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Assessment of the level of competitiveness of Ukrainian agricultural holdings in international markets

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► **Abstract.** Agriculture remains one of the main sectors that play an important role in both the country's economic development and strategic security. Therefore, conducting an ongoing study of this component in the country is relevant. The purpose of the study was to determine the competitive opportunities of agricultural holdings in Ukraine. The methods of scientific cognition that were used in the work were abstract and logical, dialectical, general scientific and statistical methods, methods of historical and logical observation, analysis and synthesis. This study analyses the competitiveness of Ukrainian agricultural production, in particular by such indicators as: dynamics of gross harvest, yield and acreage of the main agricultural crops, balance of agricultural production, export of agricultural products and their processed products during 2000-2023. The methods that need to be implemented to make the agro-industrial complex competitive in the global market are also proposed. The results of this research on the competitiveness of Ukrainian agricultural holdings in international markets, and the conclusions drawn on their basis, are of significant importance, as they prove that powerful agricultural holdings operate in Ukraine, characterised by dynamic capabilities, increase their capacities, attract unused arable land, and effectively use the potential of resources and crops. In addition, the development of world markets for agricultural products is promising for agricultural holdings, because Ukraine is geographically located almost in the centre of international trade networks, and exports in some strategic areas will help agricultural enterprises avoid uncertainty and possible large losses. The assessment of agricultural holdings, namely Kernel and Myronivsky Hlibprodukt, showed that even in war conditions, agricultural companies have opportunities to develop and enter international markets. The findings obtained in the framework of the study can be used both by representatives of the public sector to form policies in this area, and by enterprises to create long-term development strategies

► **Keywords:** agriculture; competition; production; sales markets; export

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► Introduction

Market integration processes in agriculture are implemented through the establishment and development of various types of integration structures (Hou *et al.*, 2017). However, the experience of developing integration structures in the field of agro-industrial complex (AIC) in different countries indicates that the creation of agricultural holdings is an effective way for the functioning of forms of agro-industrial integration. Since 2000, they have become a significant phenomenon in the field of agriculture in Ukraine. These agricultural companies are organised with centralised management and consist of several enterprises. According to the Economic Code of Ukraine (2003), a holding company is defined as a public joint-stock company that owns, uses and manages holding blocks of shares in two or more corporate companies. Thus, not all companies in the agricultural sector have the official status of agricultural holdings from a legal standpoint, but in practice they are considered agricultural holdings.

Agricultural holdings in Ukraine mainly specialise in the production of agricultural products. Livestock plays a small role, with the exception of poultry. Target production of cereals and oilseeds in export markets, while other products are mainly for the companies' own processing facilities (Nediliska, 2019; Danko *et al.*, 2020). A. Zadoia (2016) also focuses on the scale and geographical structure of Ukraine's foreign economic activity, noting that they reflect the reorientation of exports and imports to more developed markets. Such researchers as N. Patyka (2018) also investigated the issues of determining competitiveness, however, the assessment of the competitiveness of Ukrainian agricultural holdings, considering their participation in foreign economic activity, remains insufficiently studied. Special attention is paid to the competitiveness of agricultural enterprises related to the cultivation and sale of agricultural products. The main goal of modern agricultural holdings is to achieve competitive advantages in the long term, to obtain a high rate of profit and sustainable economic growth (Trivić, 2020; Grzelak, 2022). That is why the primary task is to maintain existing market positions and find new opportunities to expand sales markets and increase economic efficiency.

In search of development, agricultural firms are forced to enter foreign markets, where competition is much higher than within the country. Therefore, for the implementation of effective foreign economic activity, a single strategic development plan is extremely important for the enterprise, which will ensure the achievement of competitive advantages. The assessment of the competitiveness of agricultural holdings should be carried out according to a set of criteria, namely: capacity volumes, production level, exports. Mainly, competition in the EU agricultural market is caused by a large number of relatively undifferentiated players. In general, such competition should be assessed as strong, and the success of entering the global market of new participants depends on a number of factors, while costs on a large scale can be unaffordable and the chances of success can be justified if there is a quality product.

As noted by Y. Syta (2019), competitiveness is the ability to leverage strengths and focus efforts in areas where it is possible to take a leading position in the markets. Considering foreign markets, this will characterise international

competitiveness. A. Zalievska-Shyshak & Yu. Fesun (2021) studied the role of agricultural holdings in introducing innovations in the agricultural sector of the Ukrainian economy. They noted that these companies are now one of the main drivers of innovation in the country, as they provide opportunities and resources (including financial ones) for implementing the latest technologies. However, it should be understood that in war conditions, such opportunities become limited. The innovation component of the agricultural sector was also investigated by T. Sus *et al.* (2023). Researchers pointed to the fact that the agricultural sector of Ukraine has problems in financing innovative development. However, they did not pay attention to the factors of war and their impact on the development opportunities of the industry, and also did not provide practical advice on solving these problems. O. Drahan & V. Zubchenko (2023), in turn, drew conclusions about the possibilities of functioning of agricultural holding companies in Ukraine: they proposed areas for the development of such enterprises by the state, but did it quite superficially. In addition, they did not assess the war factor as part of the analysis.

