# Economics and Business Management

***16(4), 100-110***
**Journal homepage: https://economicscience.com.ua/en**
**Received: 01.07.2025 Revised: 29.10.2025 Accepted: 27.11.2025**

UDC 338.439.4:633.854.78(477):338.27 DOI: 10.31548/economics/4.2025.100

**Oksana Makarchuk***
PhD in Economic Sciences, Associate Professor
National University of Life and Environmental Sciences of Ukraine
03041, 15 Heroiv Oborony Str., Kyiv, Ukraine
https://orcid.org/0000-0002-5997-5879

# Analytical assessment of trends and prospects of the sunflower seed market in Ukraine under current challenges

**Abstract.** The sunflower market is a strategic segment of Ukraine's agrarian economy and has undergone sharp transformations under contemporary challenges, especially during the war. The purpose of the study was to conduct an analytical assessment of the trends and prospects of the sunflower seed market in Ukraine. Market indices were used to evaluate pre-war and wartime dynamics, while linear regression revealed price linkages between sunflower seed and sunflower oil. Obtained results showed that since 2022, sunflower seed exports increased due to several factors: disruption of processing facilities, blocked ports, urgent need for revenue, supply shortages, and changes in export policy. During this period, both sunflower seed and sunflower oil prices rose significantly. The Black Sea Grain Initiative (July 2022) restored agricultural trade flows, leading to a price decrease. Simultaneously, the EU Autonomous Trade Measures (ATMs) temporarily removed import duties and quotas on Ukrainian products, supporting exports. However, ATMs termination in June 2025 may reintroduce tariffs and quotas, potentially reshaping trade conditions. Despite risks, sunflower seed production remains highly profitable, with profitability ranging from 35-50% in recent years, motivating enterprises to expand cultivation. Regression analysis confirmed strong price interdependence: a 1 UAH/t increase in seed prices raises oil prices by 1.47 UAH/t. Overall, Ukraine retains strong potential to expand its sunflower seed market, especially through greater domestic processing into sunflower oil for export. The practical significance of the study lies in the fact that its results can be used: by producers – to gain a better understanding of the trends and current situation in the sunflower seed market; by government institutions – for the development of effective agricultural policy, particularly in the area of infrastructural investments; by the academic community and students – to deepen their knowledge of agricultural markets and methods of their analysis

**Keywords:** export; sunflower seed production; analysis; prices; regression model

**Suggested Citation**:
Makarchuk, O. (2025). Analytical assessment of trends and prospects of the sunflower seed market in Ukraine under current challenges. *Economics and Business Management,* 16(4), 100-110. doi: 10.31548/economics/4.2025.100.

*Corresponding author

## INTRODUCTION

Sunflower seed is one of the leading oilseed crops in the agricultural sector of Ukraine, playing a key role in both domestic agriculture and export-oriented trade. Ukraine traditionally holds leading positions in the world in terms of production and export of sunflower oil, which determines high attention to the state and dynamics of this market. In conditions of wartime, changes in logistics routes, fluctuations in raw material prices and global transformations in food chains, analysis of the sunflower market acquires particular importance. Research on the sunflower seed market is essential from both an economic and social standpoint. This crop provides a significant share of foreign exchange earnings to the state budget and is a source of employment for agricultural enterprises, processing enterprises, and logistics companies. In addition, the stability and competitiveness of the sunflower seed market affect food security both domestically and internationally, especially in the context of sunflower oil exports. Ukraine producing approximately 42% of all sunflower seeds in the world, and export of processed sunflower oil accounted to 45% of the world's sunflower oil (Ukroilprom, 2025). This highlights Ukraine's unique role in international food chains, and explains why changes in logistics, prices, or acreage have far-reaching global consequences.

V. Petrenko *et al.* (2024) concluded that at present, sunflower seed and sunflower oil remain the most profitable segment of Ukraine's agricultural sector, consistently attracting strong global demand. However, sunflower cultivation and processing have been the most heavily affected by the consequences of the war, as sunflower seed account for an average of 62% of the total oilseed cultivation area in the country. The need for further research in competitiveness on the global oilseed market to enhance understanding and optimise competitiveness in the dynamic oilseed industry was highlighted in their research by E. Kastakova *et al.* (2023). Based on the competitiveness index, they concluded that Paraguay, Brazil, Argentina, and Ukraine achieved the greatest competitiveness in the studied period 2010-2020. W. Wilson *et al.* (2025) substantiated that shifts in agricultural practices and policy frameworks, changes influencing economies of scale, and the dynamic nature of the global market environment have all contributed to reshaping the industry.

