

13. Peculiarities of functioning of the grain market of Ukraine in the conditions of the world food crisis

At the end of 2021, the number of people who were forcibly displaced due to various circumstances was 89.3 million people, eight percent more than a year earlier and more than double the number a decade ago. Humanity crossed the symbolic milestone of one hundred million in May, ten weeks after Russia's invasion of Ukraine.

War is wreaking havoc on a global food system weakened by COVID-19, climate change, and energy shocks. Ukrainian exports of grain and oil crops have mostly stopped, and Russian exports are in question. Together, the two countries supply 12% of the calories sold in the world's food market.

One of the global tasks of the international community is to raise the standard of living of the population and the efficiency of agriculture, especially in regions with an existing aggravation of the food issue. Analysis of data from the World Food Organization makes it possible to draw a conclusion about a significant deterioration of the situation in the world's food arena in 2021. Another 320 million people lost access to food in just one year.

Forecasts for the near future, according to UN calculations, give a figure of 1.7 billion people who will suffer as a result of the food crisis caused by Russian aggression. The countries of North Africa, the Middle East, Southeast Asia, Israel and Turkey are suffering due to the cessation of grain exports and the lack of agricultural products. Some countries are heavily dependent on Ukrainian crops. Lebanon imports 80% of wheat from Ukraine, and India - 76% of sunflower oil.

The UN World Food Program (WFP), which feeds people on the brink of starvation in countries such as Ethiopia, Yemen and Afghanistan, receives 40% of its wheat from Ukraine.

The EU is beginning to realize the risk of a food crisis due to the war in Ukraine. Food prices are rising in Europe. According to the results of 2021, Ukraine entered the top five countries supplying agricultural products to EU countries. Deliveries of

domestic agricultural products to the European Union amounted to 8.4 billion dollars. USA, having increased by 26% compared to the indicator of 2020. More than 80% of the commodity structure of agricultural exports is accounted for by oils, fats, grains and oil crops.

In 2021, a record harvest in the entire history of Ukraine was recorded - 106 million tons, of which 84 million tons were grain Fig. 1. Usually, farmers keep part of their products until spring, when commodity prices traditionally rise. However, this time such an approach turned out to be fatal for many. The war led to the cessation of supplies from Ukrainian ports, which exported globally significant volumes of oil, corn and wheat. As a result, the global supply of these categories of agricultural products on the world market decreased significantly and their prices increased.

According to the UN, global food prices are almost 30% higher than they were at the same time in 2021.

The FAO Food Price Index, which tracks monthly changes in global food prices, averaged 159.3 points in March, up 12.6% from February, which was then the highest level since 1990.

Wheat prices, which have risen 53% since the start of the year, jumped another 6% on May 16 after India said it would suspend exports due to unnerving heat.

In terms of the total area of crops in 2022, Ukraine lags behind last year's indicators by 20 to 30%, depending on the agricultural crop, because the progress of sowing, in addition to the occupation of territories, was influenced by a number of factors, primarily logistical. Farmers and agribusinesses spend less on seed and herbicides, saving as much as possible. The area under corn will be smaller, because due to blocked ports, farmers prefer other crops.

Numerical crop losses as a result of continuous hostilities are already predicted in the south of the country, where the bulk of sunflower and wheat were grown in the pre-war period. Also, significant amounts of elevator capacity remain in the occupation of the southern territories. Before the war, Odesa, Mykolaiv, and Poltava regions were the main players in the grain storage market with volumes of 5.5 million tons, 4.2 million tons, and 5.5 million tons, respectively. The capacities in Vinnytsia region were

significant – 4.2 million tons, Chernihiv region – 3.1 million tons, Sumy region – 2.9 million tons, Cherkasy region – 2.8 million tons, and Kyiv region – 2.7 million tons. Western Ukraine had the smallest elevator capacities of all regions of Ukraine. It is known that elevators were damaged in Chernihiv and Sumy regions, 10 of 52 remained in Zaporizhzhia, and there is no information about Kherson region. Destroyed railway stations next to the elevators further complicate the export of grain.

