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**ВЛИЯНИЕ «ЗЕРНОВОЙ СДЕЛКИ» НА МИРОВЫЕ РЫНКИ
ПРОДОВОЛЬСТВИЯ: СЕВЕРНОЕ ПРИЧЕРНОМОРЬЕ (РУМЫНИЯ,
РОССИЯ, УКРАИНА)**

**THE IMPACT OF THE "GRAIN DEAL" ON GLOBAL FOOD COMMODITIES
EXPORTS: NORTHERN BLACK SEA REGION CASE (ROMANIA, RUSSIA,
UKRAINE)**



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Аннотация. Геополитическое столкновение в сопредельном государстве оказалась существенным барьером и шоком для всех мировых продовольственных рынков. Биржевые индексы commodities и цены системно

бьют рекорды, а угроза голода в беднейших странах Африки, нарушение лимитов продовольственных поставок в мусульманских странах Магриба и Арабского Востока стали еще одним вызовом глобальной безопасности. Геополитические напряжения в странах Северного Причерноморья (Румыния, Россия, Украина) наложили существенный отпечаток на обыденный ранее ход отгрузок биржевых товарных групп по морским товаропроводящим цепочкам, во-первых, пшеницы и кукурузы. Организация объединенных наций, как субъект международного права, при посредничестве Турции, активно участвовала в разрешении кризиса продовольственных поставок и способствовала подписанию соглашения, так называемой «Зерновой сделки», между Российской Федерацией и Украиной. Повлияла ли «зерновая сделка» на экономическое развитие, экспортный потенциал, логистику и уклад России, Румынии и Украины.

Abstract. The conflict in the neighboring state proved to be a significant barrier and shock for all global food markets. Commodity indexes and prices have been systematically breaking records. Threat of famine in the poorest African countries, as well as violation of food commodities import quota in the Maghreb and Arab states now pose another challenge to global security. Geopolitical tensions in the Northern Black Sea region (Romania, Russia, Ukraine) have greatly affected the usual course of commodities shipments within maritime supply chains, mainly of wheat and corn. As a subject of international law, the United Nations actively participated in resolving the food supply crisis with the mediation of Turkey. It also contributed to the signing of the so-called "grain deal" between the Russian Federation and the Ukraine. Has the "grain deal" affected economic development, export potential, logistics, and living in Russia, Romania, and the Ukraine?

Ключевые слова: *Зерновая сделка, Российская Федерация, Румыния, Украина, Турция, Организация объединенных наций по промышленному развитию, Продовольственная и сельскохозяйственная организация, Всемирный банк, Большое Причерноморье, дельта Дуная*

Keywords: *Grain Deal, Russian Federation, Romania, Ukraine, Turkey, United Nations Industrial Development Organization, Food and Agriculture Organization, World Bank, Greater Black Sea, Danube Delta*

The role of the UN, Russia, and Turkey in finding an "equilibrium price". Is the global food crisis justified

After the conflict in the Ukraine had started to escalate, many politicians and representatives of international organizations made claims about the global food crisis. Were those threats serious and justified or were they exaggerated?

From the point of view of the "food crisis means that somewhere people are starving" idea, it has always been this way. But in the everyday international practice there are multiple scales and design matrices to measure food crises. For instance, in recent years several hundred million people, mainly in African countries, have been undernourished. However, this number began to grow much earlier than February 24, 2022. If we analyze CME indexes, for example, we will see that the food prices were systematically growing in 2020 and 2021 [1]. By the beginning of 2022, they were already at extremely high levels. Commodities traders expected the price growth period to end by March 2022. This reasonable expectation was explained by seasonal factor: a harvest was expected in the countries of the Northern hemisphere, after which the situation would begin to normalize [2].

But February 24, 2022, marked a new round of rise in prices on global commodities and food markets. For instance, main Romanian benchmarks and countries of the Wider Black Sea Region watched wheat prices on CME increase by one and half times in a few weeks. It was probably the biggest rise in prices in history. In trading, there is a thing called "Limit Up", or "Limit Down". It is also known as "LULD". It means that when a price reaches a predefined limit and the trading comes to a halt, it is impossible to place orders higher (or lower) than the limit. In Chicago Commodities Stock Exchange, the upper limit kept being reached for *seven consecutive sessions* [3]. Such thing has probably never happened before. This situation, however, can be

compared to the 2007-2008 period, when the prices for many stock positions were on similar levels. Still, it's important to note that *such rapid growth is unprecedented in the history of global food market*. Moreover, the major difference between these occurrences is that at that time it was *purely about market conditions*.