An ex-post evaluation of the effects of the Russia's invasion of Ukraine on global grain and oilseed trade was conducted by S. Ahn *et al.* (2023). Applying a commodity-level empirical approach, they estimated counterfactual trade flows and analysed the regional patterns of global trade reallocation. The findings indicated that the war led to significant trade diversion, with North American and European countries emerging as the main beneficiaries. In turn, J.W. Glauber & D. Laborde Debucquet (2023) stated that as long as the war continues, Ukraine's agriculture will continue to operate at a limited level. Shortfall in exports will need to be compensated by other suppliers; otherwise food prices are likely to stay elevated. O. Makarchuk & T. Kuts (2022) evaluated factors that influence on Ukrainian sunflower oil prices. They conducted price analysis based on domestic sunflower seed prices and European sunflower oil prices. The obtained results showed that European sunflower oil prices Granger-causes Ukrainian sunflower oil price. M. Hamulczuk *et al.* (2023) evaluated the market integration using the ARDL-ECM approach. The obtained results confirmed the existence of a long-run equilibrium relationship between the Ukrainian sunflower oil prices and the European prices. In the long-run, a 1% increase in European sunflower oil prices influence the growth of the Ukrainian sunflower oil prices varying from 0.91% to 1.00%.

The purpose of the study was to analyse trends and prospects of the sunflower market in Ukraine in the frame of current challenges that have appeared due to the war and volatility on global markets. To achieve the goal of the research, the following objectives were set: (1) data collection and analysis of main indicators of sunflower market in Ukraine; (2) analysis of sunflowerseed prices and comparative characteristics of oilseeds profitability in dynamics before the war and during the war; (3) application of regression model to find the linkage among Ukrainian oilseeds prices and Ukrainian sunflower oil prices within the further generalisation of getting results to highlight prospects

of the sunflower seed market in Ukraine in the frame of war time. This integrated approach enabled a deeper understanding of price transmission mechanisms and offered data-driven insights into the market's short- and medium-term prospects.

## MATERIALS AND METHODS

The methodological framework of the study combined statistical, econometric, and analytical approaches to ensure a comprehensive assessment of the sunflower seed market in Ukraine under current challenges. Statistical methods were applied to collect, structure, and analyse official data from national and international sources (State Statistic Service of Ukraine, n.d.; APK-inform, n.d.; USDA-FAS, n.d.) regarding production volumes, export dynamics, and price trends for sunflower seed and sunflower oil. Comparative analysis was used to identify differences and similarities in the behaviour of key indicators to analyse the market across the pre-war and wartime periods (2020-2025), which enabled the evaluation of structural transformations in Ukrainian sunflower seed market. To analyse the profitability of oilseeds in Ukraine, the period from 2019 to 2025 was considered.

Since the successful functioning of agricultural enterprises in the market depends on high product prices and profitability, the dynamics of sunfloЄ'er seed and sunflower oil prices were analysed. Connection detection among these products prices provided an opportunity to apply regression model, which, in turn, showed how strong one price influenced to another. Thus, econometric modelling, specifically linear regression analysis, was implemented to quantify the relationship between sunflower seed and sunflower oil prices and to reveal the degree of their interdependence. Monthly data of variables were presented from 2022 until July 2025, where source of information was the APK-inform (n.d.). There was linear regression model applied:

$$Y = \beta 0 + \beta 1X + \varepsilon, \quad (1)$$

where Y – sunflower oil prices, X – sunflower seed prices, β0 – value of Y when X = 0, β1 – value that shows how much Y changes for a unit change in X, ε – residuals. When P-value for parameter β1 is lower than the critical value of 0.05, it will confirm that the model is significant. In the model the value of R-squared indicates how reliable the model's predictions fit the actual data. R-squared value that is close to 1 suggests a better fit and means the model's values accuracy.

In addition, forecast analysis was applied to assess potential market prospects under the scenario of termination of the EU Autonomous Trade Measures, focusing on possible tariff and quota implications for Ukrainian exporters. Ultimately, the abstract logical method was used to generalise the obtained results, interpret causal relationships, and formulate conclusions and recommendations for the further development of the sunflower market in Ukraine. Comparative analysis was used to assess the dynamics of market indicators in the pre-war and wartime periods. Elements of economic forecasting were used to estimate market prospects considering the potential termination of the EU Autonomous Trade Measures. Therefore, the use of various scientific tools provided the possibility to conduct study on dynamics and prospects of the sunflower seed market in Ukraine.

## RESULTS AND DISCUSSION

Sunflower seed production is of strategic importance for the agrarian economy of Ukraine. It is one of the most profitable crops, traditionally providing high gross yields and occupying a leading position in the structure of sown areas. Ukraine is a world leader in the production and export of sunflower oil, which forms a significant part of the country's foreign trade agricultural balance. In addition, the development of this segment stimulates related industries, in particular, the processing industry, transport and logistics infrastructure, and export-oriented trade. According to the USDA forecast, global sunflower seed production is expected to reach 56.3 mln t in 2025/2026 marketing year (MY), that is 3.9 mln t higher than in 2024/2025 MY (Fig. 1). This forecast was driven by higher yields compared to previous year, where weather conditions in the main Black Sea growing region declined sunflower seed production (USDA report, 2025). The harvested area was forecast to increase slightly in the 2025/2026 MY compared with the previous year.

