attractiveness, including the study of statistical data, financial indicators of leading enterprises, effectiveness of state support programmes, and international experience.

RESULTS

Key aspects of investment in the dairy sector and global experience. In conditions of globalisation and fierce competition in international markets, dairy products must comply with high-quality standards, necessitating substantial capital investments in advanced technologies, livestock genetics, feed base, and product processing. Economically, investments in dairy farming are considered long-term allocations aimed at enhancing productivity, reducing production costs, and optimising business processes (Bravo-Ureta *et al.*, 2021). These investments are categorised into capital investments (farm construction and modernisation, equipment acquisition); technological investments (automation of production processes, herd management systems development); innovative investments (genetic improvement, biotechnology, digital solutions); and financial instruments (risk insurance, cooperative development, establishment of investment funds supporting farms) (Subić *et al.*, 2020).

The importance of investments in the dairy sector extends beyond producers themselves. They contribute to job creation in rural areas, which is crucial for regional economic development. Moreover, increased productivity of farms positively affects related industries – from feed production to transportation and dairy processing (Skevas & Oude Lansink, 2020). Hence, investment in dairy farming has a multiplicative effect on the economy, stimulating agro-industrial complex growth and improving living standards in rural communities. Investment attractiveness depends on a combination of economic, legal, technological, and financial factors. The sector requires significant long-term investments in livestock, farm infrastructure, equipment, and innovative technologies. Therefore, investors assess political stability, legal protection, and clarity of regulation, as these influence capital risk levels. Access to financing is a key aspect. High initial costs for equipment, genetic improvement, and infrastructure development require affordable, long-term loans. For example, over 40% of US dairy farms use government credit programmes (Farm Service Agency, n.d.). Insurance programmes and alternative financial instruments – such as agricultural bonds, state subsidies, and support via equity instruments – also play important roles (Qian & Olsen, 2021).

A major barrier to investment remains the low level of technological advancement. Farms lacking automated milking systems have significantly higher labour costs and lower productivity. Implementing advanced solutions reduces costs, improves product quality, and enhances competitiveness. Furthermore, insufficient modern infrastructure (electricity, transport, milk cooling and storage) increases logistical expenses and lowers profitability (St Aisyah Ra *et al.*, 2020). Public policy plays a decisive role in shaping the investment climate. In EU countries, up to 25% of agricultural enterprise income is formed by subsidies and grants (Common Agricultural Policy…, 2022). Effective support programmes – including subsidies for equipment, concessional loans, risk insurance, and investments in rural infrastructure – create a stable environment for investors. Tax incentives, support for market entrants, and development of internal demand increase private capital interest in dairy investments.

Demand for dairy products is a critical factor determining sector investment appeal. Stable demand domestically and internationally underpins investment attraction. Under globalisation, dairy products must meet international quality standards, requiring significant investments in technology improvements and production efficiency. Growing demand for organic or specialised dairy products opens new investment opportunities, as such products typically command higher market prices (Goli *et al.*, 2021). Human capital and workforce qualifications are crucial for production efficiency and competitiveness. Investors face challenges

due to insufficient rural agricultural workforce qualifications, limiting technological progress and overall farm efficiency. Attracting investments necessitates not only qualified personnel but also conditions for rural community development – through infrastructure investments, improved living standards, and education access (Deming *et al.*, 2020).

One of the most widespread mechanisms for attracting dairy investments is state financing and subsidies. For instance, the European Union (EU) implements special support programmes under the Common Agricultural Policy (European Commission, n.d.). Farmers receive grants for equipment purchases, genetic improvement, and environmental technology implementation. In the US, state programs such as the Farm Service Agency (FSA) provide financial resources for dairy farmers. FSA offers direct loans for farmers unable to obtain commercial bank financing due to low creditworthiness. These loans target family farms, socially vulnerable farmers, and beginners, with interest rates ranging from 1.125% to 2.5% per annum. FSA also guarantees up to 95% of loan amounts, enabling high-risk farmers to access credit from other lenders.

Alternative financial mechanisms are used in many countries to attract dairy investments. Agricultural bills have become popular in Brazil and India, allowing producers to secure financing against future harvests or livestock output, reducing investor risks and increasing credit availability. Agricultural investment funds promote capital diversification and institutional investor involvement in dairy production (Mukherjee & Yadav, 2024). For example, in the Netherlands, cooperative financing models enable farmers to pool resources, lowering financial risks and ensuring farm stability (The cooperative approach..., 2016).

