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TRADING IN DERIVATIVE FINANCIAL INSTRUMENTS IN AGRIBUSINESS: A RISK MANAGEMENT MECHANISM AND EUROPEAN INTEGRATION INTO INTERNATIONAL MARKETS

ТОРГІВЛЯ ПОХІДНИМИ ФІНАНСОВИМИ ІНСТРУМЕНТАМИ В АГРОБІЗНЕСІ: МЕХАНІЗМ УПРАВЛІННЯ РИЗИКАМИ ТА ЄВРОІНТЕГРАЦІЯ ДО МІЖНАРОДНОГО РИНКУ

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The article investigates the development of derivative financial instrument trading in agribusiness under conditions of military instability and the integration of the national market into the European economic space. It has been established that Russia's full-scale military aggression against Ukraine has intensified the use of futures contracts, forwards, options, currency and interest rate swaps as instruments for hedging price, currency, credit, and operational risks. The current state of derivative financial instrument utilization in agribusiness is analyzed, and the areas of their application in grain, oilseed, sugar beet production, and export activities are identified. It is substantiated that, under current conditions, derivatives are no longer merely instruments of exchange speculation but are being transformed into a strategic mechanism for managing financial risks of agricultural enterprises, ensuring income stabilization, and enhancing the investment attractiveness of agribusiness.

Keywords: agricultural derivatives, agribusiness, futures, forwards, options, hedging, financial risks, exchange trading, international market, derivative contracts, clearing and guarantee infrastructure, exchange risk hedging mechanisms.

У статті досліджено напрями розвитку торгівлі похідними фінансовими інструментами в агробізнесі як механізму управління ризиками та структурної трансформації аграрного сектору, спрямованого до євроінтеграції та міжнародного ринку. Обґрунтовано, що в сучасних умовах деривативи набувають статусу стратегічного інструментарію фінансового ризик-менеджменту, задля підвищення прогнозованості грошових потоків та зростання інвестицій в аграрному секторі, що є передумовою до інтеграції в міжнародне фінансове середовище. Доведено, що запровадженням стандартизації товарних деривативів на зернові та олійні культури відповідно до міжнародних вимог дозволяє синхронізувати взаємодію з провідними європейськими біржовими платформами, що створює передумови для розширення можливостей хеджування цінових ризиків та підвищення фінансової стійкості українського аграрного експорту. Сукупна активізація форвардних і ф'ючерсних контрактів, опціонів, валютних та процентних свопів як ефективних механізмів хеджування цінових, валютних, кредитних й операційних ризиків на міжнародному ринку похідних фінансових інструментів визначає особливості їх практичного застосування у виробництві зернових, олійних культур, цукрового буряку, а також у сфері зовнішньоекономічної діяльності та експортних операцій аграрних суб'єктів. Використання деривативів забез-



печує оптимізацію структури фінансових ризиків, підвищення ефективності управління товарними потоками та адаптивність суб'єктів агробізнесу до високої волатильності міжнародних ринків, недостатньої ліквідності біржового сегмента, обмеженої номенклатури стандартизованих деривативних контрактів, клірингово-гарантійної інфраструктури, біржових механізмів хеджування ризиків та розвитку організованого строкового ринку. Запропоновано модель розвитку торгівлі похідними фінансовими інструментами в агробізнесі, яка поглиблює інтеграцію з фінансовими інституціями ЄС, біржовими і позабіржовими торговельними платформами, забезпечує гарантії до виконання деривативних контрактів та гармонізує національне нормативно-правове поле з європейськими регуляторними стандартами.

Ключові слова: похідні фінансові інструменти, агробізнес, ф'ючерси, форварди, опціони, хеджування, фінансові ризики, біржова торгівля, міжнародний ринок, деривативні контракти, клірингово-гарантійна інфраструктура, біржові механізми хеджування ризиків.

Statement of the problem. The agricultural sector of Ukraine has been under the influence of a set of systemic risks over the past decade, which significantly change the traditional model of agribusiness functioning. The evolution of the risk environment of the agri-food market is characterized by a gradual transition from predominantly cyclical and conjuncture threats to a multi-level system of financial and economic, geopolitical, logistical and institutional risks. Before the start of full-scale military aggression, the key destabilizing factors for the development of agribusiness were high volatility of world prices for agri-food products, currency instability, critical dependence of production on imported material and technical resources, limited access to long-term financing and insufficient level of development of the infrastructure of the organized financial market. At the same time, since 2022, the functioning of agribusiness entities has been taking place in a fundamentally new risk configuration, formed by the destruction of production and logistics systems, partial loss of land potential, disruption of export supply chains, increased cost of credit resources, increased transaction costs and significant deterioration in the predictability of financial results of economic activity.