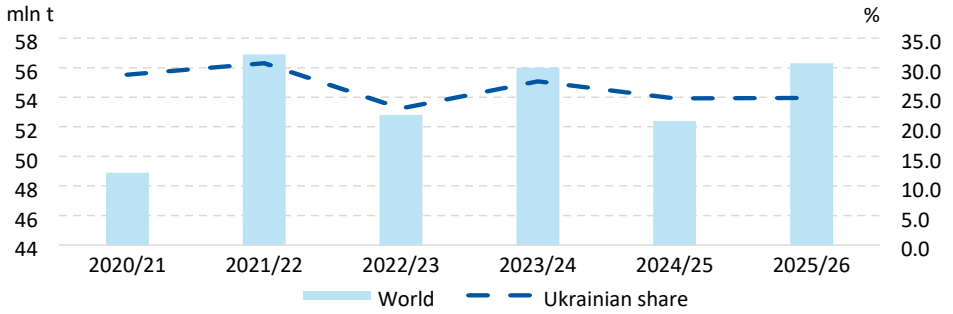


**Figure 1.** Trends in global sunflower seed production and Ukrainian share
**Source:** author's presentation based on USDA-FAS (n.d.)

Since the beginning of the war in Ukraine in 2022, various factors affected sunflower seed product exports, which include disruptions to logistics and varying government policies regarding trade restriction and promotion (Nechyporuk *et al.*, 2023). In turn, these factors have affected global prices. Following the sharp increase in prices in 2022, driven by limited access to Ukrainian grain, the implementation of the Black Sea Grain Initiative and the operation of the export corridor facilitated a revival of trade, which, in turn, led to a significant decrease in prices in the period from 2023 to 2024.

After the termination of the preferential trade policy (ATMs) with the EU on June 5, 2025, the following changes were expected (European Commission, 2025): (1) return of tariffs and quotas products, including sunflower seed, sunflower oil, corn, sugar, honey, poultry, etc; the quota limit for key products to be reduced, i.e., corn from 4.7 mln t to approximately 0.65 mln t per year; (2) implementation of new tariff-quota mechanisms. New multi-year quota system is being agreed upon within the framework of the DCFTA (Deep and Comprehensive Free Trade Area with the EU). It will be set between the pre-war DCFTA levels and the higher volumes allowed under the ATMs, however still lower than the volumes of period 2022-2025. A quota allocation model of 7/12 of the annual volume was applied for 2025, which meant reducing the yearly quota to cover only 7 months out of 12 (Svitlychna, 2025); (3) economic losses for Ukraine. The loss of the tariff-quota regime may lead to a reduction in export revenues up to EUR 3.5 billion annually (Reuters, 2025); (4) enhance domestic processing. Oilseed processing plants are currently operating at around 65% of their capacity. In this regard, there are plans to maximise the use of domestic processing potential (UkrAgroConsult, 2025); (5) seed certification. The EU Council has granted equivalence to the seed certification standards of sunflower seed (and other oilseed crops) in Ukraine and Moldova, removing the need for additional checks, which facilitates access to the EU market for certified seeds (UBN, 2025).

Sunflower seed production in Ukraine was significantly decreased in 2022/2023 MY due to the war, logistic constraints, lack of resources, and adverse weather conditions (Sydiakina & Podriezov, 2023). The drought was recorded in key regions (e.g. Dnipropetrovsk region), which significantly reduced yields in average to 2 t/ha. For the subsequent years, there is observed increase in sunflower seed production and in 2025/2026 MY it could account to 14,000 thousand t. Sunflower seed yields vary by years. In 2022/2023 MY, the war and drought lead to sharp decline. However, in 2023/2024, the yield was approximately 2.42 t/ha; for 2024/2025 MY was forecasted at the level of 2.41 t/ha. Notably, oilseed yields in Ukraine remain stable even under challenging conditions (Panfilova *et al.*, 2025). Regarding the sunflower seed area, before the full-scale invasion in 2022, the average area under sunflower seed was approximately 6.9 mln ha. In 2022-2026 it declined around by 20-22% compared to pre-war level (Fig. 2). The reduction in sunflower seed areas is not only a consequence of the physical loss of fields (i.e., significant part of agricultural lands was occupied, some fields

were mined, making them unusable), but also a strategic decision by agricultural enterprises in response to the risks of war, unstable prices, logistical constraints, and economic losses.

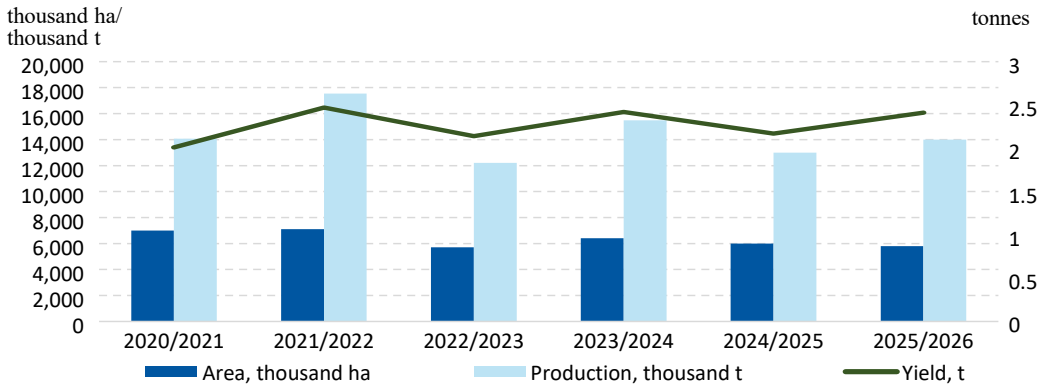


**Figure 2.** Dynamics of sunflower seed production, area, and yield in Ukraine
**Source:** author's presentation based on the State Statistic Service of Ukraine (n.d.), USDA-FAS (n.d.)