Modern technologies play a key role in enhancing dairy investment attractiveness. Denmark, Germany, and Canada actively implement automated milking systems, sensor technologies for animal health monitoring, and blockchain solutions for product quality tracking. Such technologies reduce production costs, increase productivity, and attract investors interested in high-tech agricultural projects. An additional factor is green economy development. In Sweden, government incentives promote eco-friendly dairy production through grants for energy-efficient technologies and renewable energy use. This attracts environmentally conscious investors and expands export opportunities (Groher *et al.*, 2020; Krizsan *et al.*, 2021).

Cooperation in the dairy sector is one of the most effective investment attraction models, as it allows small and medium producers to jointly finance infrastructure development, optimise production processes, and increase market access. For example, New Zealand has implemented a successful cooperative dairy business model, where Fonterra, a company owned by farmer cooperatives, controls a significant share of global dairy exports. This model enables producers to pool capital, reduce risks, and achieve higher profits. In France, cooperatives also play an important role in dairy production by allowing farmers to combine resources for shared use of equipment, storage, and product marketing. This facilitates attracting additional investments and creates a more stable business environment (Snikersproge, 2020).

Investors are interested in projects with sustainable product demand and international market access. Successful examples include countries focused on dairy product exports. For instance, Australia actively develops an export strategy targeting Asian markets, especially China, where demand for dairy products continues to grow (Australian dairy industry..., 2025; Department of Agriculture, Food and Marine, n.d.). Ireland operates a national export support programme that helps local producers obtain certification to enter international markets and attract investments into production capacity. As a result, in 2023, Ireland exported dairy products to over 140 countries totalling EUR 6.42 billion, making it one of the leading global dairy market participants.

Status of dairy farming in Ukraine. Dairy production in Ukraine is based on a combination of large agricultural enterprises, small farms, and private household plots. Figure 1 presents the number of cows and milk production volumes across all categories of farms.

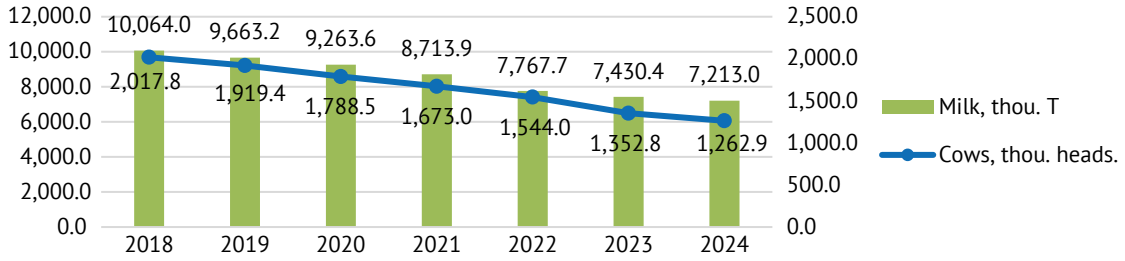

Figure 1. *The number of cows and milk production in Ukraine for 2018-2024*
Source: *developed by the author on the basis of data from the State Statistics Service of Ukraine (n.d.)*

The data presented in Figure 1 indicate a consistent downward trend in both the number of cows and the volume of milk production in Ukraine from 2018 to 2024. Over six years, the cattle population decreased by 37.4% (from 2,017.8 thousand to 1,262.9 thousand head), which directly contributed to a 28.3% decline in milk production (from 10,064 thousand tonnes in 2018 to 7,213 thousand tonnes in 2024). A particularly sharp drop occurred between 2022 and 2024, primarily due to the consequences of the war-farm destruction, logistical disruptions, and financial difficulties faced by farmers. If this trend continues, Ukraine may face a shortage of domestically produced milk and increased dependence on imports. Table 1 presents the number of cows per type of farm.

Table 1. *Number of cows by type of farm in Ukraine in 2018-2024, thousand heads*

Year	2018	2019	2020	2021	2022	2023	2024
Households of all categories	2,017.8	1,919.4	1,788.5	1,673	1,544	1,352.8	1,262.9
Enterprises	466.6	467.9	438.6	423.9	423.7	394.2	382.2
Households	1,551.2	1,451.5	1,349.9	1,249.1	1,120.3	958.6	880.7

Source: *developed by the author on the basis of data State Statistics Service of Ukraine (n.d.)*

The greatest reduction has been observed among household farms. While agricultural enterprises lost 18.1% of their herd (from 466.6 thousand to 382.2 thousand head), the decline in private peasant farms amounted to 43.2% (from 1,551.2 thousand to 880.7 thousand head). This indicates a gradual phasing out of small-scale dairy production due to financial difficulties, low profitability, and lack of support. In contrast, large enterprises show relative stability, although they are also experiencing a decline. This trend may lead to further concentration of dairy production in agroholdings and reduced accessibility of fresh milk for the population.