Thus, the analysis of academic publications shows that currently the results on the competitiveness of agricultural holdings are quite limited and uncertain, there is a need for a broader analysis of the activities and production processes of Ukrainian agricultural holdings, which adds relevance to the study. The international competitiveness of the agricultural holding indicates efficient production activities in the conditions of world markets. The viability of the enterprise, the ability to effectively use financial, production, labour, scientific and technical potentials characterise the production and sale of services and goods. Considering the above, the development and implementation of competition strategies is a top management priority. The company's success in the Ukrainian and international markets will depend on how well the strategy is chosen.

The purpose of the study was to determine the competitive advantages of agricultural holdings in Ukraine. To achieve this goal, the main research objectives are highlighted:

- determine the competitive advantages and disadvantages of agricultural holdings in Ukraine in production;
- identify the factors influencing the competitiveness of agricultural holdings;
- investigate possible future adaptations of organisational forms to maintain or increase their competitiveness.

► Materials and Methods

The study used separate materials on international agreements that characterised the interaction between Ukraine and other countries in the context of international trade in agricultural products. In particular, information from the Association Agreement (n.d.) between Ukraine and the EU and the EU-Ukraine deep and comprehensive free trade area (2021) was used.

The source that allowed evaluating data on the export of agricultural products to Ukraine was the website TradeMap, which specialises in collecting such information for countries (List of importing markets..., n.d.). In addition, the source provides information in the context

of types of products, services, countries, which allows for a more detailed assessment. The study used data from the state statistics service, which became the main source of statistical data in the study. In particular, this service provided information on the area planted with agricultural products, gross harvest, yield, and net profit of enterprises. It is also worth paying attention to the fact that the level of net profit of enterprises was estimated considering inflation to assess the real growth rate of profitability of companies. Indicators regarding the level of depreciation of the national currency in Ukraine were taken from the Ukraine: Inflation rate from 2003 to 2028 (n.d.). In addition, significant amounts of data describing the development of the agricultural sector in Ukraine are still not available as of 2023. In this regard, only information up to 2022 was used in the study. The exception is statistics on agricultural exports. Data for 2023 is available for the first 3 quarters. Thus, the forecast value for 2023 was calculated using the equation:

$$Y = \frac{(Q_1 + Q_2 + Q_3)}{3} \times 4, \quad (1)$$

where Y – data for the year; Q_i – data for the corresponding quarter since the beginning of 2023.

Although this estimate is quite approximate, it allows drawing some conclusions about the dynamics of exports as of 2023 with an accuracy of about 75%. However, future studies may require additional evaluation of these values based on definitively provided verified data sources. All constructions and calculations were performed in Microsoft Excel.

Financial results data for agricultural holdings Kernel and Myronivsky Hlibprodukt (MHP) were taken from Annual reports (n.d.) and Financial Reports (n.d.) respectively. To achieve this goal, the study used the dialectical method of scientific cognition, general scientific and special methods. Statistical analysis was used when analysing the current state of the agricultural sector and evaluating methods of its development: the method of average and relative values, trend analysis, index method, coefficient analysis, and comparative analysis to assess the results obtained over different years. To generalise the scientific and

methodological nature, the abstract and logical method of the approach to studying the competitiveness of Ukrainian agricultural holdings and the formulation of conclusions were used. In addition, the study used methods of historical and logical observation, analysis and synthesis. The method of economic and statistical research was used to analyse international statistics on the export of agricultural products. The generalisation was used to summarise the results of the study.

► Results

Ukrainian agricultural holdings differ in how they were created, namely with the help of: investments of processors; growth of farms; investments of financial and industrial companies. The first group includes agricultural holdings that have emerged from investments by agricultural commodity processors. In addition to purely profitability considerations, their main goal was to ensure supply. The next group of agricultural holdings consists of those that emerged from successful farming and grew beyond their single operation. For this purpose, companies that attracted external investors or other sources of financing were usually included. The third group of agricultural holdings is the result of domestic or international external investments, for example, by banks, industrial companies, or investment funds. Previously, such investors were not part of the agricultural sector. This includes some of the largest agricultural holdings in terms of arable land area. The motives are mainly profit-making opportunities, with the view of agriculture as a sector with a promising future (Syta, 2019). For any agricultural holding, sooner or later the task of entering the international market may arise. The products produced must be competitive compared to foreign producers (Thorne *et al.*, 2017; Dankevych *et al.*, 2022).

Agriculture is a very priority sector for Ukraine, especially in the context of the signing of the Association Agreement (n.d.) between Ukraine and the European Union (EU) and the implementation of the EU-Ukraine deep and comprehensive free trade area (2021). Data on how this affected the export of agricultural products in Ukraine can be seen in Table 1.