Table 1 presents sunflower seed balance in Ukraine, which shows that approximately 98% is processed domestically for sunflower oil. Export of sunflower seed sharply increased in 2021/2022 MY due to the blockade of Black Sea ports. Therefore, Ukraine was unable to export a significant share of sunflower oil, which previously accounted for up to 90% of oilseed exports. Indeed, producers began to export raw sunflower seed as a crisis-response measure to recover at least part of the lost income. In 2022/2023 MY, exports of sunflower seed continued. After the launch of the "Grain Corridor", many traders continued to focus on exporting raw seeds, especially to EU markets. In this period, the processing industry had not yet fully recovered operations, and logistics remained difficult. Stabilisation of volumes was observed in 2023/2024 MY, when government began restricting raw seed exports to support domestic processing and exports of value-added products like sunflower oil. Most processing plants resumed or expanded operations, thus more seeds were processed domestically. Nevertheless, seed exports for next years declined to more typical levels, though still slightly higher than pre-war volumes. In 2025/2026 MY, self-sufficiency ration was equal to 1.02. In turn, it means that production of sunflower seed covers domestic needs for processing enterprises.

**Table 1.** Balance dynamic of sunflower seed in Ukraine, thousand t

| Indices | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 | 2024/2025 | 2025/2026 |
|---|---|---|---|---|---|---|
| Beginning Stocks | 43 | 96 | 4,645 | 845 | 176 | 151 |
| Production | 14,100 | 17,500 | 12,200 | 15,500 | 13,000 | 14,000 |
| Imports | 24 | 21 | 31 | 20 | 30 | 30 |
| Total Supply | 14,167 | 17,617 | 16,876 | 16,365 | 13,206 | 14,181 |
| Exports | 191 | 1,622 | 1,856 | 314 | 230 | 250 |
| Crush | 13,750 | 10,800 | 14,000 | 15,700 | 12,300 | 13,600 |
| Food Use Dom. Cons. | 50 | 50 | 50 | 50 | 50 | 50 |
| Feed Waste Dom. Cons. | 80 | 500 | 125 | 125 | 475 | 125 |
| Domestic Consumption | 13,880 | 11,350 | 14,175 | 15,875 | 12,825 | 13,775 |
| Ending Stocks | 96 | 4645 | 845 | 176 | 151 | 156 |
| Total Distribution | 14,167 | 17,617 | 16,876 | 16,365 | 13,206 | 14,181 |
| Self-Sufficiency Ration | 1.02 | 1.54 | 0.86 | 0.98 | 1.01 | 1.02 |

**Source:** author's calculations based on USDA-FAS (n.d.)

One of the main factors that enhance interests of agricultural enterprises to produce oilseeds is high profitability compared to other crops due to stable demand and export prices. In the analysed period from 2019 to 2025, the average profitability of oilseeds production in Ukraine has shown significant fluctuations due to market volatility, war-related disruptions, and changing logistics and trade conditions (Table 2). In the period of 2019-2021, profitability remained relatively stable, driven by strong global demand and favourable prices, especially for sunflower seed. In 2022, a sharp decline in processing and export infrastructure occurred due to the war that, in turn, led to logistical challenges. However, high global prices partially offset the impact, keeping average profitability from collapsing. In 2023 year, despite the gradual recovery of oilseed processing and export capacities (i.e., supported by the "Grain Corridor" and reoriented trade to EU countries) (Hamulczuk *et al.,* 2023), profitability remained uneven across regions of Ukraine. With stabilisation of logistics and increased domestic processing capacity utilisation in the period of 2024-2025, average profitability started recovering. Nonetheless, the loss of EU trade preferences in July 2025 was expected to put downward pressure on margins, especially for raw seed exports.

**Table 2.** Oilseeds profitability in Ukraine, %

| Oilseeds | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025* |
|---|---|---|---|---|---|---|---|
| **Sunflower seed** | 30-35 | 40-50 | 35-45 | 20-30 | 30-40 | 35-50 | 35-50 |
| **Soybeans** | 15-20 | 20-30 | 20-30 | 10-20 | 15-25 | 20-30 | 20-30 |
| **Rapeseed** | 20-25 | 25-35 | 25-35 | 15-25 | 20-30 | 25-35 | 25-35 |
| **Flaxseed** | 5-10 | 10-15 | 10-15 | 5-10 | 5-10 | 5-10 | 5-10 |

**Note:** * – forecasted value
**Source:** UkrAgroConsult (2025), Ministry of Agrarian Policy and Food of Ukraine (2025)

The interest to increase sunflowerseed production in Ukraine mainly depends on market conditions that have developed in both internal and external markets. The main factor on mentioned markets remain favourable price to enhance production of sunflower seed (Shpychak *et al.*, 2024). Therefore, it is crucially important to analyse sunflower seed prices dynamics. As mentioned above, approximately 98% of sunflower seed goes for domestic processing for sunflower oil. Thus, Figure 3 shows that sunflower seed prices follow sunflower oil prices.