In the poorest countries where consumers spend more than 70-85% of their income on food, the problem reached critical levels due to the sharp rise in prices after February 24, 2022. In 2022, the number of starving people continued to increase instead of decreasing. According to the estimates of the FAO Calculator, the World Bank and the World Food Programme, there will be 25–50 million undernourished people more in a short-term perspective. Such big numbers are associated with a significant rise in food prices, which was observed in the first half of 2022 [4].

If we analyse the latest FAO report and a number of the UNIDO calculations (for example, information about organized tenders in Russia for Bangladesh or Afghanistan), as well as consider the "Food Index", it is important to point out that food prices have been decreasing for six months.

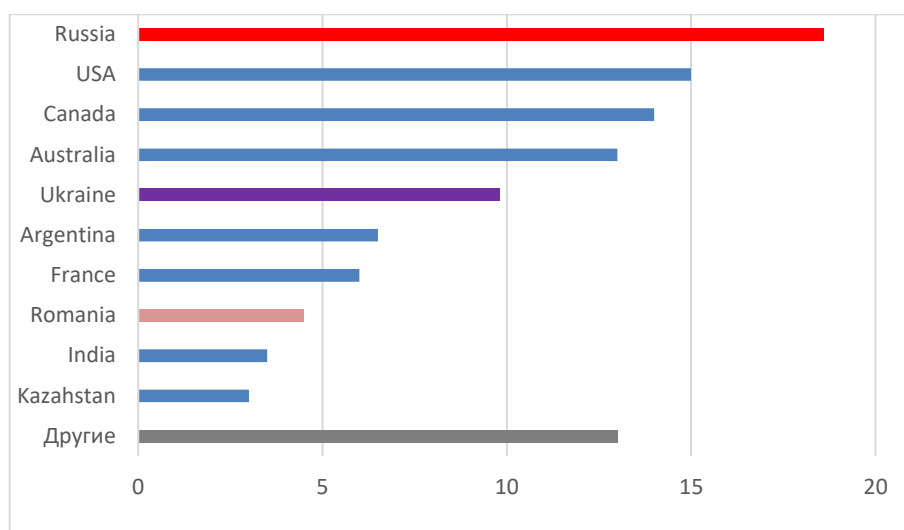
But can we claim that global food crisis is over? Not really. Although this index is used as an argument by a number of politicians, it only reflects a part of commodities on the global food market. It considers wholesale prices on oilseeds, grain, oil, corn, dried milk. In other words, what traders call "*basic food basket*". It doesn't consider final prices in retail shops or at final distributor in the distribution channels. In terms of these prices, they only went back to the level before February 2022. But it is still an extremely high level compared to August or September of 2021.

There is now a certain trend in specialized academic literature in Russia and EU countries. Rise in prices is strongly associated with so-called "post-Covid-19 inflation" and new consumer behavior trends. In my opinion, it is a totally incorrect statement since it lacks detailed analysis of the practical market pricing processes. One can say that distribution chains stopped functioning, the logistics of food supply and FMCG supply chains were disrupted, and it has inevitably led to the rise in prices of all consignments or each SKU individually. However, the global food system has managed

COVID-19 without much trouble, despite pessimistic forecasts about shortage of (seasonal) workers. The only thing I can agree with is that work was temporarily halted at slaughterhouses since COVID-19 was spreading extremely fast at such agricultural facilities. I can say from my own experience that a number of both Russian and Romanian poultry farms have been negatively affected by exporting goods to the Mainland China, for example. "Zero-tolerance policy" of Chinese government was the main reason of inspections of all arriving meat shipments (including by-products, such as chicken feet, also known as "phoenix claws", wings, etc.) Imports were halted, and shipments were disposed since it was believed that traces of coronavirus could remain on frozen products. But this too was not the most significant factor [5].

