

COMPETITIVENESS OF UKRAINIAN GRAINS AND OILSEEDS IN TERMS OF DIVERSIFICATION OF EXPORT

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Abstract

In recent years, Ukraine has continuously increased production volumes and has become a leader in exports of grains and sunflower oil. However, to form a balanced agrarian policy, it is important to ensure the competitiveness of products in the internal and external segments of the agro-food market. The article generalizes the nature and importance of competitiveness for the sustainable economic development of the country. The commodity and geographic structure of export of agro-food products of Ukraine was analyzed and main tendencies of its development were analyzed. The competitiveness of agro-food products was calculated according to Balass method, where the indices RXA-indices of relative export competitiveness and RCA-index of the revealed comparative advantage were determined. Based on the research conducted in the article, the relevant conclusions are drawn.

Keywords: *competitiveness, grains and oilseeds, agricultural policy, domestic support*

JEL Classification: *F16, F18, Q17, Q11*

1 Introduction

The current stage of functioning and development of the national agro-food market is connected with its restructuring in the direction of increasing competitiveness, as it is required not only by the influences of world markets, but also by factors of globalization, Ukrainian entrance to the WTO and an agreement on FTA between Ukraine and the EU. These challenges must be accompanied by qualitatively new steps to create conditions for the market liberalization of agro-food products.

Ukrainian agribusiness faced the task of solving an extremely important problem, which is related to the choice and implementation of effective ways of development in the new geopolitical conditions, when the effects of globalization and the development of the knowledge of economy and innovation in the world dimension become more and more tangible.

Under these conditions, the key to the development of the agro-food market is to provide competitive products, to create favorable conditions for entrepreneurship development, and to reduce the state's interference in the economic activity of agricultural sector entities.

The development of the agriculture sector objectively requires the creation or modernization of competitive mechanisms, the development of scientifically sound and effective (in terms of practical implementation) of the institutional principles of protection and development of competitive relations in the market, increasing the competitiveness of products in the domestic and foreign markets [1].

The aim of the article is the evaluation of the grain and oilseed competitiveness of Ukraine at the foreign segments of agriculture market and development of determinants of its increase due to diversification of domestic exports on the basis of the implementation of competitive advantages on world markets in the short and medium term periods.

2 Data and Methods

The given research is based on the general scientific methodology. During the process of research there were used a system analysis and synthesis, monographic, abstract, logical, economically mathematic, grouping, computational and balance methods of scientific researches.

The determination of the level of competitiveness of agro-food products in selected segments of the world market, empirical methods for evaluating the comparative advantage indices RCA (Relative Comparative Advantage Index) and RXA (Relative Export Advantage Index) based on the classical index of V.Balassa have been used.

The RCA's relative comparative advantage index and the RXA's relative export competitiveness index essentially describe one process, and can be determined by formula 1:

$$RCA = RXA = \frac{X_{ij} / \sum_n X_{nj}}{\sum_k X_{ik} / \sum_k X_{nk}} \quad (1)$$

provided that $n \neq i$, $k \neq j$, this restriction distinguishes index from RCA; where X - export, i - country, j - commodity, n - aggregate countries, k - aggregate of goods. The index value is within range $[0; +\infty]$.

The area in which the country exports specialized products is characterized by a value of 1, and values between 0 and 1 indicate a lack of benefits.

The RXA index is defined as the ratio of the country's share in the global export of a given product to the share of that country in the world export of all other goods. A specific feature of this meter is that world exports of goods are always defined as the sum of exports of all countries, except that which is being investigated. The value of the RXA index is interpreted as follows. If it is greater than 1, the country has comparative advantages in terms of exports of the product under consideration, but if $RXA < 1$, then this indicates a competitive disadvantage.

For calculations used official data of the State Statistics Service of Ukraine, Eurostat, information agency UkragroConsult.

3 Results and Discussion

The competitiveness of the agriculture sector of the economy is a rather complex and multifaceted category, which is determined by various factors.

Competitiveness is one of the main categories widely used in the theory and practice of economics, a multifaceted notion that in Latin translation means rivalry, the struggle for achieving the best results [8].

Definition of the concept of "competitiveness" is disclosed in the writings of such foreign researchers: J. Lamben, M. Porter, F. Kotler and others. Aspects of providing and assessing the level of competitiveness are the subject of research by domestic scientists, such as: Y.Zhalilo, B. Kvasnyuk, S.Kvasha, A. Kredisov et al. However, at the moment, the essence of competitiveness is interpreted by experts in different ways.