Various programmes operate in Ukraine to support agriculture, including dairy production, offering grants and other financial assistance. One such initiative is the partial compensation programme, which covers 25% of the cost of domestically produced agricultural machinery and equipment. In 2025, the Ministry of Economy of Ukraine made the first payment under this programme, amounting to UAH 126.6 million, demonstrating its active implementation and support for the agricultural sector (Nemtseva, 2025). The programme provides compensation for machinery and equipment comprising at least 60% Ukrainian materials and components, aiming to enhance agricultural production efficiency, reduce costs for new technologies, and support domestic machinery manufacturers. Strategy for the Development of Agriculture and Rural Areas in Ukraine for the Period Until 2030 (2024) aims to support agricultural producers, including dairy farmers, by providing funding for infrastructure development and social facilities in rural areas. Grants under this programme can be used for modernising dairy farms, constructing processing facilities, and even creating new jobs in rural communities. The strategy also provides funding for improving milk logistics and storage.

Dairy farming in Ukraine has significant potential, but its development is hampered by a range of barriers that complicate investment. Political and economic instability is one of the main risk factors. Frequent changes in legislation, particularly in tax regulations and the state subsidy system, make investment unpredictable. For instance, the cancellation of milk subsidies in 2017 reduced the profitability of many farms (Kukuruza, 2018). Additionally, inflation and hryvnia devaluation diminish the purchasing power of businesses planning to acquire modern equipment. Financial difficulties and limited access to credit hinder farm modernisation. In Ukraine, agricultural loans carry high interest rates (20-25% annually), while in the EU, farmers can access preferential loans at 2-5%. Small and medium-sized farmers struggle to secure financing due to a lack of adequate collateral, which hampers the acquisition of modern equipment and production expansion.

Infrastructure issues and technological lag significantly reduce production efficiency. Farms use outdated equipment, resulting in low productivity – on average, 5,000-6,000 litres of milk per cow annually, compared to over 10,000 litres in Germany. Furthermore, the lack of modern cooling facilities and underdeveloped transport logistics lead to milk losses and a reduction in quality. Insufficient government support and uncontrolled imports create unequal conditions for domestic producers. While the USA and EU countries have robust subsidy and risk insurance programmes, support in Ukraine is selective. Meanwhile, large volumes of cheap imported dairy products, particularly palm oil-based substitutes, create pricing pressure on producers, forcing them to operate with minimal profit margins. Land legislation issues also deter investors. Despite the launch of the land market, the mechanisms for purchasing and leasing land remain complex and opaque. A shortage of qualified personnel exacerbates

the sector's crisis. Young professionals see little future in working on farms due to low wages and poor working conditions. Whereas in the USA or the Netherlands, automated farms require minimal staff, the lack of technological modernisation in Ukraine increases reliance on manual labour, further reducing productivity.

The war in Ukraine has become one of the main barriers to investment in the dairy sector, causing physical destruction of farms, livestock losses, logistical problems, and market instability. The high risks associated with active hostilities make investment unpredictable and asset insurance nearly inaccessible. Furthermore, disruptions to supply chains and export restrictions reduce the profitability of production. To attract investors in the future, it is essential to restore production infrastructure, ensure war risk insurance, expand farmer support, and stabilise the economic environment. The level of state support for the sector in 2024 provides a basis for assessing the real potential for overcoming investment barriers, although the funding volume still falls short of the needs of the dairy industry. According to the Draft Law on Ukraine No 3460-IX (2023), the agricultural sector received UAH 4.2 billion in state support, of which UAH 881 million was allocated directly to programmes for agricultural producers. Part of these funds relate to areas that directly or indirectly support dairy farming. In particular, compensation for the cost of Ukrainian agricultural machinery is provided, which partially updates enterprises' technical base after war-related losses. There is also a concessional loan programme for small and medium-sized farms, which is a vital source of funding for the sector given the overall shortage of financial resources.