The rise in prices that was observed during the pandemic was primarily due to market factors. For example, corn harvest was expected to decline in the Northern America due to the derecho (a straight-line windstorm that often occurs in different regions of the USA and is able to travel long distances in a short period of time) in the Midwest in August 2020 after it significantly damaged the crops. Also, China's imports of corn grew 4 times (from 7.5 million to 30 million tonnes) during the 2020-2021 period. Covid-19 affected only 10–12% of the global agricultural market [6].

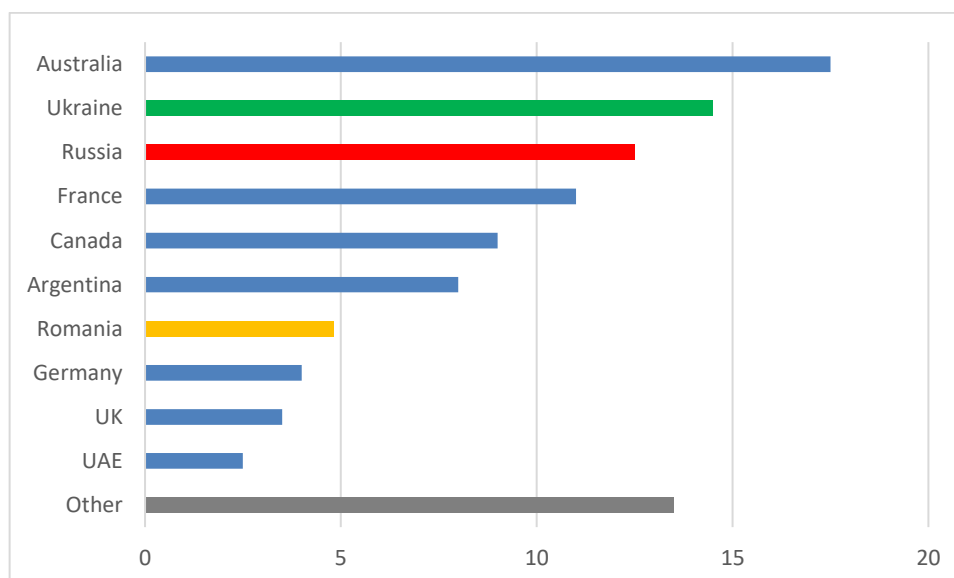
Therefore, if we analyze geo-economic factor in the countries of the Northern Black Sea region, it should be noted that Russia is the biggest wheat exporter in the world. Ukraine is the 4th biggest wheat and corn exporter, the biggest sunflower oil exporter in the world and the main supplier in the EU markets. Moreover, it is *important to consider the share in world trade, not in production, like it is often done by academic community in their works.*



Top global wheat exporters (% of world exports, 2021)

Source: FAO, ONU ComTrade, UNIDO Trade Data Monitor (TDM) - URL: <https://www.fao.org/3/cb9013en/cb9013en.pdf>

Ukraine accounts for 10–15% of the world trade of wheat and corn. Russia accounts for up to 20% of wheat trade. Romania accounts for 5–8%. In fact, the countries of the Northern Black Sea region account for 40–45% of these commodity groups. It is extremely difficult to compensate for the loss of such or even much smaller amounts of products. It should be noted that these groups of goods are associated with signing long-term agreements, including futures contracts, which is applicable to the commodity market [7].



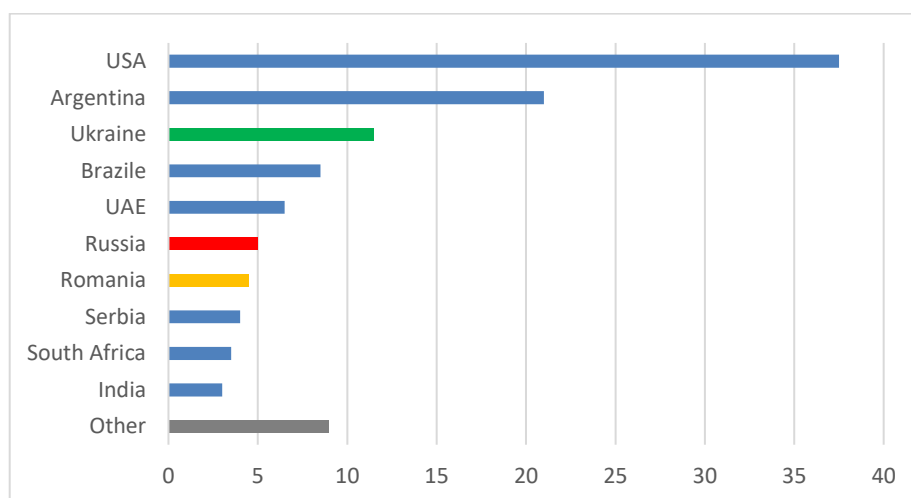
Major world barley exporters (% of world exports, 2021)