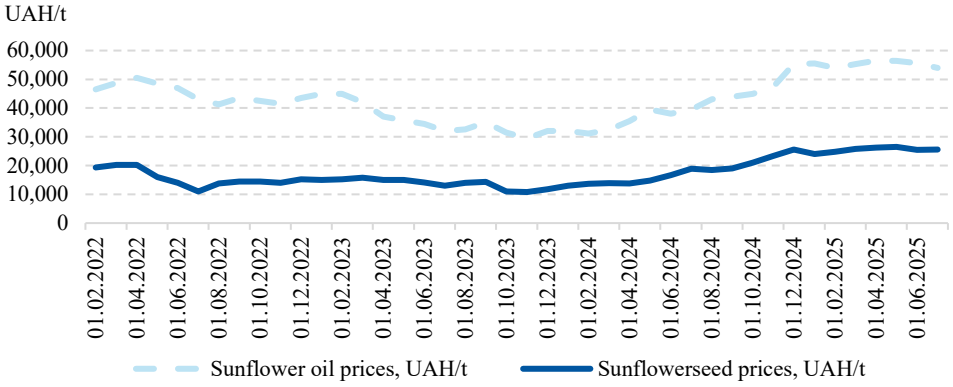


**Figure 3.** Dynamics of Ukrainian sunflower seed and sunflower oil prices, UAH/t
**Source:** based on the APK-inform (n.d.)

Between analysed periods from 2022 to June 2025, the Ukrainian sunflower market experienced notable price fluctuations influenced by internal and external factors. Indeed, price competitiveness plays a crucial role in enabling Ukraine to sustain and expand its position in

the global oilseed market (Husby *et al.*, 2024; Premović, 2024). The figure confirmed a strong interdependence between sunflower oil and sunflower seed prices, indicating a high level of market integration and producer sensitivity to trends in the processing sector. In such circumstances, based on equation 1, the regression model between domestic sunflower seed prices (P_sunflower seed prices) and sunflower oil prices (P_ sunflower oil prices) was created. The obtained results of the regression analysis are presented in Table 3.

**Table 3.** Regression model between Ukrainian sunflower seed and sunflower oil prices

| Specification of the model | Regression equation: P_sunflower oil prices = 17,279.5 + 1.47*P_ sunflower seed prices |
|---|---|
| R | 0.87 |
| $R^2$ | 0.75 |
| P-value for parameter $a_0$ | 0.0000 |
| P-value for parameter $a_1$ | 0.0000 |

**Source:** author's calculations

The results showed the tightness among domestic sunflower oil prices and sunflower seed prices. An increase in sunflower seed prices by 1 UAH/t leads to an increase in sunflower oil prices by 1.47 UAH/t. In turn, the regression analysis indicates a strong linkage between factors, which were taken into account, i.e., the coefficient of multiple correlation R = 0.87 that means a close relationship. The P-value for parameter $a_1$ is lower than the critical value of 0.05 and it confirms that the model is significant.

Thus, analysing the sunflower seed market in Ukraine, there is both resilience and vulnerability in the face of modern challenges, including war-related disruptions, changes in trade policy, and climate instability. The transition towards higher value-added processing and the reorientation of trade flows are shaping new strategic priorities for producers. In this context, strengthening domestic processing capacity, diversifying export destinations, and promoting innovation and sustainability in cultivation and processing practices are becoming decisive factors for maintaining the long-term competitiveness of Ukraine's sunflower seed industry.

Further development in the oilseed sector largely depends on the coordinated efforts of the government, agribusinesses, and industry associations aimed at creating favourable investment conditions, improving logistics infrastructure, and ensuring access to advanced technologies. Adaptive policy measures and flexible responses to geopolitical challenges and changing market conditions will be essential for sustaining growth. The observed trends and market dynamics confirm that Ukraine continues to play a crucial role in the global oilseed market. However, its future success will depend on structural modernisation, deeper integration into international value chains, and consistent support for sustainable and innovative production practices.

Given the current macroeconomic instability and changes in global agricultural markets, the results of this study raise important questions about the sustainability and adaptability of the sunflower seed market in Ukraine. The following discussion aims to interpret these results and highlight key problem areas and opportunities. Unlike other scientific and analytical papers, this study analyses the sunflower seed market in the pre-war period and during the war. The indices of sunflower seed production, its yield, area, prices, and profitability were compared. The presented balance indicators in the timeframe period 2020/2021 MY to 2025/2026 MY indicated a decrease in the level of self-sufficiency of sunflower seeds at the beginning of the war, in particular, its level was 0.86 in the 2022/2023 MY, and in the 2024/2025 MY this indicator was 1.01, which, in turn, characterised the return of the ability to meet domestic needs with production.