According to the USDA forecast, in 2022/23, Ukraine's wheat production and export indicators will be at the level of 21.5 million tons and 10 million tons, respectively. That is, the volume of wheat production will be 11.5 million tons below the indicator of 2021/22 MR, and exports - by 9 million tons. As for corn, production in 2022/23 MR is forecast to be 19.5 million tons (-11.5 million t compared to the previous marketing year), and exports - 9 million tons (-14 million tons compared to the previous period). Such a significant reduction in both production and exports will significantly affect the world market and lead to further price increases.

Ukrainian farmers have 20 million tons of grain that cannot reach international markets. To date, only the ports located on the Danube River are functioning: Izmail, Reni and Kilia. All others are closed, destroyed or under occupation.

The problem of the delivery of agricultural products will become especially acute in the middle of summer, when the new crop will ripen, which will need to be loaded into granaries, which at that time will not be shipped yet. In this case, a situation may arise when part of the crop will remain in the field.

The international community was satisfied, first of all, the prices of Ukrainian grain. Transportation costs were also relatively low due to the physical proximity of the countries to the Black Sea basin. Today, the price of Ukrainian wheat has completely different figures. Compared to the pre-war period, the cost of railway logistics from the Center of Ukraine has increased more than 2 times: in peacetime, the price varied in the range of \$30-40/t, now it is \$80/t. As for transshipment, in peacetime it was worth \$7-8/t for large companies, \$10-11/t for medium-sized ones, now \$17-20/t. As for sea freight, there are also crazy queues. There are now more than 70 vessels

awaiting shipment. Prices have also skyrocketed. In the low season, the price for cargo transportation was \$30-40/t, now it costs \$90-100/t to charter a vessel.

However, the issue of food security concerns not only the world. The main thing is not to be left without bread. It will not be superfluous to mention that, despite last year's gigantic harvest, taking into account the low quality of harvested wheat and the rapid pace of import of food-grade wheat, it was predicted as early as the fall of 2021 that cheap bread for Ukrainians can be forgotten, because it will still have to be baked from imported flour and it is not surprising.

In 2021, Ukrainian farmers harvested more than 106 million tons of grain, leguminous and oil crops. For Ukrainian grain producers, the year 2021 (as well as 2020) has become one of the best in history thanks to yields and favorable market conditions. For Ukraine today, the biggest "headache" is grain quality control. I would like to point out that this is a problem not only for Ukraine, it is faced by all players of the grain market. Today, most countries have come to the point that it is worth chasing not the quantity of the harvest, but its quality. And this is what our counterparties in the grain market tell us directly. We need to stop and understand what we can trade on an ongoing basis, so that we do not have questions about the quality of products.

After all, if the total volume of food wheat of the 2021 harvest was 13 million tons, then as of October 20, 2021, 10 million tons of this high-quality wheat, suitable for baking bread, left the borders of Ukraine. Since the export quota was set at 25 million tons, and for some reason, wheat was not divided into food and fodder. One can imagine what bread will have to be baked from for the citizens of Ukraine, if in the future the priority task of the "granary of Europe" will be the effort to feed the population of the entire planet[259].

One of the solutions for where to use leftover grain that cannot be sold is processing it into animal feed. In the conditions of the blockade of the ports, agricultural companies engaged in livestock breeding received certain advantages.

Therefore, the issue of grain storage is becoming very urgent and will only intensify in the future. Against this background, processing into bioethanol, into starch is the path that everyone should follow, and it also makes sense to expand animal

husbandry, to process grain into fodder. But all of the above will not solve the storage problem. Instead, you can add 2-3 containers to already existing elevators. Such construction is quite real, and it is easier than building from scratch. At the existing elevator, it is possible to cope with this in 3-4 months and already store grain in new containers, that is, to get additional storage opportunities already in the fall of 2022.