Table 1. Data on the export of agricultural products and their largest components in Ukraine in the period from 2019 to 2023, billion USD

Years	2019	2020	2021	2022	2023*
All products	50.1	49.2	68.1	44.4	36.2
Agricultural products	22.2	22.2	27.8	23.7	21.6
Unrefined sunflower or safflower oil	3.8	4.7	5.7	4.7	4.3
Seeds of rapeseed or low erucic acid rapeseed “yielding a non-volatile oil with an erucic acid content of <2% and containing a solid component of glucosinolates <30 micromol/g”, whether crushed or uncrushed (except seeds for sowing)	1.3	1	1.7	1.4	0.9
Wheat and meslin (except seeds for sowing and durum wheat)	3.7	3.6	5.1	2.6	3
Corn (except seeds for sowing)	5.2	4.9	5.9	5.9	5.1

Note: * – the value for 2023 was calculated based on information for 3 quarters using Equation 1

Source: compiled by the authors based on List of importing markets for a product exported by Ukraine (n.d.)

As can be seen from Table 1, the volume of exports from Ukraine, in particular – in the context of agricultural products, grew in the period from 2019 to 2021, which may

be due to the strengthening of the country's integration with the European Union, and with the beginning of the COVID-19 pandemic, which led to an increase in prices

for certain types of products, in particular, the agricultural sector. In 2022 and 2023, there was a gradual decline in export volumes, which was associated with the beginning of a full-scale Russian invasion of Ukraine and the corresponding negative consequences that it led to.

As a result of the study, it was established that during 2000-2022 in Ukraine there was a clear trend of increasing the dynamics of the gross harvest of the main agricultural crops, in particular: cereals and legumes, sunflower, rape-seed and open-ground vegetable crops. This gives grounds

to assert that for two decades Ukrainian producers of agricultural products have been gaining momentum, and the gross yield capacity in relation to 2000 reaches 150-200%. As for the yield of the main agricultural crops, all crops showed an increase in yield opportunities compared to 2000. Similarly, there was an increase in the area under crops, except for potatoes and open-grown vegetables. It is also worth considering some indicators that characterise the natural volume of agricultural development in Ukraine. So, data on the volume of planted products can be seen in Table 2.

Table 2. Volumes of planted vegetation production in Ukraine in the period from 2000 to 2022, in hectares

Indicator	Grain and leguminous crops	Industrial sugar beet	Sunflower	Potatoes	Vegetable crops	Fruit and berry crops
2000	19.4	177	12.2	122	112	38.4
2001	27.1	183	9.4	108	123	30.5
2002	27.3	189	12	104	124	36.5
2003	18.2	201	11.2	116	139	56.0
2004	28.3	238	8.9	133	149	58.1
2005	26	248	12.8	128	157	63.7
2006	24.1	285	13.6	133	171	45
2007	21.8	294	12.2	131	152	61.7
2008	34.6	356	15.3	139	174	64.4
2009	29.8	315	15.2	139	183	70.7
2010	26.9	279	15	132	174	78.2
2011	37	363	18.4	168	195	84.9
2012	31.2	411	16.5	161	199	89.9
2013	39.9	399	21.7	160	200	103.5
2014*	43.7	477	19.4	176	208	95.2
2015*	41.1	436	21.6	161	206	104.5
2016*	46.1	482	22.4	166	211	101.9
2017*	42.5	475	20.2	168	208	103.1
2018*	47.4	509	23	171	214	128.4
2019*	49.1	461	25.6	155	214	108.1
2020*	42.5	416	20.2	157	207	105.6
2021*	53.9	479	24.6	166	215	117.3
2022**	45.8	541	21.6	174	200	116.1
Change	26.4 (136.1%)	364 (205.6%)	9.4 (77%)	52 (42.6%)	88 (78.6%)	77.7 (202.3%)

Note: * – the value was calculated without considering the temporarily occupied territories after the Russian aggression in 2014; ** – the value was calculated without considering the territories that were occupied as a result of the full-scale Russian invasion of Ukraine in 2022

Source: compiled by the authors based on Economic statistics/Economic activity/Agriculture, forestry, and fisheries (n.d.)

It is also important to emphasise that according to the Ministry of Agrarian Policy and Food of Ukraine, as of 2020, about 462 thousand hectares of agricultural land were registered in Ukraine for organic production. This, in turn, accounts for 1.1% of the total area of agricultural land in Ukraine. Moreover, since 2010, the amount of agricultural land allocated for organic production has been growing. This trend is in line with the demand for eco-products in the world, so it can be one of the aspects

of ensuring competition for Ukrainian agricultural holdings in the world market (Organic production in Ukraine, n.d.). Thus, despite the negative trends associated with the loss of territories after 2014, the volume of sown products in Ukraine is growing, which is a positive trend in general. The decline occurred only in 2022 for certain types, which is associated with the beginning of a full-scale Russian invasion of Ukraine. It is also worth considering the production volumes shown in Table 3.