Under such conditions, the formation of effective mechanisms for managing market risks becomes of particular importance, among which minimizing price volatility occupies a decisive place. The strategic role of Ukraine in the global agri-food market as one of the largest exporters of grain and oilseed crops determines the high sensitivity of the financial results of agricultural enterprises to fluctuations in the international market. The dynamics of stock market quotations for wheat, corn, sunflower and their processed products directly affect the level of profitability of commodity producers, their investment activity, creditworthiness, liquidity and ability to fulfill contractual obligations to financial institutions, suppliers and international counterparties.

In this context, the functional significance of derivative financial instruments is significantly increasing, which are transformed from an auxiliary element of stock trading into a comprehensive mechanism for strategic management of financial risks in agribusiness. The use of forward and futures contracts ensures the fixation of future sales prices of agricultural products and reduces the risks of adverse changes in market conditions, option contracts expand the possibilities of flexible management of price fluctuations, currency derivatives minimize the risks of foreign economic activity, and interest rate swaps contribute to the optimization of the structure of the cost of borrowed capital and increase the efficiency of financial management of enterprises.

At the same time, the current state of development of the national derivatives market does not meet the needs of ensuring the financial stability of agribusiness entities and is significantly inferior in terms of institutional maturity to similar segments of the financial markets of the European Union member states. Its further functioning is hampered by insufficient liquidity of the organized exchange segment, a limited range of standardized derivative contracts, underdevelopment of the clearing and guarantee infrastructure, low level of financial literacy and practical use of hedging instruments by agricultural producers, as well as the lack of a comprehensive state strategy for the development of the futures market, harmonized with European regulatory and institutional standards.

The formation of a full-fledged agricultural derivatives market is one of the key areas for ensuring the financial stability of agribusiness entities, minimizing the risks of their economic activities, and strengthening Ukraine's competitive positions in the international market in the process of post-war economic recovery. therefore, the development of trading in derivative financial instruments in agribusiness

in our country is a strategic task that should ensure not only the minimization of risks for individual enterprises, but also the increase in the competitiveness of the agricultural sector in the context of European integration.

Analysis of recent research and publications. The use of derivative financial instruments in agribusiness has become one of the key research areas in modern financial economics, particularly in the context of increasing market volatility, geopolitical uncertainty, and the transformation of global agricultural markets. Contemporary scientific studies primarily address the development of derivative markets, commodity price risk hedging, exchange infrastructure, and financial resilience of agricultural enterprises under changing economic conditions.

Among Ukrainian scholars, M. Dykha and V. Dykha examined the mechanisms of risk hedging in the agricultural and energy sectors of Ukraine. Their research systematized the principal financial instruments for managing price risks and substantiated the importance of derivatives in strengthening the financial stability and sustainability of business entities operating in highly volatile markets [1]. M. Krasnova focused on improving corporate risk management by proposing an integrated framework for incorporating derivative financial instruments into enterprise risk management systems, thereby enhancing the effectiveness of financial decision-making under uncertainty [2].

A significant contribution to the study of currency risk management in Ukrainian agribusiness was made by N. Prikazyuk, D. Stelmakh, and I. Didenko, who justified the application of currency derivatives as an effective mechanism for protecting export transactions against exchange rate fluctuations and mitigating the adverse effects of currency market instability on agricultural exporters [5].

The financialization of agricultural commodity markets and the prospects for developing the Ukrainian grain derivatives market were comprehensively investigated by I. Grabynska, M. Kosarchin, and A. Dombrovska. Their findings demonstrated that the introduction of grain futures contracts contributes to reducing price volatility, improving revenue predictability, and strengthening the financial resilience of grain producers operating under conditions of market uncertainty [13].

International research has considerably expanded the theoretical understanding of derivative markets in the context of

geopolitical shocks. N. Branger, M. Hanke, and A. Weissensteiner analyzed the informational efficiency of wheat futures and options markets during the Russian–Ukrainian war and established that derivative prices rapidly incorporate market expectations concerning geopolitical risks and future volatility in agricultural commodity markets [6]. Complementing these findings, W.-X. Zhou, Y.-S. Dai, K. Duong, and P.-F. Dai examined the transmission of risk between futures and spot agricultural markets after the outbreak of the Russian–Ukrainian conflict. Their study confirmed a substantial increase in extreme risk spillovers and stronger interdependence among global grain markets during periods of heightened uncertainty [16].