The basis of understanding the essence of the notion of enterprise competitiveness is the study of M. Porter, who unveiled a theory of competitive advantage, according to which the competitiveness of the enterprise can be estimated within the group of enterprises belonging to the same industry [9].

According to A. Kredisov, competitiveness is a characteristic of a product that reflects its difference from a similar competitive product, both by the degree of compliance with a specific need and by the cost of its satisfaction [10].

Kvasha S.M. (2006) believes that competitiveness is determined by the price, quality and liquidity of agro-food products [7].

Competitiveness is a complex category, its benefits are finally realized through trade, but the basis of competitive advantage is created at all levels of social production, including to a large extent due to structural adjustment and effective industrial policy.

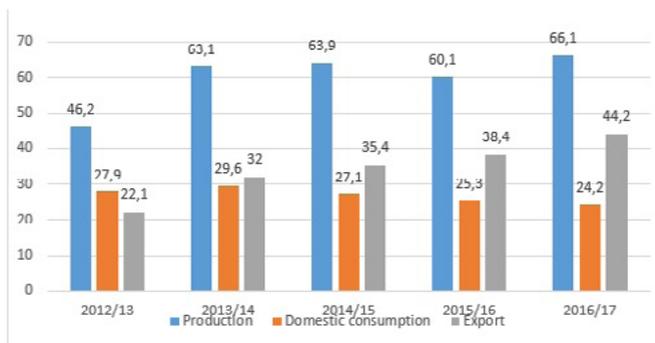
The theory of competition proceeds from the fact that rival not the country, but individual producers or sellers of products. However, the economic success of

the state, that is, its competitiveness, is directly determined by the presence of its competitive industries and industries. Therefore, increasing the competitiveness of national commodity producers has articles of the most important priority of the agriculture policy of Ukraine.

In recent years, Ukraine has substantially increased its production and export volumes. According to Fig.1 in Ukraine, grain production grew by 20 million tons, or almost 43% mainly due to corn. A significant increase in grain production was primarily due to the introduction of modern cultivation technologies in large agroholdings, which mainly grow those grains that are in demand on the external markets - corn, wheat, barley. Today's Ukrainian grain market is a highly competitive environment, where international companies are represented, which specialize both in the production and export of grain.

According to the 2016/17 MP, domestic grain consumption in Ukraine was 24.2 million tons, or 42% of their total production. It should be noted that the volume of domestic consumption is systematically reduced (an average of 3% annually), which is due to the reduction of population and the decrease in domestic demand for food products for processing grain. There is also a decrease in livestock, which resulted in a decrease in feed consumption, accounting for almost 60% of the total grain consumption in the domestic market.

Figure 1 Grain balance in Ukraine, mln. tones



Source: Based on the data of the State Statistics Service.

Moreover, negative trends in domestic consumption led to the annual achievement of record-breaking rates of Ukrainian grain exports. The season ended was no exception, and on its results for export was put a record 44.2 million tons of grain. In general, for 5 seasons, the average increase in export supplies was 20% annually [12].

It should be noted that the potential of the main grain crops in Ukraine is realized only by 50-60%.

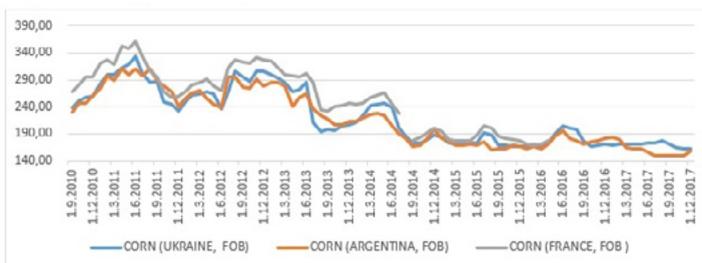
In the dynamics of Ukrainian corn export, in accordance with the growth rate of production, there is a general upward trend. It is expected that following results of the current season, the record volume of 21.3 million tons will be delivered to foreign markets, which is 28% more than the previous season. It should be noted that such export rates became quite unexpected, as against the backdrop of rainy weather during the harvesting period significant losses of yield and deterioration of its quality were expected [12].

Export became possible by the growth of supplies to traditional markets, and by the development of new ones. Thus, the key importer of Ukrainian corn - Egypt - has increased the volume of purchases in October-July 2016/17 MR by 56% compared to the same indicator in the previous season. Supplies to the Netherlands increased by 87%.