Source: FAO, ONU ComTrade, UNIDO Trade Data Monitor (TDM) - URL: <https://www.fao.org/3/cb9013en/cb9013en.pdf>

The market had already been watching the pricing "burn with fever" during Russian military buildup. But the situation mainly remained stable. Nobody expected a full-scale military confrontation. On February 22-23, 2022, food index and prices began to rise significantly and reached *critical levels* on February 24. Such a rapid rise was further deepened by a considerable amount of speculative short positions, that is speculations on market decline (in mid-February). Since the end of February, funds had to urgently close them by buying futures. In mid-February, the number of short positions was approximately 37 000 contracts, each of which corresponds to 5 000 bushels, or 137 tonnes of wheat. It is the biggest number since May 2020. In the first half of March, speculative funds closed their short positions and "turned over", actively *buying futures*. By mid-March, their net long position (speculations on growth) reached approximately 25 000 contracts [8].

From a practical point of view, market prices clearly showed that in the next few months there would be *no shipments neither from Russia, not the Ukraine. This forecast turned out to be true.*

After the beginning of the geopolitical conflict, the Ukraine urgently closed its ports in the Sea of Azov and the Black Sea. Therefore, there were no commodities shipments from the Ukraine. Later, they began to be carried out by land through new logistic routes to Romania and Poland. However, their number dropped significantly compared to time of "geopolitical conflagration". We will get back to it later.



Major global corn exporters (% of world exports, 2021)

Source: FAO, ONU ComTrade, UNIDO Trade Data Monitor (TDM) - URL: <https://www.fao.org/3/cb9013en/cb9013en.pdf>

Export from the Russian Federation was resumed after a short break at the end of February. Quite a long time had passed until the market digested the fact that Russia continued to ship food. Still, the volume of export was not significant.

Naturally, the question arises. Which of the three countries of the North Sea region relies on agriculture most? Definitely, Ukraine. Numbers demonstrate it well. Agriculture constitutes 4% of Russian GDP, 4.6% of Romanian GDP (and this number is rapidly decreasing, with service industry and manufacturing constituting for 24.7% in 1999), and approximately 10% of Ukrainian GDP. For comparison, it is on average about 1.5% in EU countries and only 1% in the USA. Therefore, the fact that the Ukraine was not able to export commodities at usual rates significantly affected the budget's revenue [9].

However, it turned out that executing the previously signed "grain deal" de jure and starting the shipments de facto wasn't enough. The procedure of vessels inspection took 3–7 days on the "Turkish side" in the first weeks after the shipments had been initiated. In October 2022 it takes 9–16 days. It means that within a month the inspection of the vessels has become more than two times slower. Coordination center in Turkey is unable to manage the inspections due to a significant increase of shipments. It should also be noted that on the forum that took place in Vladivostok in September 2022 the President of Russia Mr. Vladimir Putin criticized the results of the "grain deal". Later, during the negotiations, he was supported by his Turkish counterpart.

It's important to note that the two presidents had met 18 times within the first nine months. The last official meeting took place in Astana, on October 13, 2022. There were also numerous phone conversations and government groups working in multiple directions.

Right after the summit in Samarkand on September 15-16, 2022, senders and receivers of commodities noticed a *significant slowdown in the inspection of the vessels*. As a result, by mid-October the rate of export of commodity groups from the Ukraine isn't fast. No more than 1 million tonnes per week, considering that a significant part of

vessels has to wait for inspection at the Bosphorus for weeks. In fact, the capacity of the Turkish side has dropped to 85–90 vessels per week on average.