N. Grunwald *et al.* (2021) in their paper identified trends and outlined development prospects for the seed industry of Ukraine. The key challenges in seed production development were highlighted, along with proposed measures

to encourage selection activities in Ukraine. The paper also outlined prospects for the future of Ukrainian seed production, in particular sunflower seed. According to O.E. Shandrivska *et al.* (2024), a comprehensive assessment of the world and Ukrainian sunflower oil markets was conducted. The study aimed to identify core trends, major determinants, and the outlook for this strategic branch of agriculture. In contrast, the author of the current study focused on examining as the main trends on the sunflower seed market and considering the profitability of sunflower seed to find the correlation among sunflower seed prices and sunflower oil prices.

O.A. Kozak *et al.* (2023) in their monograph addressed the fundamental aspects of Ukraine's European integration and the development of agri-food trade with EU member states. Their analysis covered the dynamics of oilseed exports from Ukraine to the EU up to 2021, the export structure, and the identification of leading EU countries in terms of import volumes of major oilseeds. In contrast, the current research examined the mechanisms introduced in 2023 to facilitate trade under the framework of ATMs and assessed the implications of their termination. The paper used materials on EU agricultural trade and its implications for Ukraine in connection with a revision of trade preferences, as highlighted by the European Commission (2025). In the paper by L. Savosh *et al.* (2020) and in the present study, the emphasis was placed on the strategic role of the agricultural sector and the influence of external factors on market development. L. Savosh *et al.* analysed Ukraine's position in the global grain market, whereas the current study applied a similar approach to the sunflower market, considering wartime shocks and changes in trade policy. Both studies used market indicators to assess trends and highlight the importance of exports for the stability of the agricultural economy. Using scientific methods, T. Premović *et al.* (2023) analysed international market trends and prices of sunflower seeds for industrial processing from April 2022 to March 2023 amid the ongoing war in Ukraine.

The study by T.B. Hassen & H. El Bilali (2022) demonstrated that the Russia-Ukraine war has caused significant disruptions to global agri-food supply chains, sharp price fluctuations, and shifts in the structure of international trade. These conclusions are consistent with the findings of the present study, in which wartime shocks are likewise identified as one of the key factors driving the increase in sunflower seed exports and the intensification of price volatility on the domestic market. L.N. Sari *et al.* (2023) focused on the analysis of price integration across major vegetable oil markets and confirmed the presence of strong interdependencies between the prices of different types of oils. This provided an essential theoretical and empirical basis for the application of the regression model in this study, particularly in demonstrating the dependence between sunflower seed prices and sunflower oil prices. Thus, this study extended existing research by providing a comprehensive analysis of the sunflower market both prior to and during the ongoing war in Ukraine, while also considering changes in EU agricultural trade policies and price dynamics. The findings underscored that the topic holds not only theoretical significance but also considerable practical implications for the development of agribusiness strategies and the formulation of evidence-based public policies.

## CONCLUSIONS

The global sunflower seed market continues to play a crucial role in the production of vegetable oils, with sunflower oil remaining one of the most sought-after edible oils due to its health benefits and versatile applications. In recent years, market dynamics have been significantly influenced by climatic conditions, geopolitical tensions, and shifts in global trade flows. The sunflower market in Ukraine is characterised by dynamic development, primarily due to the high demand for sunflower seed and its processed products both in the domestic and global markets. Approximately 98% of sunflower seed is consumed domestically by oil-processing enterprises. However, following the outbreak of war in Ukraine in 2022, sunflower seed processing within the country declined due to the closure of processing plants and limitations in production capacity. This, in turn, led to an 8.5-fold increase in sunflower seed exports during the 2021/2022 MY compared to 2020/2021 MY. Starting from the 2023/2024 MY, domestic

sunflower seed processing began to stabilise, supported by the restoration of logistics routes and the implementation of the EU ATMs, which temporarily removed import duties and quotas on Ukrainian products. However, the expiration of the ATMs on June 5, 2025, may have the following consequences, i.e., the reinstatement of tariffs and product quotas, and the introduction of new tariff-quota mechanisms.

Demand for sunflower oil continues to rise, driven by both population growth and the increasing preference for plant-based, healthy food options. However, price fluctuations remain a concern, influenced by both supply chain uncertainties and input cost increases such as fertilisers and fuel. However, sunflower seed profitability remain high, i.e., 35-50%. This, in turn, attracts agricultural enterprises to enhance their capacities for sunflower seed production. The study found strong a link between domestic sunflower seed prices and sunflower oil prices. The regression model indicates that a 1 UAH/t increase in sunflower seed prices results in a 1.47 UAH/t increase in sunflower oil prices. The multiple correlation coefficient (R = 0.87) confirms a strong relationship between the dependent and independent variables. Moreover, the P-value for parameter $a_1$ verifies the statistical significance of the model.

In the long term, the sunflower market is expected to grow steadily, supported by technological advancements in crop cultivation, the development of drought-resistant hybrids, and the growing global emphasis on sustainable agriculture. Strategic investments and international cooperation will be a key to ensuring market stability and food security. Further research into the sunflower seed market in Ukraine will focus on forecasting prices for sunflower seeds and sunflower oil using advanced econometric models (ARIMA, VAR), with particular attention to the impact of trade policies, international demand fluctuations, and logistical constraints.