Despite the considerable scientific contribution of both domestic and foreign researchers to the theory and practice of derivative markets, a number of conceptual and applied issues remain insufficiently explored. Existing studies predominantly concentrate on the general functioning of derivatives markets, the mechanisms of commodity price hedging, or the application of derivative instruments in international financial markets. At the same time, considerably less attention has been devoted to the comprehensive assessment of derivative trading in Ukrainian agribusiness under conditions of prolonged military instability, structural transformation of the agricultural sector, and the country's gradual integration into the European financial and economic environment. These circumstances determine the relevance of further research aimed at developing institutional, organizational, and financial mechanisms for expanding the use of derivative financial instruments as an effective tool for risk management and enhancing the competitiveness of Ukraine's agribusiness in international markets.

Highlighting previously unresolved parts of the overall problem. Despite significant scientific achievements in the field of the functioning of the market for derivative financial instruments, financial risk management in the agricultural sector, a number of applied aspects remain insufficiently researched on the issue of the comprehensive use of futures, forwards, option contracts and swaps to minimize the totality of price, currency, credit, logistics and operational risks by agribusiness entities. Further scientific substantiation is required for the mechanisms of integration of the Ukrainian derivatives market into the European exchange infrastructure, the adaptation of the national regulatory framework

to EU requirements, as well as the development of modern models for the development of the agricultural futures market. In addition, the number of studies devoted to assessing the impact of military risks on the effectiveness of the use of derivative financial instruments, determining the prospects for their application in the post-war reconstruction of the agricultural sector and the formation of mechanisms for expanding Ukraine's cooperation with European financial institutions and international commodity exchanges remains limited.

Formation of the objectives of the article (task statement). The purpose of the study is to study the directions of development of trading in derivative financial instruments in agribusiness of Ukraine as a comprehensive mechanism for risk management and activation of the process of European integration of agricultural enterprises into the international market.

Achieving the set goal necessitated the solution of the following tasks:

- to determine the current trends in the functioning of trading in derivative financial instruments under martial law;
- to assess the scale of use of futures, forwards, options and other derivative contracts in key segments of agribusiness;
- to substantiate the role of derivatives in minimizing price, currency, logistics and credit risks of agribusiness entities;
- to determine promising directions of integration of the Ukrainian market of derivative financial instruments with the EU financial infrastructure;
- to develop a model for the use of derivatives in agribusiness of Ukraine.

Summary of the main research material.

Before the start of full-scale military aggression, Ukraine consistently held leading positions among the world's producers and exporters of grain and oilseed crops, providing a significant share of global exports of wheat, corn, barley and sunflower oil. At the same time, since 2022, the functioning of agribusiness entities has been taking place in conditions of a qualitative transformation of the risk environment, accompanied by an unprecedented increase in geopolitical, financial, logistical and institutional uncertainty. The combined impact of these factors has significantly limited the pace of development of the organized market for financial derivatives, complicating the processes of implementing modern risk hedging mechanisms and integrating the national futures market into the international financial infrastructure.

Firstly, agribusiness is a system-forming component of the national economy, the level of food security of the state, the stability of export revenues, the filling of the state budget, the development of rural areas and the maintenance of macro-financial balance depend on the efficiency of its functioning. That is why ensuring the financial stability of agricultural producers is of strategic importance in the context of the economic security of the state and the implementation of Ukraine's European integration course.

Secondly, the specifics of the functioning of agricultural production determine an extremely high level of dependence of the financial results of agribusiness entities on the dynamics of world commodity markets, exchange rates, interest rates, climate change, natural and biological factors, the cost of material and technical resources and the state of international logistics infrastructure. Under such conditions, traditional financial management mechanisms no longer provide an adequate level of protection against market volatility, which actualizes the need for the widespread implementation of modern derivative financial instruments as a comprehensive mechanism for managing price, currency, credit, interest and operational risks.

Thirdly, the full-scale military aggression of a neighboring country has radically changed the architecture of the risk environment of the functioning of the agri-food market. The destruction of production, transport and energy infrastructure, the temporary occupation of part of agricultural territories, land mining, blocking of seaports, disruption of traditional logistics routes, increased transaction costs, increased the cost of credit resources, insurance payments and transport support have formed a fundamentally new configuration of financial risks. This has significantly increased the volatility of agricultural markets, worsened the predictability of cash flows, increased the risks of non-fulfillment of contractual obligations and complicated the process of making management decisions regarding production, sales of products and financing of investment programs.