Geography of main food commodity groups export of Russia, Romania, and Ukraine

If we analyze the buyers of Russian, Romanian, and Ukrainian food, it should be pointed out that it is mainly the countries that have a convenient sea shipping route. For Romania and the Ukraine, it is mainly the so-called MENA countries (Arabian Gulf and Maghreb, or Northern Africa). Also, it is the countries of the EU. As for Romania, it is explained by the fact that it is also a member of the EU. As for Ukraine, it received duty-free quotas for food shipments after 2014 and redirected some of its commodity flows. Finally, there are countries of Southeast Asia, such as India, Indonesia, and Bangladesh. Russia mainly relies on exporting grain to Turkey, Egypt, and China, but Ukraine focuses on India and exports significant amounts of peas there. However, for the Ukraine and Romania, China is primarily an important buyer of oilseeds and not wheat [10].

According to the analysis of foreign trade strategies implemented by the government, in Southeast Asia the Ukraine mainly focuses on India when it comes to agricultural export, and Russia focuses on China. An important factor for Russia is sharing land borders. As for India, the first overland routes with Russia have just recently started to be developed. In particular, routes through North-South Transport Corridor to the Iranian port of Bandar-Abbas and then to Indian ports. Due to their expensiveness, these algorithms have never been relevant to Russian international food trade agents before. Because of sanctions, consignors and companies that operate commodity distribution algorithms shifted their focus to the Indian subcontinent and the countries of Arabian Gulf and eastern coast of Africa, with main emphasis on the port of Djibouti.

It should be noted that Russia has a somewhat similar list of agricultural commodities buyers, but it still differs in some ways. For instance, European countries are not that important in terms of importing Russian food, even though the sanctions

were lifted. It is mainly about vegetable oil. But it is certain that many years of effort of Russian Trade representative mission in the Mainland of China will result in increased commodities export. The reason for that is that, in February 2022, China approved imports of wheat and barley from *all regions of Russia*, not just from certain parts of the Russian Far East. The geopolitical conjunctures in Ukraine haven't disrupted the historical ties for Russia, Romania, and the Ukraine itself.

"Grain deal" and new algorithms of regional logistics in the Black Sea and the Danube Delta

But let's get back to the previously mentioned "grain deal" and logistic changes in the Black Sea and the Danube Delta. The shipping process is quite active. More than 120 vessels left the ports of the Black Sea (reporting period: mid-October, 2022), and more than 2.7 million tonnes of food were shipped. In October, this figure will probably exceed 3.2–3.5 million tonnes. Such rate is associated with establishing new shipping routes through the Romanian port on the Danube River - Galati and Poland's port - Gdansk.

The situation with the "Polish route" is more complicated due to different railway track gauges and considerable distance from Ukrainian border to the Baltic sea port areas. Highly flexible logistics was established with the Romanian port only in 3 months. The Galati port is only 5 kilometers away from the place where borders of Romania, Ukraine, and Moldova «meet», and access from the territory of Reni (border crossing in Odesa Oblast) to Galati (Judetul Galati, Romania) was made available by building a railway with "soviet gauge".

Galati, along with the port of Constanta, has become one of the main Ukrainian commodities food supply hubs for African countries and the Muslim world countries, as well as for the EU countries. The port of Galati is undergoing rapid modernisation and experiencing a new revival, which hasn't happened during the past 30 years. Due to numerous heavy transporters and other types of transport being accumulated, the county administration has changed a number of public transport routes. Port infrastructure has

drawn the interest of DP World \ JAFZA, port operator located in the Emirate of Dubai, UAE. However, there is a number of investors in the process of the port's development [11].

As for the port of Izmail, it isn't developing too actively. But still, along with Moldova's port of Giurgiulesti located on the Danube river, it is growing "out of necessity". During the meeting of Foreign Affairs Ministers that took place in Bucharest in October, Ukraine asks to open more border crossings and increase the capacity of cargo inspection hubs that are already functioning at the borders.

In fact, it should be noted that transshipment of food commodity groups in the ports of Romania allows to enter the Black Sea through the Danube without undergoing inspection of Turkish side. The cargo is already being shipped as Romanian, by "territorial waters" of Romania. Dniester Estuary makes transportation to the port of Izmail difficult. Also, the functioning of the only bridge (located in Zatoka, on P-70 road) that connects the route from Odessa to Bilgorod-Dnistrovskiy and further is limited due to repeated attacks from water. Last time the bridge was destroyed on April 26, 2022, and closed afterwards. The only remaining alternative is a road bridge on Dniester river located in the Mayaki village on Highway M15. The highway passes through the Palanca village in Moldova, through Reni, and leads to the Romanian city of Galati.