Table 3. Gross harvest of vegetation products in Ukraine in the period from 2000 to 2022, in thousand tonnes

Indicator	Grain and leguminous crops	Industrial sugar beet	Sunflower	Potatoes	Vegetable crops	Fruit and berry crops
2000	24,459	13,199	3,457	19,838	5,821	1,453
2001	39,706	15,575	2,251	17,344	5,907	1,106
2002	38,804	14,452	3,271	16,619	5,827	1,211
2003	20,234	13,392	4,254	18,453	6,538	1,697
2004	41,809	16,6	3,05	20,755	6,964	1,635
2005	38,016	15,468	4,706	19,462	7,295	1,69
2006	34,258	22,421	5,324	19,467	8,058	1,114
2007	29,295	16,978	4,174	19,102	6,835	1,47
2008	53,29	13,438	6,526	19,545	7,965	1,504
2009	46,028	10,068	6,364	19,666	8,341	1,618
2010	39,271	13,749	6,772	18,705	8,122	1,747
2011	56,747	18,74	8,671	24,248	9,833	1,896
2012	46,216	18,439	8,387	23,250	10,017	2,009
2013	63,051	10,789	11,051	22,259	9,873	2,295
2014*	63,859	15,734	10,134	23,693	9,638	1,999
2015*	60,126	10,331	11,181	20,839	9,214	2,153
2016*	66,088	14,011	13,627	21,75	9,415	2,007
2017*	61,917	14,882	12,236	22,208	9,286	2,048
2018*	70,057	13,968	14,165	22,504	9,44	2,571
2019*	75,143	10,205	15,254	20,269	9,688	2,119
2020*	64,933	9,15	13,11	20,838	9,653	2,024
2021*	86,01	10,854	16,392	21,356	9,935	2,235
2022**	53,864	9,942	11,329	20,9	7,512	1,995
Change	29.405 (120.2%)	-3.257 (-24.7%)	7.872 (227.7%)	1.062 (5.4%)	1.691 (29%)	542 (37.3%)

Note: * – the value was calculated without considering the temporarily occupied territories after the Russian aggression in 2014; ** – the value was calculated without considering the territories that were occupied as a result of the full-scale Russian invasion of Ukraine in 2022

Source: compiled by the authors based on Economic statistics/Economic activity/Agriculture, forestry, and fisheries (n.d.)

As can be seen from Table 3, the volume of harvesting of most types of products has increased: the only exception is sugar beet, which is primarily due to the lower possibility for competition of this type of product in comparison

with sugar cane on the world market. Thus, such trends indicate generally positive trends in the development of agricultural products in Ukraine. An important indicator is also the yield, data on which can be seen in Table 4.

Table 4. Data on the yield of certain types of agricultural products in Ukraine in the period from 2000 to 2022, in dt from 1 hectare of harvested area

Indicator	Grain and leguminous crops	Industrial sugar beet	Sunflower	Potatoes	Vegetable crops	Fruit and berry crops
2000	19.4	177	12.2	122	112	38.4
2001	27.1	183	9.4	108	123	30.5
2002	27.3	189	12	104	124	36.5
2003	18.2	201	11.2	116	139	56
2004	28.3	238	8.9	133	149	58.1
2005	26	248	12.8	128	157	63.7
2006	24.1	285	13.6	133	171	45
2007	21.8	294	12.2	131	152	61.7
2008	34.6	356	15.3	139	174	64.4
2009	29.8	315	15.2	139	183	70.7
2010	26.9	279	15	132	174	78.2

Table 4, Continued

Indicator	Grain and leguminous crops	Industrial sugar beet	Sunflower	Potatoes	Vegetable crops	Fruit and berry crops
2011	37	363	18.4	168	195	84.9
2012	31.2	411	16.5	161	199	89.9
2013	39.9	399	21.7	160	200	103.5
2014*	43.7	477	19.4	176	208	95.2
2015*	41.1	436	21.6	161	206	104.5
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2018*	47.4	509	23	171	214	128.4
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Change	26.4 (136.1%)	364 (205.6%)	9.4 (77%)	52 (42.6%)	88 (78.6%)	77.7 (202.3%)

Note: * – the value was calculated without considering the temporarily occupied territories after the Russian aggression in 2014; ** – the value was calculated without considering the territories that were occupied as a result of the full-scale Russian invasion of Ukraine in 2022

Source: compiled by the authors based on Economic statistics/Economic activity/Agriculture, forestry, and fisheries (n.d.)

As can be seen from Table 4, the level of yield of all types of products has increased significantly, which may indicate that the country has begun to use generally better technologies that allow obtaining more yield per unit

of production. This indicates, first of all, positive trends in the development of agriculture in Ukraine. It is also worth assessing the level of profitability of agricultural enterprises in Ukraine, data on which are shown in Table 5.