## ACKNOWLEDGEMENTS

None.

## FUNDING

None.

## CONFLICT OF INTEREST

None.

## REFERENCES

[1] Ahn, S., Kim, D., & Steinbach, S. (2023). The impact of the Russian invasion of Ukraine on grain and oilseed trade. *Agribusiness*, 39(1), 291-299 doi: 10.1002/agr.21794.

[2] APK-inform. (n.d.). *Data on prices*. Retrieved from https://www.apk-inform.com/uk/prices.

[3] European Commission. (2025). *EU and Ukraine reach agreement in principle on a modernised trade relationship*. Retrieved from https://surl.li/pkvbgp.

[4] Glauber, J.W., & Laborde Debucquet, D. (2023). How will Russia's invasion of Ukraine affect global food security? In *The Russia-Ukraine conflict and global food security. Section one: A conflict with global consequences. Chapter 1* (pp. 10-14). doi: 10.2499/9780896294394_01.

[5] Grunwald, N., Zakharchuk, O., & Matsybora, T. (2021). Prospects for the development of the seed industry in Ukraine. *Ekonomika APK*, 29(1), 18-25. doi: 10.32317/2221-1055.202201018.

[6] Hamulczuk, M., Cherevyk, D., Makarchuk, O., Kuts, T., & Voliak, L. (2023). Integration of Ukrainian grain markets with foreign markets during Russia's invasion of Ukraine. *Problems of Agricultural Economics*, 377(4), 1-25. doi: 10.30858/zer/177396.

[7] Hassen, T.B., & El Bilali, H. (2022). Impacts of the Russia-Ukraine war on global food security: Towards more sustainable and resilient food systems? *Foods*, 11(15), article number 2301. doi: 10.3390/foods11152301.

[8] Husby, M., Swearingen, B., Miller, M., & Hansen, J. (2024). Ukraine's rise in grain and sunflower seed market share limited by ongoing war. *Amber Waves: The Economics of Food, Farming, Natural Resources, and Rural America*. doi: 10.22004/AG.ECON.343333.

[9] Kastakova, E., Bato, V., & Dubenova, D. (2023). Competitiveness on the global oilseeds market. *Journal of Economic Research & Amp; Business Administration*, 144(2), 3-13. doi: 10.26577/be.2023.v144.i2.01.

[10] Kozak, O.A., Hryshchenko, O.Yu., & Pugachev, V.M. (2023). *Trade in agricultural products between Ukraine and the European Union under military conditions: Monograph*. Kyiv: NNC "IAE".
[11] Makarchuk, O., & Kuts, T. (2022). Factors evaluation affecting sunflower oil prices in Ukraine. *Scientific Papers: Management, Economic Engineering in Agriculture & Rural Development*, 22(2), 481-488.
[12] Ministry of Agrarian Policy and Food of Ukraine. (2025). *Ukraine: The impact of war on the profitability of agricultural production.* Retrieved from https://surl.li/imqoiw.
[13] Nechyporuk, A., Kotova, M., & Kochubei, D. (2023). Ukraine's exports under martial law. *Foreign Trade: Economics, Finance, Law, Series: Economic Sciences*, 130(5), 18-32. doi: 10.31617/3.2023(130)02.
[14] Panfilova, A., Poltorak, A., Kuvshinova, A., Burkovska, A., & Dotsenko, N. (2025). Trends in global grain and seed trade, Ukrainian position on the global market. *Scientific Horizons*, 28(5), 142-157. doi: 10.48077/scihor5.2025.142.
[15] Petrenko, V., Naumenko, O., Nechai, O., & Bondar, V. (2024). War influence on sunflower seed and oil production in Ukraine. In *23rd international scientific conference engineering for rural development* (pp. 442-447). Jelgava: Latvia University of Life Sciences and Technologies.
[16] Premović, T. (2024). Prices of sunflower seed oil and sunflower seed meal on the international market. In *Third international scientific conference: "Challenges of modern economy and society through the prism of green economy and sustainable development"* (pp. 71-83). Novi Sad: Educational Center for Training in Professional and Work Skills.
[17] Premović, T., Premović, J., Seddiq Mrihill Ali Esalami, & Papović Z. (2023). The price of sunflower seeds for industrial processing on the international market under changed market conditions. In *The international scientific conference: "Challenges of modern economy and society through the prism of green economy and sustainable development"* (pp. 250-256). Novi Sad: Educational Center for Training in Professional and Work Skills.
[18] Reuters. (2025). *Ukraine may lose 3.5 billion euros a year if EU trade privileges end*. Retrieved from https://surl.li/xfemzp.
[19] Sari, L.N., Feryanto, F., & Pambudy, R. (2023). Price integration of major vegetable oils: A VECM approach. *Jurnal AGRISEP*, 24(2), 929-942. doi: 10.31186/jagrisep.24.02.929-942.
[20] Savosh, L., Kovalska, L., & Baula, O. (2020). Analysis of Ukraine's position on the world grain market. *Economic Forum*, 10(4), 37-44.
[21] Shandrivska, O.E., Pytulyak, N.S, & Hreb, O.I. (2024). Sunflower oil market research in the world and Ukraine. *Management and Entrepreneurship in Ukraine: Stages of Formation and Problems of Development*, 6(2), 365-382. doi: 10.23939/smeu2024.02.365.
[22] Shpychak, O.M., Bodnar, O.V., Shpychak, O.O., Kuts, T.V., Makarchuk, O.H., Rodin, V.S., & Pashko, S.O. (2024). *Development of bioenergy in shaping Ukraine's energy security. Monograph*. Kyiv: NSC "IAE".
[23] State Statistic Service of Ukraine. (n.d.). *Production volume, yield and harvested area of agricultural crops by type and region*. Retrieved from https://www.ukrstat.gov.ua/.
[24] Svitlychna, M. (2025). *EU and Ukraine reach agreement in principle on modernised agricultural trade as tariffs are reinstated*. Retrieved from https://www.balcanicaucaso.org/eng/Areas/Ukraine/EU-and-Ukraine-reach-agreement-in-principle-on-modernised-agricultural-trade-as-tariffs-are-reinstated-238733.
[25] Sydiakina, O.V., & Podriezov, I.O. (2023). Sunflower: Current state, problems and prospects for production. *Taurida Scientific Bulletin*, 136, 124-133. doi: 10.32782/2226-0099.2024.136.2.16.
[26] UBN. (2025). *The EU has lifted its restrictions on the import of several agricultural products from Ukraine*. Retrieved from https://ubn.news/the-eu-has-lifted-its-restrictions-on-the-import-of-several-agricultural-products-from-ukraine.
[27] UkrAgroConsult. (2025). *Sunflower seeds processing capacity in Ukraine is 63% loaded*. Retrieved from https://surl.li/xeuovp.