Fourth, the further development of the derivatives market is constrained by systemic institutional imbalances, among which the following remain the insufficient level of liquidity of the organized exchange segment, the limited range of standardized agricultural derivatives, the underdevelopment of the clearing and settlement and guarantee infrastructure, the fragmentation

of regulatory and legal support, the low level of financial literacy of market participants, the lack of effective mechanisms for state stimulation of the development of futures trading, and the insufficient level of harmonization of national legislation with European regulatory standards.

The transformation of the agribusiness risk environment is formed under the influence of the interaction of a complex of interrelated military, macroeconomic, financial, logistical, climatic, technological and institutional factors, which are characterized by high dynamism, interdependence and cumulative effect. Their synergistic effect causes structural changes in the functioning of the agri-food market, increases the instability of the global commodity markets, currency volatility, uncertainty of price expectations, risks of crop loss, shortage of financial resources and growth in the cost of capital. In such conditions, the use of derivative financial instruments acquires systemic importance, transforming from a local instrument for insuring individual risks into a comprehensive mechanism for ensuring financial stability, increasing the adaptability of agribusiness entities to a highly volatile market environment, strengthening their competitiveness and accelerating the integration of the national agribusiness sector into the European and global financial and economic space.

The main factors of the transformation of the risk environment in Ukrainian agribusiness are shown in Fig. 1.

A feature of the current stage of development of trading in derivative financial instruments is the change in the nature of risks, in the structure of which until 2022 market risks dominated

(fluctuations in prices, interest rates, exchange rates), while during a period of full-scale military conflict in the country, agribusiness entities are faced with complex risk combinations [5; 6]:

$$R_{agro} = f(P_r, V_r, L_r, C_r, W_r), \quad (1)$$

where, P_r – price risk; V_r – currency risk; L_r – logistics risk; C_r – credit risk; W_r – weather risk.

Classical risk management methods (insurance, reserving, diversification) no longer provide a sufficient level of financial stability, so derivative financial instruments come to the fore, which allow transferring part of the risk to the financial market [13].

It should be noted that trading in derivative financial instruments in Ukrainian agribusiness in 2018-2024 was characterized by a complex risk management system, which includes international exchange mechanisms, digital trading platforms and structured financing instruments. Until 2022, the main driver of the use of derivatives was the export activities of large agricultural holdings, which used forward contracts to attract working capital and fix the future sales price of products. After the start of a full-scale war, the role of derivative instruments expanded significantly, as they became one of the mechanisms for compensating for uncertainty associated with the blocking of logistics routes, currency fluctuations and instability of global commodity markets. The study found that the total volume of transactions with derivative financial instruments related to agricultural products increased from UAH 32.4 billion in 2018 to UAH 75.4 billion in 2024, i.e. 2.3 times (Fig. 2).



Figure 1. Factors of transformation of the risk environment in Ukrainian agribusiness