Table 5. Net profit level of large, medium, small, and microenterprises in Ukraine in the period from 2010 to 2022, adjusted for inflation (in 2010 prices), in billion UAH

Type of enterprise	Large	Medium	Small	Micro
2010	2.612	12.319	2.24	0.102
2011	3.366	13.171	6.937	1.881
2012	4.886	12.594	7.194	1.728
2013	3.526	6.414	3.898	0.98
2014*	4.303	7.72	5.674	1.135
2015*	13.734	24.362	18.892	5.151
2016*	5.879	20.828	17.371	4.909
2017*	3.427	15.058	10.784	1.72
2018*	4.297	14.743	8.161	1.886
2019*	1.785	24.311	7.019	2.071
2020*	2.999	13.936	11.274	3.714
2021*	15.256	32.358	27.857	7.939
2022**	4.775	10.439	7.416	1.702
Change	2.2 (82.8%)	-1.9 (-15.3%)	5.2 (231%)	1.6 (1565.4%)

Note: * – the value was calculated without considering the temporarily occupied territories after the Russian aggression in 2014; ** – the value was calculated without considering the territories that were occupied as a result of the full-scale Russian invasion of Ukraine in 2022

Source: compiled by the authors based on Economic statistics/Economic activity/Agriculture, forestry, and fisheries (n.d.)

As can be seen from Table 5, the profitability of many types of companies, despite the negative trends in the economy, remained higher than as of 2010. Only medium-sized enterprises receive lower returns. It is also worth noting that the profitability of companies in 2021

was even higher for many companies. In addition to analysing the competitiveness of agricultural producers, it is worth suggesting possible ways to improve it. In particular, at the national level, the management of agro-industrial production is the introduction of a strategy for

entering new markets for products by establishing relations with foreign countries and strengthening existing ones, and the development of a certification system for organic products in accordance with international standards, since the production of organic products is quite promising in the country. As for the subjects of agricultural production – this is an increase in the production and export of goods that are leaders in world trade, and intensive cultivation of niche crops. In addition, there is a need to increase the efficiency of logistics processes, build additional granaries, reduce the cost of production and improve quality indicators, and the growth of trends in the greater spread of e-commerce in the agricultural sector. Thus, the dynamic growth of the global market of agricultural products and their processed products determines promising areas of development of agricultural holdings and creates conditions for increasing exports of products (Tse *et al.*, 2017).

Export of products and raw materials is also an important indicator of competitiveness (Shikovets *et al.*, 2020). The active expansion of the presence of Ukrainian producers on world markets is an important component of the development of Ukrainian exports, which opens up huge opportunities both for the domestic producer, which receives more revenue from the added value of finished products, and for the national economy – after all, increasing the export of finished products contributes to the development of the food industry in the country, attracts investment in this and related industries and creates new jobs. The main agricultural holdings in Ukraine

remain Kernel and MHP, which are among the largest agricultural companies in Ukraine. Considering the Kernel company, the main goal of strategic management is to create a dynamic management system that ensures high competitiveness of the enterprise, in particular, by obtaining benefits from further integration of the country into the European Union. The impact of European integration extends to strategic governance through considerations such as European values, legal standards, EU-compliant reforms, and market opportunities in EU countries. For each export activity of the company (sunflower oil, niche and traditional cereals), the company develops individual development strategies.

Kernel faced challenges during the war, focusing on strategic planning, liquidity, and sustainability. The company coped with the temporary shutdown of Black Sea ports by strengthening decentralisation, receiving help from the army and finding new export channels. Business strategies have been adapted by changing crop rotation and reducing dependence on certain crops. Kernel managed banking risks through diversification and even transferred some of its liquidity to cryptocurrency. Communication with stakeholders, including creditors and investors, remained transparent, and two planning scenarios were considered. The need for reforms to support the economic recovery was highlighted, and the company's future plans include stockpiling, export diversification, and exploring recycling options and environmental energy projects. The company's financial results for recent years can be seen in Table 6.

Table 6. Data on Kernel's financial results for the period from 2017 to 2023

Year	2017	2018	2019	2020	2021	2022	2023
Profit, billion USD	2.17	2.4	3.99	4.11	5.65	5.33	3.46
Net financial result, billion USD	0.5	0.2	0.25	0.7	0.83	0.19	-0.3
Assets, billion USD	2.01	2.21	2.46	3.16	4	4.19	3.89
Coverage ratio	3.81	2.16	1.97	3.71	2.92	1.13	1.29
Quick liquidity ratio	2.5	1.5	1.91	2.98	2.49	0.7	1.11
Absolute liquidity ratio	0.49	0.24	0.12	0.89	0.73	0.2	0.5

Note: Kernel submits financial statements for the period from June to June; in this regard, the financial statements for 2023 are already completed (this method of reporting affected the reflection of the impact of the outbreak of war in Ukraine in 2022, which was relatively insignificant in the financial statements)

Source: compiled by the authors based on data from Annual reports (n.d.)