However, it should be mentioned a more substantial increase in exports to Iran, where in the reporting period was delivered almost 2.2 million tons of Ukrainian corn, which is 3.2 times more than in the previous season. Also, the supply to South Korea increased by 7.1 times. As for key importers such as Spain and China, imports are down 11% and 37% respectively. In general, it can be noted that, despite all expectations, China remains a situational buyer of Ukrainian corn, and in the future this direction will not remain a priority [12].

The analysis of the dynamics of corn imports by key partner countries of Ukraine shows that the three markets that are traditional for Ukraine in the EU, Egypt, and Iran are promising in grain purchases. Thus, according to forecasts of USDA analysts, in 2017/18 MP, against the backdrop of adverse weather conditions and declining dynamics of domestic production, imports of the European Union could substantially increase, deliveries to which countries are estimated at 16.0 million tons or + 19% to the previous indicator season (13.4 million tons).

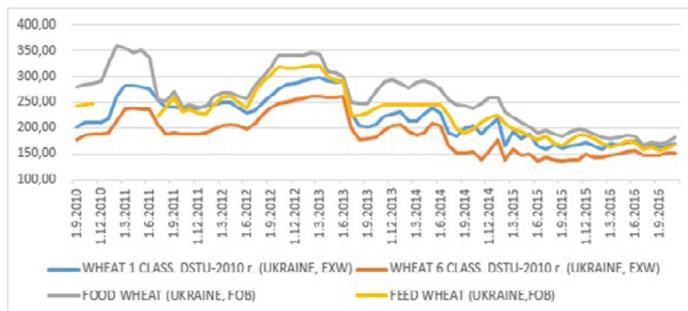
Figure 2 World price for corn, 2010-2017



Source: Based on the data of UkrAgroConsult.

From the graph, it is clearly demonstrated that prices for food type of wheat far outweigh the feed wheat, since different classes. However, it should be noted that over the past 5 years, the trend of wheat prices has fallen from \$ 350 to 190 (Fig.3).

Figure 3 **Ukrainian wheat price, 2010-2016**



Source: Based on the data of UkrAgroConsult.

Analyzing world prices from different countries, it can be noted that FOB price of is competitive compared with other wheat exporters. Exports of barley from Ukraine in 2016/17 MY also took place at a record pace, but the dynamics remained traditional - with peak supply in July-September. During the specified period of the season, 3.2 million tons of barley were exported, accounting for 59% of total exports in the season and 9% more than exports for the same period of the previous MY.

Figure 4 **Price difference in food wheat, 2010-2016**



Source: Based on the data of UkrAgroConsult.

In the context of the globalization of the world economy, the development of foreign economic relations and trade is an extremely important factor in the

functioning of the national economy of any state, since it has not only economic but also enormous political significance. After all, the challenges associated with the globalization of the agro-food system lead to accelerated growth of world food trade, compared to the growth rate of agricultural production and food production.

We believe that the important issues in the process of Ukraine's integration into the world economic community are the saturation of its domestic market with competitive agricultural products and expansion of its exports. Along with this, the priority direction of the strategic development of Ukraine's food sector at the stage of forming the relations with the world market should be considered not only growth of its export opportunities, but also improvement of the structure of exports, and the main thing - the emergence of new markets with competitive agriculture products, which would meet the requirements of international standards.

It is believed that the competitiveness of domestic agriculture products consists of a combination of competitive advantages that are manifested in the world market by comparing them with the relevant factors of other competitors. The study of different opinions and interpretations of economists about the indicators that shape the competitive advantages of a particular country in the production of one or another type of food or agricultural production, suggests that the most relevant approach to addressing the above problem is the analysis of the export and import of agriculture and food products. Consequently, the larger the country's exports of a particular product, the more competitive it has.

By comprehensively evaluating the competitiveness of the agro-food sector in comparison with other branches of the Ukrainian economy, we consider to use the methodology for calculating the index of the identified comparative advantage of RCA_i, using statistical information on the volumes of foreign trade of the country by separate groups of goods. The above-mentioned concept considers the state of competition of a separate sector in comparison with other sectors of the country's economy, and the indicator includes export and import volumes. The RCA_i Index (Revealed Comparative Advantage), that is, the index of the identified comparative advantage, unifies the export and import of the same industry with the total export and import of all branches of a particular country:

$$RCA_i = \frac{X_i - M_i}{X_i + M_i} - \frac{\sum(X_i - M_i)}{\sum(X_i + M_i)} \quad (2)$$

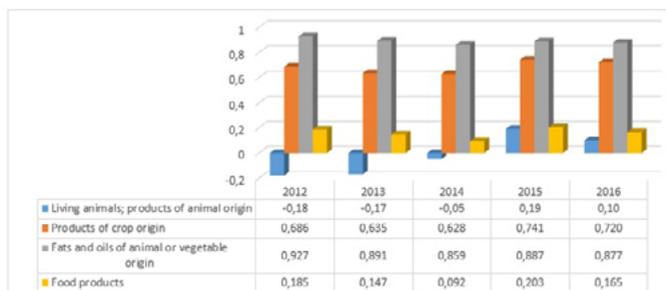
where RCA_i – the index of the revealed comparative advantage of the same industry; X_i – cost of export of products of the same industry; M_i – the cost of import of products in the industry.