Source: compiled by the authors

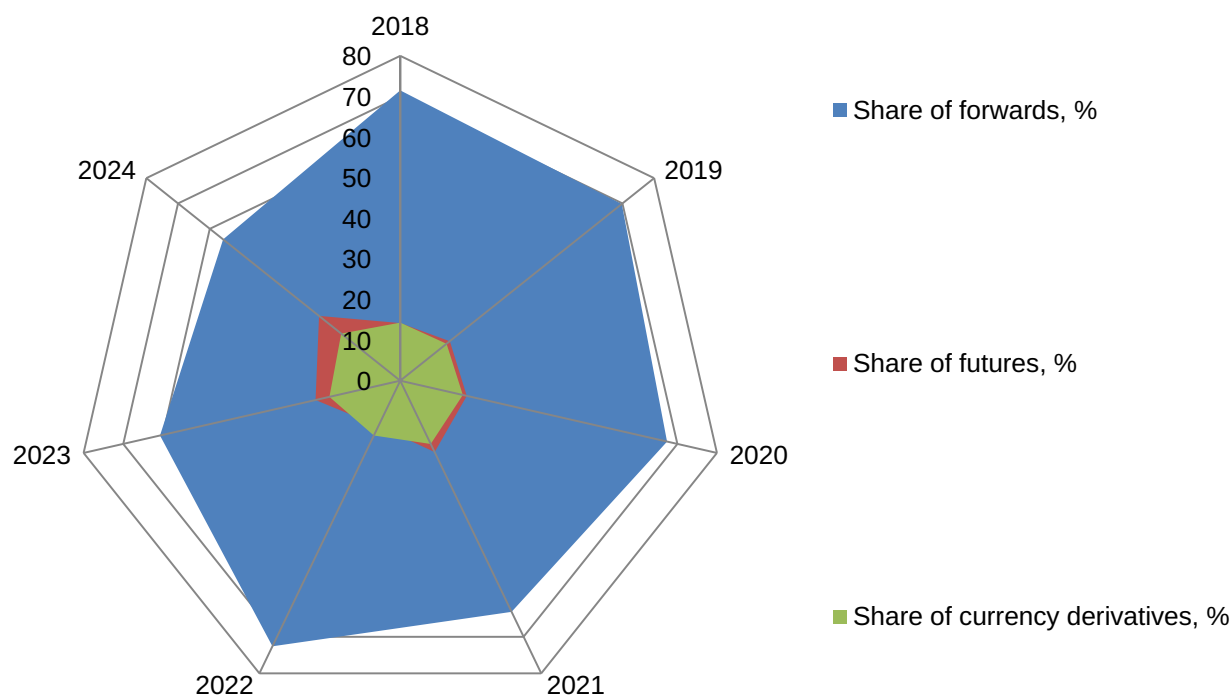


Figure 2. Dynamics of the use of derivative financial instruments in Ukrainian agribusiness in 2018-2024

Source: compiled by the authors based on [3; 4; 11; 7; 9; 14; 15; 14]

The results of the study indicate a gradual structural reformatting of trading in derivative financial instruments in agribusiness. In 2018, forward contracts dominated (over 70% of all transactions), in 2024 their share decreased to 55.8%, while the role of standardized exchange instruments increased. This trend is natural, since Ukraine's integration into the European economic space requires a transition from local contract mechanisms to transparent exchange systems with centralized clearing and collateral management.

In 2022-2025, forward contracts were used for pre-export financing, ensured revenue predictability, and were actively used with the support of the EBRD, IFC, and international traders. for futures contracts, Ukrainian companies mainly use the international exchanges CME group and Euronext to hedge export contracts and minimize the risk of falling world prices. options were used mainly by large exporters to insure against adverse changes in market prices with the possibility of benefiting from favorable conditions. Currency swaps were used to reduce currency risks during the implementation of export contracts and servicing credit obligations in foreign currency, interest rate swaps were used mainly by large agricultural companies to stabilize the cost of long-term

financing and reduce the risk of interest rate increases. Weather derivatives are practically not used in Ukraine, but they have significant development potential in the context of climate change and increased weather risks [3; 4; 11; 7; 9; 14; 15; 14].

A structural analysis of the use of derivative financial instruments in Ukrainian agribusiness in 2025 shows that their total volume of use amounted to UAH 91.1 billion [3; 4; 11]. The largest share was occupied by forward contracts – UAH 38.0 billion or 41.7%, which confirms their dominant role in the risk management system of agribusiness entities. This situation is explained by the availability of this instrument, the possibility of pre-financing production and its adaptability to the specifics of the Ukrainian agricultural market. The second most significant segment was currency swaps – UAH 22.3 billion (24.5%). The high share of this instrument is due to the export orientation of the agricultural sector of Ukraine and the significant dependence of the financial results of enterprises on exchange rate fluctuations. The use of currency swaps allows reducing the negative impact of devaluation processes and ensuring the stability of foreign exchange revenues [3; 4; 11].

Futures contracts are in third place with an indicator of UAH 20.5 billion (22.5%). Their

activation indicates a gradual approximation of the Ukrainian agricultural market to international risk management standards. The use of futures allows agricultural companies to integrate into global pricing mechanisms and effectively hedge the risks of fluctuations in world quotations. The share of option contracts is 6.8% (UAH 6.2 billion), which indicates an insufficient level of development of this segment. The main reasons are the complexity of assessing the option value, the need for specialized expertise and insufficient liquidity of the domestic market. At the same time, options have significant development potential, as they provide agribusiness entities with the opportunity to combine protection from adverse price changes with the preservation of the potential for additional income [3; 4; 11].

The smallest share is occupied by interest rate swaps – UAH 4.1 billion or 4.5%, which is explained by the insufficient practice of using complex financial instruments in credit management for agribusiness entities. However, in the future, with the development of long-term lending and the attraction of international financing, the role of interest rate derivatives will grow [3; 4; 11].

It should be noted that the grain sector is the most active segment of the use of derivatives. Ukrainian producers use wheat and corn futures, as well as put options and underlying contracts. The main reasons for their use are high dependence on international quotations, seasonality of production, significant costs until the harvest is realized, and the need to attract credit resources. In 2025, approximately 45-50% of large grain exporters used at least one type of derivative instrument for risk management [4].