As can be seen from Table 6, the company's profit grew until 2022, which is conditioned by the beginning of the war in Ukraine. The same can be said about the net financial result, which from 2018 showed growth until 2022, and the volume of assets. Considering the liquidity ratios, they were also at quite high levels: for example, for the coverage ratio, a value greater than 1 is acceptable and fast liquidity, and absolute liquidity is 0.2-0.25. As can be seen from the data in Table 6, even after the outbreak of the war in 2022, liquidity indicators generally remained satisfactory, which may indicate a significant financial stability of the company. However, there was a rapid decline in financial stability indicators, a drop in profits and a negative financial result: in the event of a prolonged war and the continuation of such trends, there is a risk of problems in the company. Given that it is one of the main ones for

the country's agricultural sector, state assistance may be required to support it (Katsylo, 2022).

The company is active in achieving sustainable development goals in various fields, focusing on energy management, water management, maximum waste reduction, and biodiversity protection (Annual reports, n.d.). The company's efforts are focused on improving the efficiency of its own operations, reducing greenhouse gas emissions and generating electricity from biomass. Water and wastewater management involves rational water consumption, strict pollution prevention measures, and investment in technologies such as dry cooling systems. Waste management, in turn, consists in reducing it, properly processing it, and strictly controlling its generation. In biodiversity management, Kernel uses IT solutions for data processing, which allows monitoring

of surrounding areas and avoiding activities in areas with high biodiversity. This approach highlights the company's desire to achieve the principles of sustainable development, minimising the impact on the environment, improving energy efficiency and preserving biodiversity as part of its activities.

MHP, in turn, planned to carry out a complete transformation of the business, including improving customer service and creating a new franchise model. They considered ensuring people's well-being to be the basis of their strategy. The company continues to deepen its own investment processes in foreign companies, trying to expand its influence in foreign markets. Among its goals are

to increase production volumes, optimise the cultivation of grain crops and increase exports through geographical diversification. MHP is committed to sustainable development, reducing greenhouse gas emissions, and achieving a carbon-neutral footprint. Despite the impact of the conflict, MHP continued its business transformation, focusing on value-added products and food security. The war led to a short pause in the production of some goods, but MHP quickly resumed and introduced new products. The company still remains focused on customer orientation and tries to adapt to the needs of consumers. It is worth considering individual financial indicators and MHP companies. They are shown in Table 7.

Table 7. MHP's financial performance for the period from 2017 to 2023

Year	2017	2018	2019	2020	2021	2022	Q3 2023
Profit, billion USD	1.29	1.56	2.06	1.91	2.37	2.64	2.29
Net financial result, billion USD	0.36	0.19	0.59	-0.03	0.61	-0.03	0.12
Assets, billion USD	2.28	2.67	3.69	3.28	4.1	3.81	3.93
Coverage ratio	5.26	3.25	3.03	3.13	3.13	2.92	1.63
Quick liquidity ratio	3.78	2.39	2.49	2.49	2.43	2.84	1.35
Absolute liquidity ratio	0.82	0.66	0.87	0.58	0.52	0.56	0.45

Note: data for 2023 is only available for the first 3 quarters

Source: compiled by the authors based on Financial Reports (n.d.)

As can be seen from Table 7, the company's profit is growing despite the outbreak of war in Ukraine. The company also showed minor losses in 2022, as in 2020, which is due to a full-scale invasion and the beginning of the COVID-19 crisis, respectively, but these values were close to 0, which indicates the company's significant resilience to global crises. This is also indicated by the growth of assets until 2022 and only a slight decrease in it in subsequent years, and high liquidity indicators, which even during the war remain significantly higher than normal. MHP showed a relatively higher level of financial stability compared to Kernel. However, it is still difficult to assess what the future impact of the war will be on the company, and whether it will need state assistance in the future. MHP is also focused on sustainable development: it promotes its own activities to achieve the UN Sustainable Development Goals (SDGs), working with Ukrainian stakeholders (other businesses, the state and citizens in general) to improve infrastructure, education, health, and economic opportunities in the country and in the regions. The company prioritises health and well-being, an example of which was the company's response to the outbreak of the COVID-19 crisis, which was aimed at supporting the well-being and health of employees. MHP also supports measures for inclusive education, gender equality, access to clean water and affordable clean energy. It encourages economic growth and infrastructure development. One of its most important projects is the development of biogas plants to move away from traditional energy sources and give preference to renewable ones. Thus, the largest agricultural holdings in Ukraine had certain problems associated with the beginning of a full-scale invasion, but they are coping with the challenges that have arisen. In addition, both companies continue their activities aimed at achieving the sustainable development goals. The state

authorities, in turn, are interested in ensuring that these companies can successfully cope with the problems associated with a full-scale invasion. Therefore, in case of difficulties, a company should be ready to provide assistance to these and other enterprises of the agricultural sector to ensure that they can continue to conduct their activities.