The positive value of this index means that the industry has a comparative advantage. If the i -th industry is a net exporter, then it exports more than the totality of all industries. The negative index value represents a comparative loss.

Dynamics of comparative advantages of Ukraine in foreign trade in separate groups of goods in 2012-2016 is presented in Fig. 5.

According to the data in Fig. 5, it can be concluded that the worst position is the Living Animals; products of animal origin, as the dynamics shows from 2012-2014, the index falls below zero, which indicates the lack of competitiveness of the industry, but in 2015, the index turned out to be positive dynamics, and became more than in 2012.

Figure 5 Dynamics of comparative advantages of Ukraine in foreign trade by separate groups of agro-food products in 2012-2016



Source: Author own calculation [13].

However, the best position is occupied by the field "Fats and oils of animal or vegetable origin". Its dynamics can be called relatively stable and the most competitive branch among other agro-industrial products. According to the calculations, it is possible to report that Ukraine is an effective exporter of soybean oil and takes the 1st place in the export of this culture [11].

In addition to assessing the comparative advantages of domestic agro-food production in general, we also conducted a study of individual food products in Ukraine for 2014-2016. For analysis, the goods that currently form the basis of Ukrainian agro-food exports were selected.

At the same time for the research the method of calculating the indices of the relative export preferences of RXA_{ij} for selected agricultural commodities, which are the main products of export specialization of Ukraine, was selected. The chosen period of 2013-2015 allows us to follow the dynamics of changes in the competitiveness of individual goods over time. In calculating the index of relative export preferences, RXA_{ij} simultaneously take export performance of

a particular product from the country under study, world exports of this product, and all exports of this country as a whole, as evidenced by the formula 2 [12]:

$$RXA = \left(\frac{X_{ij}}{\sum_{l,l \neq j} X_{lj}} \right) / \left(\sum_{k,k \neq i} X_{kj} / \sum k, k \neq i \sum_{l,l \neq j} X_{kl} \right) \quad (2)$$

Indicators of the analysis of the comparative comparative advantages of the countries of the world by separate product groups (based on calculations of the indices of relative export preferences RXAij). Firstly, as can be seen from Table 1, from 2014 to 2016, the largest importer of wheat was Egypt, which imported nearly 2 billion dollars. and has an index of 6.26-6.66-1.68 which means that domestic wheat is competitive when exported to Egypt.

Table 1 Index of Relative Export Benefits (RXAij) of Ukraine's main grain crops in the major segments of the world market

Countries	2014	2015	2016
Wheat			
India	-	-	2,01
Spain	26,49	15,32	-
Italy	107,89	19,29	-
Bangladesh	-	-	11,66
Egypt	5,24	6,66	1,68
Indonesia	-	13,12	10,42
South korea	36,35	13,23	9,23
Marocco	30,07	-	-
Pakistan	31,30	-	-
Thailand	-	-	9,23
Tunis	-	19,54	-
Corn			
Spain	14,01	12,47	4,83
Egypt	17,16	12,02	2,14
Iran	-	-	6,88
Italy	-	-	2,52
China	20,43	9,88	2,65
South Korea	29,74	35,80	-
Libya	-	17,89	-

Countries	2014	2015	2016
Netherlands	22,65	19,29	4,88
Tunis	6,32	-	-
Barley			
Iran	14,53	-	-
Spain	-	27,05	-
Italy	48,22	-	-
Algeria	49,92	28,00	27,39
Greece	-	67,85	-
Jordan	-	-	44,88
China	-	41,22	3,54
Libya	19,18	70,96	26,17
Saudi Arabia	12,83	13,89	10,94
Tunis	-	-	27,50

Source: Calculated on the author data [13].

In 2014, due to the change of course and diversification of domestic exports, and the signing of the same FTA with the EU in the same year, which gave impetus to the opening of new markets, and already in the period 2014-2015 2nd and the corresponding third place was already occupied by South Korea and Spain with corresponding indices in 2014-2015 years (36.35-13.23 and 26.49-15.32).