Additionally, the "Affordable Loans 5-7-9%" programme remains in place, under which the financing limit for agricultural producers in 2024 was increased to UAH 150 million (Order of the Ministry of Finance of Ukraine No. 543, 2024). This creates further opportunities for borrowing, even for large producers. However, it is worth noting that dairy farming is not identified as a separate priority in the budget support structure, which complicates the targeted allocation of resources for the sector's recovery. Despite the availability of financial instruments, the amount of funding does not compensate for the extensive losses in the regions most affected by destruction – such as Kharkiv, Mykolaiv, and Sumy regions. The absence of a clear state strategy for restoring livestock infrastructure and the lack of specialised insurance mechanisms for wartime risks are holding back investment activity. Thus, while certain budget programmes can partially ease the financial burden on farmers, their volume and dispersal limit their effectiveness in overcoming key barriers to investment in the dairy sector. Nevertheless, the existence of such mechanisms provides a potential foundation for a more targeted policy in the future.

Investment activity of dairy enterprises and ways to improve it. Investment activity directly affects the financial stability and competitiveness of dairy enterprises, especially under conditions of high instability. To create a favourable investment environment, it is necessary to implement comprehensive government support mechanisms, including financial incentives, institutional reforms, and technological modernisation. One of the key tools for attracting investment is state financing and subsidies for milk production. An important step is the expansion of subsidy programmes for producers breeding high-yield cattle breeds. The introduction of state grants for the purchase of pedigree livestock and farm modernisation would increase animal productivity and improve milk quality. Furthermore, the interest rate compensation programme for loans related to dairy development should be expanded. Given the country's difficult economic situation, loans for farmers are largely inaccessible due to high rates and short repayment terms. Providing state guarantees and subsidising interest rates would enable access to cheaper financial resources for the construction of modern dairy complexes, purchase of new equipment, and improvement of livestock conditions.

Given the considerable financial needs of the dairy sector, an important area of government policy should be attracting international investors and donor organisations. Ukraine already has experience cooperating with the World Bank, the European Bank for Reconstruction and Development, and the Food and Agriculture Organisation, but the potential of such cooperation remains largely untapped (Nozdrin, 2022). It would be appropriate to establish a national dairy farming support fund based on co-financing from the state and international partners. This initiative would help accumulate funds for long-term projects, including the establishment of large industrial dairy farms, modernisation of logistics, and the introduction of energy-efficient technologies in production. In addition, Ukraine should actively participate in European funding programmes for the agricultural sector, such as Horizon Europe (n.d.) and through the European Investment Bank. The introduction of government mechanisms to facilitate Ukrainian producers' access to grants and loans from international financial institutions would contribute to the sector's development.

Transparent and effective regulatory policy is a critical factor for attracting investment in the dairy farming sector. One of the key challenges is the complexity of obtaining permits for the construction of new dairy farms and passing environmental assessments, which delays

the implementation of investment projects. Simplifying licensing procedures, digitalising permitting processes, and reducing the time required to review applications for state subsidies would accelerate the development of the sector. It is also essential to ensure the stability of land ownership rights, which is crucial for long-term investment. The introduction of state-backed investment insurance mechanisms in dairy farming could further reduce risks for potential investors. A significant deterrent for investors is the underdeveloped state of logistics infrastructure, which complicates the delivery of dairy products to processing facilities and export markets. The government should invest in the creation of modern dairy hubs that allow for the centralised processing and transportation of products. In addition, it is necessary to expand public-private partnership programmes for the development of refrigeration equipment, logistics centres, and transport corridors for the export of milk and dairy products to the EU and other countries.

One of the main areas of state support should be the promotion of technological modernisation in dairy production. It is advisable to establish state-run agricultural innovation centres that would provide producers with access to modern technologies in animal husbandry, veterinary control, and milk processing. The government could also stimulate the development of digital technologies, such as automated farm management systems, genetic improvement of livestock, and monitoring of animal health through artificial intelligence. The use of modern IT solutions would enhance production efficiency and reduce costs.

A comprehensive approach to reforming public policy and investment stimulation mechanisms in dairy farming will significantly improve the situation in the sector. The introduction of financial incentives, attraction of international investment, simplification of regulatory procedures, development of infrastructure, and technological modernisation will create the necessary conditions for increasing the competitiveness of Ukrainian dairy production. The implementation of these measures will not only foster the development of the domestic market but also strengthen Ukraine's position as a reliable exporter of dairy products.