In market economic conditions, the issue of economic relationships between agricultural commodity producers, grain processing enterprises as the main subjects of the grain market and consumers of grain products is urgent. The unstable state of the grain industry as the basis of the grain product sub-complex is able to slow down the growth of most branches of the agro-industrial complex of the country, in particular flour-milling and grain, bakery, biofuel, animal husbandry, which will affect the state of the transport industry, export opportunities, and the pace of development of the economy as a whole. The existence of different markets for grain and its processing products necessitates the need to track the changes occurring in them, that is, to monitor the deviations of the current market situation from the state of equilibrium. In order to choose an adequate mechanism for regulating the situation on the market, it is especially important to understand the reasons for the imbalance and the direction of economic changes.

The conditions of the grain market are influenced by factors of both cyclical and non-cyclical nature. Cyclical fluctuations of any market occur as a result of changes in the scale of renewal of the fixed capital of market entities, changes in the state of the credit and monetary system, and especially under the influence of fluctuations in demand for one or another product. Scientific and technical progress, concentration and specialization of production, inflation, natural phenomena, etc., have a non-cyclical influence on the conditions of the grain market [260].

The main customer of flour on the domestic market is the bakery industry, which provides 99% of the country's "bread" market with products. Today, the majority of bread in Ukraine is produced from flour with reduced gluten content and quality, as well as from grain affected by pests. Increasing the baking properties of flour is achieved through the use of artificial improvers, such as flour whiteners, baking

powder, etc., which makes the final product more expensive. In addition, bread has always been the object of state regulation due to its social significance. Today, local authorities regulate the marginal trade (supplier and sales) mark-ups to the manufacturer's wholesale price for flour and bread, the marginal levels of profitability of their production, wholesale and retail prices for flour. The price of bread weighing more than 500 g of a simple recipe (flour, yeast, salt, water) without adding sugar, fat, or other fillers is subject to regulation [261]. As a result, the profitability of the production of bread and bakery products at the enterprises of the Vinnytsia region (RS) over the past three years remained extremely low and ranged from 0.2 to 1.6%

Excessive regulation of the bakery industry has led to the fact that some bakery enterprises work in the "shadow", and at the expense of legally operating enterprises, consumers of social varieties of bread are subsidized. Administrative regulation of bread prices has recently been the main factor in stabilizing prices on the bread market. At the same time, with the increase in the prices of cost components, the selling prices of bread do not cover the costs of its production, which leads to the gradual decline of the bakery industry.

The analysis showed that today domestic prices for food wheat and baking flour have come very close to world prices. At the same time, the price of bakery products in Europe is much higher than in Ukraine. [262]. Under the conditions of administrative regulation of bread prices, bakery enterprises of Ukraine are forced to compensate for losses in the production of bread of mass varieties due to the increase in prices for other types of bakery products, as well as to save money due to the deterioration of the quality of mass varieties of bread.

Today the financing of most agricultural enterprises can be considered unsatisfactory. Many agricultural enterprises are unable to realize the principle of self-financing not only of the expanded, but also of the simple reconstruction, which makes the industry investment unattractive. State support at the state and regional levels is one of the factors of successful development of agriculture.

Administrative regulation of bread prices has led to shadowing of the bakery industry, non-receipt of taxes from its activities, reduction of legally operating bread

factories, while more than 3,500 bread producers have been recorded on the territory of Ukraine. According to A.N. Vasylchenko, statistics record only 38.8% of bread production consumed by the population of Ukraine. The bakery business becomes unattractive for investors and was characterized by an intensive change of owners of industrial bread factories and the absence of any technical development. Before talking about the price of bread and bakery products, it is worth understanding how the price of their main ingredient - flour - is formed. After the price "swing", when the price of wheat grew to incredibly high indicators, it has now stopped at a certain level or is gradually moving upwards. For example, in the last days of autumn in the Black Sea or Odesa ports, the price of wheat of the 2nd class, from which flour is produced, is UAH 10,200-10,350/t, which is approximately \$375. It is necessary to understand how the price of flour is formed.