► Discussion

The strategy of gradual distribution of Ukrainian agricultural products to other markets is really promising for the country's agricultural holdings. Exports in key strategic areas can help rural businesses overcome insignificance and potential surpluses. Processing enterprises in the agricultural sector should focus not only on the EU markets, but also on global ones. This approach should encourage agricultural producers to expand their capabilities and comply with international norms and standards, emphasising the need for government support and investment in infrastructure, logistics and marketing. To strengthen Ukraine's competitive position, it is still important to develop a certification system for organic products that meets international standards, increase efforts in crop cultivation, and find methods to improve product quality and yield. In addition, logistics optimisation and cooperation with state authorities remain an important component.

The results of this research on the competitiveness of Ukrainian agricultural holdings in international markets, and the conclusions drawn on their basis, are of significant importance, as they prove that powerful agricultural holdings operate in Ukraine, characterised by dynamic capabilities, increase their capacities, attract unused arable land, and effectively use the potential of resources and crops. In addition, the development of world markets for agricultural products is promising for agricultural holdings, because Ukraine is geographically located almost

in the centre of international retail chains. Summing up the above, consideration of the innovation factor should be one of the crucial conditions for the further development of agricultural holdings in the near future. Active state support should also function to establish partnerships between state structures and the private sector of the economy, which will ensure the competitiveness of agricultural holdings, including in foreign markets. In order for Ukraine to become a competitive player in the global market of finished food products and finally get rid of the label of “raw material appendage”, producers need to solve a number of complex problems. The analysis of the activity of Ukrainian agricultural holdings indicates that in recent years there have been optimistic indicators of their competitive activity, in particular: the dynamics of gross harvest, yield and acreage of niche crops, the balance of agricultural production, the export of agricultural products and their processed products, and a number of promising areas of agricultural production and competitive strategies that ensure Ukraine’s access to world markets. Nevertheless, due to the beginning of a full-scale Russian invasion of Ukraine, the deterioration of the situation in the country as a whole, and in particular for agricultural holdings, has become noticeable. Thus, the state authorities should support these companies in order to ensure their development even in the difficult conditions in which the country is located (Yevtushenko *et al.*, 2022).

Analysing the situation in Ukraine, it can be noted that large and medium-sized agricultural holdings have become the main productive force in the agricultural sector of the economy. According to industry studies based on information from individual companies, large agricultural enterprises currently lease more than 3.5 million hectares of land, or 10.8% of all arable land and 20% of leased arable land, while the smallest companies in this group control more than 30 thousand hectares each (Dankevych *et al.*, 2022). The issue of assessing the competitiveness of agricultural holdings has been considered repeatedly both in individual papers and in fundamental scientific studies, but a unified methodology for assessing the competitiveness of an industrial enterprise has not been developed, and the issue of competitiveness of Ukrainian agricultural holdings in world markets remains rather neglected. However, there are some common aspects in the methodological approaches of the researchers and this study in particular. According to Y. Syta (2019), it is necessary to consider comprehensive methods for assessing the competitiveness of enterprises focused on analysing the entire range of parameters of enterprise functioning. V. Byba (2017) and Y. Karpushyn (2017) also emphasised that most enterprises of the agricultural sector of the Ukrainian economy are provided with sufficient prerequisites for successful entry into the world community, among which the main one is a large natural resource and human potential, but state incentives and support for this industry are important (Vernihorova, 2021).

The influence of agricultural holdings on rural development was studied on the example of Romania. R.V. Ionescu *et al.* (2021) emphasised the importance of state financial support as a crucial tool for agricultural holding companies, emphasising the need for targeted measures to ensure the availability and successful func-

tioning of business entities. As part of the study, it was shown that agricultural holdings really play an important role in the development of rural areas. However, the researchers also provided separate recommendations on this issue, aimed primarily at improving the legislative framework, implementing specific measures of economic incentives, strengthening strategic cooperation outside of state bodies, and promoting transparency of consistent agricultural policy. The study of agricultural holdings in Ukraine did not pay such attention to the analysis of their role for rural development, but it is worth noting that it is actually significant. Thus, with the help of such companies, a significant number of jobs are created, and an appropriate infrastructure is created that contributes to the development of the village. Thus, the support of such companies can be important for the state to promote rural development (Zakharchenko, 2017).

The functioning of agricultural holdings in the Czech Republic, in turn, was considered by Z. Hloušková *et al.* (2022). Researchers have shown that large holdings in a country tend to have higher economic returns and financial stability, while small companies face greater challenges of economic viability. There is even a possibility that individual companies may go bankrupt in the near future. In this regard, researchers note the importance of state support measures for such companies. The study of agricultural holdings in Ukraine also noted the need to support companies in the agricultural sector. The difference is that in the Czech Republic, only small companies need such support, while in Ukraine – everything that is associated with the difficulties associated with a full-scale invasion of Russia. The main difficulty, however, is that the state spends significant amounts of resources on military needs, and therefore, must pay less attention to other components, such as supporting businesses, ensuring the social needs of citizens. Nevertheless, it must make every effort to fulfil all its obligations to society as much as possible (Vernihorova, 2021).