DISCUSSION

One of the key findings of the study is the gradual decline in milk production due to a reduction in the dairy herd. This trend diminishes the sector's investment appeal, as production capacities are shrinking and economies of scale become unattainable. The reduction in herd size may stem not only from economic hardship but also from a lack of incentives for farmers to expand their operations. Potential investors assess the sector in terms of risk, and when basic production indicators are declining, capital investment becomes less viable. N. Khan (2020), who studied global milk production, concluded that a declining herd does not necessarily mean reduced output, as modern breeding and nutritional strategies can boost productivity. While this study confirmed a similar trend in herd reduction, it highlighted that in Ukraine it coincides with a decline in total milk output, indicating ineffective production methods. Thus, the conclusions of Khan partially align with the current findings, though his focus is more applicable to stable economies with access to modern technologies.

The study reveals a shift in the structure of dairy production: the number of small farms is decreasing, while large enterprises are gradually dominating the market. This trend can be considered positive in terms of the implementation of modern technologies and improved product quality. Larger producers have better access to investment resources, are more capable of adopting innovations, and operate in compliance with international standards. However, this trend also has negative implications. The disappearance of small farms leads to reduced competition, which may negatively affect prices and the availability of dairy products. J.M. McDonald *et al*. (2020) analysed the consolidation of dairy enterprises and concluded that, although it enhances efficiency, it contributes to the decline of smallholder farms. They viewed this process as inevitable and recommended that public policy support the creation of powerful agroholdings. While the present study confirms the trend toward production concentration, it stresses the dual effect: large enterprises attract more investment, but the decline of small farms may have adverse socio-economic consequences. Unlike the aforementioned authors, this study emphasised the importance of supporting small producers to maintain balance within the sector.

The research confirmed that technological upgrading is a key factor in making dairy farming more competitive. Automation of processes, implementation of modern quality control systems, and adoption of energy-efficient technologies can substantially reduce costs and increase productivity. Technological development, however, requires significant capital investment, which is inaccessible to all enterprises. Therefore, mechanisms of state stimulation play a crucial role – including tax relief for investors, grant programs, or reimbursements for modernisation expenses. M. Subhan Qureshi (2021) founded those investments in cutting-edge technologies, such as automated milking and energy-efficient systems, significantly lower production costs and improved enterprise profitability.

M. Yin (2023) also highlighted the importance of "smart farms", where digital technologies and health-monitoring sensors optimise decision-making and reduced productivity losses. The present findings corroborate this link, showed that companies investing in technological renewal achieve better financial results. However, unlike the referenced authors, this study points out that access to investment resources remains a major barrier, and without government support, technological advancement will remain limited.

Introducing energy-efficient equipment, using renewable energy sources, and optimising dairy transportation processes can reduce costs. However, these measures require substantial investment, raising the question of their feasibility without additional financial incentives. P. Shine *et al*. (2020) explored the impact of energy costs on dairy product prices, noting that biogas installations significantly reduce expenses and increase resilience during energy crises. The current study also confirmed that high energy costs are a critical issue for the sector. However, unlike international experience, the adoption of alternative energy in Ukraine remains low due to significant investment barriers.

Access to finance is another crucial factor for attracting investment. The study showed that obtaining credit resources remains difficult for dairy farms due to high interest rates and substantial collateral requirements. Small and medium-sized producers are often unable to use banking tools, which limits their development opportunities. Successful international practices demonstrated the importance of public support in this area. Credit guarantee programs, partial interest rate compensation, or the establishment of special investment funds can significantly improve the situation and encourage capital inflows. M. Guth *et al*. (2020), analysed farm credit mechanisms in the EU, found that state guarantees significantly increase investment levels. Similarly, P. Pazienza & C. De Lucia (2020) stressed that farmers with access to long-term, low-interest loans are more likely to invest in technology and expand production. The present study confirms the importance of accessible financing but also showed that such mechanisms in Ukraine are ineffective due to high interest rates and bureaucratic obstacles. Unlike the EU, Ukrainian farmers face limited opportunities to attract affordable investment.

Expanding export markets is a key direction for dairy sector development. Access to new trade platforms allows risk diversification related to domestic demand fluctuations and ensures stable foreign currency revenues. However, entering international markets requires compliance with strict quality standards, certified production, and robust logistics. These factors require substantial investment, making state support for export activities vital. C.A. Pírela *et al*. (2024) founded that successful export strategies depend on long-term partnerships and strict adherence to international standards. The current study also showed that export development is strategic but hampered in Ukraine by regulatory barriers and the need for further investment in certification.