Ukraine is one of the key global exporters of sunflower oil. For agribusiness entities in this segment, the most relevant are commodity futures, currency forwards, and commodity price swaps, and their peculiarity is that the producer's risk is formed not only by the price of finished products, but also by the ratio. Large processing enterprises use complex hedging of production margins [5; 8; 10].

$$Margin = P_{oil} - (P_{seed} + C_{processing} + C_{logistics}), \quad (2)$$

where, P_{oil} – selling price of oil; P_{seed} – purchase price of sunflower; C – total costs.

In livestock farming, the use of derivatives is still limited, but has significant potential. Futures for feed, currency swaps, weather derivatives are promising and are especially relevant for milk producers, poultry farms, and feed producers [14]. However, the main problem of their use

in the industry is the lack of standardization of contracts and low liquidity of this segment.

Derivative financial instruments in agricultural sectors can be integrated into a comprehensive system: "Financing → Hedging → Insurance → Guarantees", which will allow forming a new model of financial stability of agribusiness entities (Fig. 3).

Based on the conducted research, strategic directions for the development of trading in derivative financial instruments in Ukrainian agribusiness have been identified, the implementation of which will contribute to the formation of an effective risk management system, increasing the financial stability of agribusiness entities and integrating the national market into the European economic space.

1. Development of electronic platforms for trading in derivative financial instruments. The use of digital technologies, electronic document management, Blockchain solutions and automated clearing systems will contribute to increasing the transparency of operations and building trust between market participants.

2. Introduction of standardized contracts for Ukrainian agricultural assets. Standardization will increase the attractiveness of Ukrainian agricultural derivatives for international investors, ensure their compatibility with European exchange instruments and promote Ukraine's inclusion in the global commodity risk management system.

3. Formation of a system of guaranteeing transactions with derivatives. The introduction of such instruments will reduce the risk of default, increase the confidence of market participants and bring the Ukrainian derivatives infrastructure closer to the standards of the European Union.

4. Training specialists in risk management and derivatives trading. The implementation of this direction involves the development of educational programs, professional certification, cooperation between universities and financial institutions and the involvement of international experience.

5. Integration of Ukrainian agricultural contracts with European exchanges. The inclusion of Ukrainian agricultural assets in the European derivatives space will contribute to attracting investments, increasing the competitiveness of exports and forming a more sustainable risk management system in agribusiness.

Thus, the implementation of the proposed strategic directions will allow the formation of a modern institutional mechanism for the functioning of the derivatives market in Ukraine,



Figure 1. Model of integration of agricultural derivatives into the European space

Source: compiled by the authors

which will become an important element of the financial security of agribusiness entities, increasing their adaptability to market instability and integrating Ukrainian agribusiness into the European space.

Conclusions. The conducted research allowed forming a comprehensive vision of the role of derivative financial instruments in ensuring the financial stability of Ukrainian agribusiness in the context of risk management and European integration. It was established that the current stage of development of the agricultural sector is characterized by a qualitative transformation of the risk environment, when traditional mechanisms for managing uncertainty (insurance, reserving, diversification of production) no longer provide a sufficient level of protection of the economic interests of agribusiness entities. The structure of the use of derivative financial instruments in Ukrainian agribusiness is characterized by a concentration on three main areas: price hedging

through forwards and futures (64.2%), currency management through swap transactions (24.5%) and the development of flexible risk insurance instruments through options (6.8%), which indicates the formation of a basic risk management system based on derivatives in the country. However, Ukraine needs to further develop the exchange infrastructure and harmonize it with EU practices.

Further development of trading in derivatives in Ukraine should be carried out on the basis of deepening cooperation with European financial institutions and integration into the international exchange infrastructure by creating a national clearing system and guaranteeing the execution of exchange contracts, developing digital platforms for trading in agricultural derivatives, involving support mechanisms from the EU, EBRD and international financial organizations, and forming a system for training agricultural market participants in the use of hedging instruments.