Separate conclusions on the development of Agriculture on the example of Poland were also drawn by J. Kulawik *et al.* (2020). The researchers noted that agricultural support systems play a crucial role in stabilising farm incomes, making farms dependent on the decisions of individual countries and the EU as an association. In this regard, they become vulnerable to external shocks. Thus, researchers propose to create a common agricultural policy that will allow the sector to adequately develop and make it able to more effectively resist external crises. As noted in the study on agricultural holdings in Ukraine, the implementation of a high-quality policy in the field of agriculture is really an important component for the development of the sector. However, it should be understood that support for this area should be at such a level that it does not completely kill competition for Ukrainian producers, and leave them incentives for development. Only in this way can a sufficient level of agricultural sustainability be achieved in the country.

► Conclusions

One of the successful factors in Ukraine’s agro-industrial integration is the creation of agricultural holdings. The share of the agro-industrial sector in the national GDP

depends on a number of factors, in particular: natural and climatic conditions, access to sales markets, specialisation. The level of development of the agricultural and industrial complex is significantly influenced by the national policy that regulates foreign markets and can focus on increasing the competitiveness of its own agricultural sector and ensure the growth of export positions of agricultural products in the EU market.

In the period from 2000 to 2021, Ukraine recorded a positive and progressive balance of production for almost all types of agricultural products, with the main crops, such as cereals, legumes, sunflower, rapeseed, and open-ground vegetables, there is a clear trend of increasing the dynamics of gross harvest. This shows that Ukrainian producers of agricultural products have been increasing production volumes for two decades, which contributes to increasing competitiveness. In relation to the yield of agricultural crops, an increase in their capabilities was recorded compared to 2000. There was also an increase in the area under agricultural crops, with the exception of some vegetable crops and potatoes. Even in the sector of niche agricultural products, dynamics were noted, which indicates the active development of agricultural holdings, their expansion and efficient use of resources and land areas. During the war, agricultural holdings as a whole continued their activities aimed at developing their own

products abroad. However, military action will significantly suspend the development opportunities of such companies. That is why in modern conditions they need more than usual support from the state.

As a result of the study, it was found that the gradual development of world markets for agricultural products is very promising for agricultural holdings, because Ukraine is geographically located almost in the centre of international retail chains. Exports in some strategic areas will help agricultural enterprises avoid uncertainty and possible large losses. The study also indicates that Ukrainian agricultural holdings have a huge potential for developing exports of products, but this requires the state's interest in quickly solving emerging problems and the operational ability to respond to the changing needs of the world market. In further research, it is important to analyse the issue of increasing the investment attractiveness of the agro-industrial complex of Ukraine, analysing in recent years all possible risks associated with the investment climate, and optimise the search for ways to reduce import dependence.

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► Conflict of Interest

The authors of this study declare no conflict of interest.

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Оцінка рівня конкурентоспроможності українських агрохолдингів на міжнародних ринках

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► **Анотація.** Сільське господарство залишається однією з основних галузей, які відіграють важливу роль як в економічному розвитку країни, так і в стратегічній безпеці. Тому проведення в країні постійного дослідження цієї складової є актуальним. Метою дослідження було визначення конкурентних можливостей агрохолдингів України. Методами наукового пізнання, які були використані в роботі, були абстрактно-логічний, діалектичний, загальнонауковий та статистичний методи, методи історико-логічного спостереження, аналізу та синтезу. У даному дослідженні проаналізовано конкурентоспроможність сільськогосподарського виробництва України, зокрема за такими показниками як: динаміка валового збору, урожайності та площі основних сільськогосподарських культур, баланс сільськогосподарського виробництва, експорт сільськогосподарської продукції та продуктів її переробки протягом 2000-2023 років. Запропоновано також методи, які необхідно реалізувати, щоб зробити агропромисловий комплекс конкурентоспроможним на світовому ринку. Результати цього дослідження конкурентоспроможності українських агрохолдингів на міжнародних ринках та зроблені на їх основі висновки мають важливе значення, оскільки доводять, що в Україні діють потужні агрохолдинги, які характеризуються динамічними можливостями, нарощують свої потужності, залучають невикористані орні землі, та ефективно використовують потенціал ресурсів і посівів. Крім того, перспективним для агрохолдингів є освоєння світових ринків сільськогосподарської продукції, адже Україна географічно розташована майже в центрі міжнародних торговельних мереж, а експорт за окремими стратегічними напрямками допоможе аграрним підприємствам уникнути невизначеності та можливих великих збитків. Оцінка агрохолдингів, а саме «Кернел» і «Миронівський хлібпродукт», показала, що навіть в умовах війни агрокомпанії мають можливості для розвитку та виходу на міжнародні ринки. Отримані в рамках дослідження результати можуть бути використані як представниками громадського сектору для формування політики у цій сфері, так і підприємствами для створення довгострокових стратегій розвитку

► **Ключові слова:** сільське господарство; конкуренція; виробництво; ринки збуту; експорт