One of the most influential aspects affecting the attractiveness of dairy farming for investors is government regulation. Clear, stable, and predictable policy encourages capital inflows. Key measures include tax incentives, streamlined permitting processes, infrastructure development, and support for scientific research in dairy farming. M. Kondaridze & J. Luckstead (2023) noted that strong government investment helps maintain sector stability during crises. Their findings showed that state compensation for feed and veterinary costs lowers production costs and boosts competitiveness. The present study confirmed the critical role of public support but also finds that in Ukraine such mechanisms are either ineffective or underfunded, limiting producers' ability to improve production. Dairy farming is a promising yet complex sector for investment. The studies referenced above demonstrate that investment, state support, technological modernisation, export capacity, and environmental challenges are key development factors for global dairy farming. However, these aspects have distinct characteristics in each national context.

CONCLUSIONS

The study of investment attractiveness in the dairy farming sector has made it possible to identify key challenges limiting the industry's development, as well as the main factors that could stimulate its growth. An analysis of statistical data for the period 2018-2024 revealed that the number of dairy cows in Ukraine declined from 2,017.8 thousand in 2018 to 1,262.9 thousand in 2024, while milk production fell from 10,064 thousand tonnes to 7,213 thousand tonnes. This trend indicates a systemic contraction of the livestock base, caused by insufficient investment, rising production costs, and difficult economic conditions. Alongside the general decline in production volumes, a structural transformation is taking place: the number of cows on agricultural enterprises has remained relatively stable (approximately 382.2 thousand in 2024), while household farms lost over 670 thousand cows during the analysed period. This indicates the crowding out of small-scale producers from the market and highlights the need for state support and the creation of cooperative associations to enhance the competitiveness of smallholder farms.

An analysis of government support programmes for dairy farming in Ukraine has revealed several major barriers to investment. In particular, the low level of funding, the limited availability of insurance schemes, and difficulties in accessing concessional loans restrict the industry's development potential. The war in Ukraine has further exacerbated the situation, causing widespread infrastructure destruction and a decrease in profitability. To overcome these barriers, it is necessary to increase state support, improve financial instruments, and ensure economic stability.

A limitation of this study lies in its reliance on existing statistical data and the financial indicators of a single enterprise, which do not cover the full range of factors influencing the investment attractiveness of the sector. Future research may include an in-depth analysis of the effectiveness of government support programmes, an assessment of war-related investment risks, and a comparative study with similar models in other countries.

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Бар'єри для інвестування у молочне тваринництво в Україні: як їх подолати

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Анотація. Актуальність дослідження зумовлена необхідністю покращення інвестиційної привабливості молочного тваринництва в Україні в умовах глобальних викликів та внутрішніх економічних проблем. Метою роботи стало виявлення основних бар'єрів, які стримують інвестування в галузь, зокрема в контексті модернізації та підвищення ефективності виробництва. У статті було досліджено ключові напрями інвестування в молочне тваринництво, зокрема капітальні, технологічні та інноваційні вкладення. Було проаналізовано міжнародний досвід: у країнах Європейського Союзу до 25 % доходів фермерів формується за рахунок дотацій, у Сполучених Штатах Америки понад 40 % ферм користуються державними кредитами під 1,125-2,5 % річних. Встановлено, що в Україні за 2018-2024 рр. поголів'я корів скоротилося на 37,4 %, а обсяг виробництва молока – на 28,3 %. Було виявлено основні бар'єри для інвестування: високі ставки кредитів (20-25 % річних), нестабільність політики, зношена інфраструктура та наслідки війни. У підсумку обґрунтовано доцільність комплексної державної підтримки, залучення міжнародного фінансування та модернізації як ключових напрямів відновлення галузі. У результаті дослідження запропоновано комплекс заходів для стимулювання інвестицій у молочне тваринництво, зокрема розвиток програм державної підтримки, спрощення регуляторних процедур, залучення міжнародних фінансових установ, модернізацію логістичної інфраструктури та підтримку кооперації малих і середніх виробників. Отримані результати можуть бути використані органами державної влади, інвесторами та аграрними підприємствами для формування ефективної політики підтримки, ухвалення інвестиційних рішень та стратегічного планування розвитку молочного тваринництва

Ключові слова: державне регулювання; технологічна модернізація; капіталовкладення; економічна стійкість; воєнні ризики