In 2016, India became the largest importer of wheat, and where wheat became competitive in the Indian market at 2.01. Also, the country of Bangladesh and Thailand, which took 3rd and 4th place respectively, became the opening.

Secondly, the corn market in the studied years of 2014-2016 also undergone significant changes in the geographical export of this culture as evidenced by the figures given in the table. According to the data, it can be noted that in 2014, countries such as Egypt, Spain, and China and Korea became the most competitive ones as evidenced by their indices. However, in the period from 2015-2016, it can be noted that Egypt and Spain remained importers of domestic maize, but Iran and the Netherlands joined them.

Thirdly, looking at the data given on barley, it can be noted that in the period from 2014 to 2016, the world's largest importer is Saudi Arabia. It became number 1 in the investigated period for the import of domestic barley, and the competitiveness index was constantly at a sufficient level to be considered a competitive culture.

In 2014, Libya and Iran became two other countries where the competitiveness of barley in these markets was high enough. In spite of the diversification of domestic exports in 2014-2016, Saudi Arabia remains the number one number by product, but, speaking of the indices, the countries with the largest competitive market for domestic barley were Libya, Algeria and China. It should be noted that in 2016 the Ukrainian barley market has become more diversified, and it has been exported to large scale to the following countries: Jordan and Tunisia.

The main problems of exporting Ukrainian grain are significant costs and the length of internal transshipment and grain transportation. Due to the mismatch of logistics routes with the current requirements of agrarian exports, the current costs of moving grain from linear elevators to the Black Sea ports are about 40% higher than similar costs in France or Germany, and 30% of the same costs in the United States (agrarian logistics). That is, transportation of grain costs them an average of 20 dollars / t more than the same services in European countries. As a result, domestic grain producers lose about \$ 600 million annually [14].

In general, high logistic costs in Ukraine are due to the rather low efficiency of logistics, which is confirmed by estimates of international experts (agrarian logistics). So, for the comparative logistics performance of the world, measured in 2016 by the World Bank's Integrated Index of Logistics Performance Index (LPI), Ukraine is only at the 80th place and one third is inferior to Germany, which is the leader in this ranking. Until today, the problem with logistics was less felt by grain traders, as the volumes of grain exports were significantly lower, and high world prices for grain were offset by excessive logistics costs.

4 Conclusion

On the basis of the analysis, it is concluded that, despite the leading place in Ukraine on the world market among producers of certain types of agricultural products, not all commodity groups are competitive. In particular, the competitiveness of products of animal origin is extremely low.

The obtained results of the RCA and RXA indices for grain and oilseeds on the external segment of the world market are in the range of more than 1. This is confirmed by the high level of competitive advantages of grain and oilseed crops in Ukraine. However, the analysis conducted showed that the competitiveness of domestic grain is provided, for example, mainly by the price segment, but not by the quality.

The geographic structure of Ukrainian agriculture exports remains unchanged over the past three years. About 97% of the value of exports comes in four main regions - the countries of the European Union, Asia, Africa and the CIS. In spite

of the signing of the FTA with the EU, the share of Ukrainian agricultural exports in 2016 amounted to 27.1%, which is almost twice as much as the Asian countries. Competitive development of the agriculture sector requires a full-fledged transition to an innovative type of economy geared towards supporting high-tech ecological and socially oriented agricultural production. At the same time, strategic priorities are not only the modernization of production technologies, but also the improvement of its sectoral structure, forms of organization and management methods.

In general, grain system infrastructure, which is the required element of grain market functionality, is needed in modernization of new and old facilities. Consequently, it should be qualified investments policy and support from the government and private sector.

Improving the efficiency of logistics infrastructure is becoming increasingly important for Ukrainian grain producers and their competitiveness on the world market, export deliveries. Introducing innovations in logistics will stimulate the future growth of grain exports from Ukraine. In addition, the development of grain logistics infrastructure provides job creation, added value of products, which contributes to increasing revenues in the state and local budgets. Consequently, the reform of state regulation should be comprehensive and aimed at the maximum possible elimination of barriers for private companies operating in the market of agrarian logistics and willing to invest in infrastructure updates (agrarian logistics).

The state should focus on the problematic aspects of infrastructure development. This will enable the optimal use of transport potential of Ukraine and provide the most favorable conditions for transportation for domestic exporters of grain. Consequently, it will help maintain the level of grain exports and increase the volume of Ukrainian grain on the world market.

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