[28] Ukroilprom. (2025). Retrieved from https://ukroilprom.org.ua.
[29] USDA report. (2025). *Oilseeds: World markets and trade*. Retrieved from https://apps.fas.usda.gov/psdonline/circulars/oilseeds.pdf.
[30] USDA-FAS. (n.d.). Retrieved from https://www.fas.usda.gov/
[31] Wilson, W.W., Bullock, D.W., & Dubovoy, I. (2025). Dynamic changes in the structure and concentration of the international grain and oilseed trading industry. *Applied Economic Perspectives and Policy*, 47(4), 1561-1582. doi: 10.1002/aepp.13524.

**Оксана Макарчук**
Кандидат економічних наук, доцент
Національний університет біоресурсів і природокористування України
03041, вул. Героїв Оборони, 15, м. Київ, Україна
https://orcid.org/0000-0002-5997-5879

## Аналітична оцінка тенденцій та перспектив ринку соняшнику в Україні в умовах сучасних викликів

**Анотація.** Ринок соняшнику є стратегічним сегментом аграрної економіки України та зазнав різких трансформацій під впливом сучасних викликів, особливо в умовах війни. Метою статті було здійснити аналічну оцінку тенденцій і перспектив ринку насіння соняшнику в Україні. Проаналізовано ринок насіння соняшнику в Україні із застосуванням показників ринку, зокрема у довоєнний та воєнний період; використано лінійну регресійну модель для виявлення взаємозв'язку між цінами на насіння соняшнику та соняшникову олію. Отримані результати показали, що з 2022 р. експорт насіння соняшнику зріс через наступні чинники: руйнування переробних потужностей, блокування портів, нагальна потреба в доходах, дефіцит пропозиції на світових ринках та зміна в експортній політиці. У цей період ціни як на насіння соняшнику, так і на соняшникову олію суттєво зросли. Запровадження Чорноморської зернової ініціативи у липні 2022 р. сприяло відновленню торгівлі аграрною продукцією, що призвело до зниження цін. Водночас автономні торговельні заходи (ATMs) ЄС тимчасово скасували імпортні мита та квоти на українську продукцію, таким чином підтримавши експорт. Однак, припинення дії ATMs у червні 2025 р. може знову сприяти запровадженню тарифів та квот, змінюючи умови торгівлі. Попри ризики, виробництво соняшнику залишається високоприбутковим, зокрема упродовж останніх років рентабельність становила 35-50 %, що у свою чергу стимулює підприємства до розширення посівів. На основі регресійного аналізу здійснено висновки про тісну залежність між цінами: підвищення ціни на насіння соняшнику на 1 грн/т спричиняє зростання ціни на соняшникову олію на 1,47 грн/т. Загалом, Україна має значний потенціал для розширення ринку соняшнику, зокрема шляхом поглиблення внутрішньої переробки на соняшникову олію для подальшого експорту. Практичне значення дослідження полягає в тому, що його результати можуть бути використані: виробниками – для кращого розуміння тенденцій і поточної ситуації на ринку соняшнику; державними установами – з метою формування ефективної аграрної політики, зокрема в аспекті інфраструктурних інвестицій; науковою спільнотою та студентами – для поглиблення знань про функціонування аграрних ринків та методи їх аналізу

**Ключові слова:** експорт; виробництво соняшнику; аналіз; ціни; регресійна модель