Everything is quite simple, the agricultural producer in the region knows that wheat is sold at the port at the price of UAH 10,300/t. From this amount, he subtracts the cost of his own delivery to the port, which is approximately UAH 600, and gets a figure of UAH 9,700/t, which is \$356. That is, he offers wheat processors to buy his raw materials at exactly this price. This is exactly the price at which we buy wheat from the agricultural producer. The use of Agravery.com site materials is determined by the rules and is carried out in accordance with the legislation of Ukraine on copyright and related rights. If you transform raw materials into flour, then the amount of UAH 9,700 must be multiplied by 1.25. The cost price of flour alone without various additional costs, such as electricity, salaries, tests, etc., will amount to UAH 12,125/t. To talk about profitability even at the level of 2-3%, according to flour millers, the price of flour should be at the level of UAH 13,500/t. Accordingly, this price will be higher on store shelves and market counters, because the costs of packaging, transportation, etc. are added to it. In recent years, we have observed a decrease in the demand for flour. Experts name two reasons: objective and subjective. The objective is that the population in the country has decreased, and their tastes have also changed. Fortunately or not, it already depends on everyone, the share of bakery products in the consumer basket of Ukrainians is decreasing. The subjective side is that some of the small and

medium-sized flour milling enterprises have gone "into the shadows". Due to price swings on the grain market, due to the paradoxical situation with VAT, when we buy wheat from agricultural producers with 14%, and sell flour with 20% VAT. That is, 6% VAT is accumulated only at the expense of flour mills [263].

In the existing economic practice, bakery enterprises have many opportunities to influence the consumer market both directly and indirectly through the use of developed strategies. Product marketing strategies imply popularization of the product, disclosure of its properties and, due to this, its promotion to the market. They are implemented through the use of some general strategies and management concepts in combination with separate programs developed either for a separate product or for the products of the line, which are generally related to the goals and objectives of the enterprise.

The price situation in the domestic market is significantly influenced by the level of export activity of domestic grain traders. For grain producers, it is not particularly important whether it will be consumed on the domestic market or sold for export. The insufficient level of domestic demand caused by the depressed state of the flour-milling, grain and bakery industries, the reduction of the cattle population and the corresponding drop in demand for feed grain, favorable price conditions world grain markets, contributed to the growth of grain exports. There are a large number of companies operating on the market, the purpose of which is to export Ukrainian grain, which indirectly finance production. Their profit depends on the price difference on the domestic and foreign markets. In this way, increasing the export potential has turned into the most important factor influencing the domestic grain market.

The development of grain farming under one or another scenario will depend on the amount of financial resources that will be allocated for grain production.

A special role belongs to the state, which can not only act on the market as an economic entity, but through state authorities and regional administrations act as a subject of control and regulation of the grain market with a purposeful influence on the sphere of production and sale of grain and its processing products.

Sub-programs for expanding the capacity of the internal market of products of the grain product sub-complex, which can be implemented both at the national and regional level, can enable the full loading of food industry enterprises of the grain product sub-complex. It is possible to propose a program of food assistance to the population below the poverty line, which will be focused on reimbursing the cost of food products of domestic origin in specialized stores or supermarkets.

The given comparison with the largest grain producers in the world, the analysis of the structure of internal grain consumption by individual grain exporter countries makes it possible to formulate one more additional argument in favor of the thesis about the need to increase internal grain processing. The state strategy for the development of the grain product complex in the conditions of globalization should be based on the fact that one of its main priorities should be not so much increasing the volume of exports of low-quality grain as ensuring the export of its processing products.

The strategy for improving the management of the grain product sub-complex in modern conditions should be based on measures of organizational and economic reform and rationalization of the management system and should be oriented not so much on increasing quantitative indicators and export volumes, but on ensuring domestic demand for grain products, the creation of conditions for industrial processing of grain raw materials, which will lead to creation and use of added value within the country, creation of new jobs, development of processing industries (food, bioethanol, animal husbandry, seeds), a necessary change in the structure of grain use, access to the structures of developed countries, which use up to 50% of grain consumption for industrial processing.