REFERENCES:

1. Dykha, M., Dykha, V. (2024). Instrumenty khedzhuvannia v upravlinni tsinovymy ryzykamy (na prykladi ahrar-noho i enerhetychnoho rynkiv Ukrainy) [Hedging instruments in price risk management (using the example of the agricultural and energy markets of Ukraine)]. *Ekonomika Ukrainy*, no. 3, pp. 19-35. doi: <https://doi.org/10.15407/economyukr.2024.03.019> (accessed July 11, 2026)

2. Krasnova, M. (2022). Pidvyshchennia mozhlyvostei vykorystannia deryvatyviv yak zasobiv upravlinnia ryzkamy v Ukraini [Increasing the possibilities of using derivatives as risk management tools in Ukraine]. *Ekonomika ta Suspilstvo*, no. 41. doi: <https://doi.org/10.32782/2524-0072/2022-41-63> (accessed July 11, 2026)
3. Natsionalnyi bank Ukrainy [National Bank of Ukraine]. (2024). https://bank.gov.ua/ua/statistic?utm_source=chatgpt.com (accessed July 11, 2026)
4. Natsionalna komisiia z tsinnykh paperiv ta fondovoho rynku [National Securities and Stock Market Commission]. (2024). <https://www.smida.gov.ua/news/allnews/nkcpfropriludnilaricnijzvitza2024rik> (accessed July 11, 2026)
5. Prykaziuk, N., Stelmakh, D., Didenko, I. (2026). Upravlinnia valiutnym ryzykom na rynku zerna: keis Ukrainy [Managing currency risk in the grain market: the case of Ukraine]. *Visnyk Kyivskoho natsionalnoho universytetu Imeni Tarasa Shevchenka. Serii: Ekonomika*, no. 1(226), pp. 97-105. doi: <https://doi.org/10.17721/1728-2667.2025/226-1/12> (accessed July 11, 2026)
6. Branger, N., Hanke, M., Weissensteiner, A. (2024). The information content of wheat derivatives regarding the Ukrainian war. *The Journal of Futures Markets*, no. 44, pp. 420-431. doi: <https://doi.org/10.1002/fut.22475> (accessed July 11, 2026)
7. CME Group. Agricultural Futures and Options Volume and Open Interest Reports. (2025). <https://www.cmegroup.com/newsletters/currently-in-commodities/august-2025-commodities-update.html> (accessed July 11, 2026)
8. Diba, B., Grossman, H. (1988). The theory of rational bubbles in stock prices. *Economic Journal*, no. 98(392), pp. 746-754. doi: <https://doi.org/10.2307/2233912> (accessed July 11, 2026)
9. Euronext. Euronext Commodity Derivatives Market Data and Statistics. <https://www.euronext.com/en/about/media/euronext-press-releases/euronext-publishes-q4-and-full-year-2025-results> (accessed July 11, 2026)
10. Fama, E. F., French, K. R. (1987). Commodity futures prices: Some evidence on forecast power, premiums, and the theory of storage. *Journal of Business*, no. 60(1), pp. 55-73. doi: <https://doi.org/10.1086/296385> (accessed July 11, 2026)
11. Food and Agriculture Organization of the United Nations. (2025). FAOSTAT: Food and agriculture data platform. <https://www.fao.org/statistics/events/events-detail/agricultural-production-statistics-2010-2025.-december-2025-update/en> (accessed July 11, 2026)
12. Geman, H. (2005). Commodities and commodity derivatives: Modelling and pricing for agriculturals, metals and energy. *Journal of Banking & Finance*, no. 29(6), pp. 1529-1530. doi: <https://doi.org/10.1016/j.jbankfin.2004.06.005> (accessed July 11, 2026)
13. Hrabynska, I., Kosarchyn, M., Dąbrowska, A. (2022). Economic imperatives of financialization of agricultural commodity markets. *Agricultural and resource economics: international scientific E-Journal*, no. 8(3), pp. 7-22. doi: <https://doi.org/10.51599/are.2022.08.03.01> (accessed July 11, 2026)
14. Kang, W., Perez, de Gracia F. (2021). Market integration and volatility spillovers in agricultural commodity futures markets. *Energy Economics*, no. 95, pp. 105118. doi: <https://doi.org/10.1016/j.eneco.2021.105118> (accessed July 11, 2026)
15. Mishra, A., El-Osta, H., Morehart, M. (2020). Risk management through futures contracts in agricultural markets. *Journal of Agricultural and Applied Economics*, no. 52(3), pp. 401-419. doi: <https://doi.org/10.1017/aae.2020.12> (accessed July 11, 2026)
16. Zhou, W.-X., Dai, Y.-S., Duong, K.T., Dai, P.-F. (2024). The impact of the Russia–Ukraine conflict on the extreme risk spillovers between agricultural futures and spots. *Journal of Economic Behavior & Organization*, no. 217, pp. 91-111. doi: <https://doi.org/10.1016/j.jebo.2023.11.004> (accessed July 11, 2026)

СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ:

1. Диха М., Диха В. Інструменти хеджування в управлінні ціновими ризиками (на прикладі аграрного і енергетичного ринків України). *Економіка України*. 2024. № 3. С. 19-35. doi: <https://doi.org/10.15407/ekonpmuukr.2024.03.019> (дата звернення: 11.07.2026)
2. Краснова М. Підвищення можливостей використання деривативів як засобів управління ризиками в Україні. *Економіка та суспільство*. 2022. № 41. doi: <https://doi.org/10.32782/2524-0072/2022-41-63> (дата звернення: 11.07.2026)
3. Національний банк України. https://bank.gov.ua/ua/statistic?utm_source=chatgpt.com (дата звернення: 11.07.2026)
4. Національна комісія з цінних паперів та фондового ринку. <https://www.smida.gov.ua/news/allnews/nkcpfropriludnilaricnijzvitza2024rik> (дата звернення: 11.07.2026)

5. Приказюк Н., Стельмах Д., Діденко І. Управління валютним ризиком на ринку зерна: кейс України. *Вісник Київського національного університету імені Тараса Шевченка. Серія: Економіка*. 2026. № 1(226). С. 97-105. <https://doi.org/10.17721/1728-2667.2025/226-1/12> (дата звернення: 11.07.2026)
6. Branger N., Hanke M., Weissensteiner A. The information content of wheat derivatives regarding the Ukrainian war. *The Journal of Futures Markets*. 2024. Vol. 44. P. 420-431. doi: <https://doi.org/10.1002/fut.22475> (дата звернення: 11.07.2026)
7. CME Group. Agricultural Futures and Options Volume and Open Interest Reports. <https://www.cmegroup.com/newsletters/currently-in-commodities/august-2025-commodities-update.html> (дата звернення: 11.07.2026)
8. Diba B., Grossman H. The theory of rational bubbles in stock prices. *Economic Journal*. 1988. Vol. 98(392). P. 746-754. doi: <https://doi.org/10.2307/2233912> (дата звернення: 11.07.2026)
9. Euronext. Euronext Commodity Derivatives Market Data and Statistics. <https://www.euronext.com/en/about/media/euronext-press-releases/euronext-publishes-q4-and-full-year-2025-results> (дата звернення: 11.07.2026)
10. Fama E. F., French K. R. Commodity futures prices: Some evidence on forecast power, premiums, and the theory of storage. *Journal of Business*. 1987. Vol. 60(1). P. 55-73. doi: <https://doi.org/10.1086/296385> (дата звернення: 11.07.2026)
11. Food and Agriculture Organization of the United Nations (FAO). FAOSTAT: Food and agriculture data platform. <https://www.fao.org/statistics/events/events-detail/agricultural-production-statistics-2010-2025.-december-2025-update/en> (дата звернення: 11.07.2026)
12. Geman H. Commodities and commodity derivatives: Modelling and pricing for agriculturals, metals and energy. *Journal of Banking & Finance*. 2005. Vol. 29(6). P. 1529-1530. doi: <https://doi.org/10.1016/j.jbankfin.2004.06.005> (дата звернення: 11.07.2026)
13. Hrabynska I., Kosarchyn M., Dąbrowska A. Economic imperatives of financialization of agricultural commodity markets. *Agricultural and resource economics: international scientific E-Journal*. 2022. Vol. 8(3). P. 7-22. doi: <https://doi.org/10.51599/are.2022.08.03.01> (дата звернення: 11.07.2026)
14. Kang W., Perez de Gracia F. Market integration and volatility spillovers in agricultural commodity futures markets. *Energy Economics*. 2021. Vol. 95. Article 105118. doi: <https://doi.org/10.1016/j.eneco.2021.105118> (дата звернення: 11.07.2026)
15. Mishra A., El-Osta H., Morehart M. Risk management through futures contracts in agricultural markets. *Journal of Agricultural and Applied Economics*. 2020. Vol. 52(3). P. 401-419. doi: <https://doi.org/10.1017/aae.2020.12> (дата звернення: 11.07.2026)
16. Zhou W.-X., Dai Y.-S., Duong K.T., Dai P.-F. The impact of the Russia–Ukraine conflict on the extreme risk spillovers between agricultural futures and spots. *Journal of Economic Behavior & Organization*. 2024. Vol. 217. P. 91-111. doi: <https://doi.org/10.1016/j.jebo.2023.11.004> (дата звернення: 11.07.2026)

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