As for Ukrainian ports, it should be noted that 90% of Ukrainian export went through the Black Sea terminals. The Azov docks have always been of minor importance. It is the same par example for the Russian seaport of Temryuk. Since the Sea of Azov is quite shallow, the vessels can only carry up to 5 tonnes of cargo. Russia has solved this problem by building a port in Taman, where the Sea of Azov practically connects to the Black Sea. For instance, Odessa used panamax (A type of vessels used for bulk cargo when it comes to specialized single-use containers) vessels to ship 60–70 thousand tonnes without any trouble [12].

Russia's benefits from the "Grain deal": a miscalculation and a planned move

Professionals from the countries of the Wider Black Region are surprised by the fact that the deal *is still on* since it's crucial for the Ukrainian economy, not Russian. It is a significant economic aid to the Ukraine, given that the conflict persists and in the Ukraine there has been a deep overproduction crisis. Taking reserves into account, the supply was three times higher than domestic consumption this season.

The Kremlin's pragmatic approach to this issue isn't fully understood, especially considering the geopolitical conjectures. Some explanation can be found in Russian mass media. According to the official statement of the Russian Foreign Affairs Minister Mr. Sergey Lavrov given during his African tour, Western sanctions have led to food crisis, and now "Russia has made a deal and is helping poor countries to stop hunger". But we must admit that Russia's export pace, despite the deal, has been far slower than the average since the beginning of the season in July 2022. Compared to the same period last year, this year's export in July-August decreased by more than a quarter.

Russian officials usually explain it by saying that "the West doesn't want to lift hidden sanctions from Russian food producers". However, we believe that there is a different reason. Until recently, Russian grain was simply too expensive to be exported actively because of *strong ruble* and *export duties* that have been imposed since last year. Usually, if Russian wheat is at least \$5–15 cheaper than European wheat at the shipping port, it is enough for active sales. But this season it was more expensive up until early September.

Fertilizer exports decreased by 7.2% in the first half of 2022 compared to the same period last year. But according to the Deputy Prime Minister Mr. Manturov, following this decrease and rearrangements of logistics after Baltic sea closed the borders, the figures should be close to those of 2021.

If we go beyond academic framework and rely on practical experience, we can boldly assume that it is a part of *a bigger deal, unknown to general public, between Mr. Vladimir Putin and the President of Turkey Mr. Recep Tayyip Erdogan*. Erdogan sees himself as a peacemaker in this situation, while Turkish press states that it is an Erdogan

deal, not UN deal. It is difficult to assume what agreements they have made with Mr. Vladimir Putin. We can only assume that it is *one of the points of the bargain*. For example, *you give us the "Grain deal", and we help you with trade and settlements with the rest of the world*.

As for the duration of the deal, it was officially signed for 4 months, with possible extension. The deal expires in November 2022. If any problems with grain corridor occur, we *may see a significant rise in prices all over the world*. First of all, it concerns grain prices and, secondly, oils prices. And it is not a few percent probability, but at least a few dozen percent probability.

Conclusion

During Mr. Vladimir Putin's speech in Vladivostok, it was noted that only 87 ships were sent to poor countries in Africa. To clarify this point of the document signed in Turkey, the Ukraine has no obligations to ship its products specifically to developing countries. Moreover, neither Kremlin nor anyone else legally has the right to choose buyers of Ukrainian agricultural products. In fact, developing countries do not appear in these documents.

The main part was shipped to France. France itself is a world leader in wheat production. It is known from private conversations with buyers from Cameroon that after commodities arrive in France, they are redistributed to French dominions on the western coast of Africa (Cameroon, Senegal, Benin, Côte d'Ivoire, etc.) For many years, there have been algorithms of previously established supply chains to Africa. In fact, the Ukraine has been selling grain to these countries through mediators, not directly.

Moreover, academic sources often overlook the fact that in terms of global supply-demand balance it doesn't matter whether the ships from the Ukraine head to poor Sudan or wealthy South Korea and France. If there are shipments from the Ukraine, prices are lower everywhere, including poor countries. If there are no shipments, prices are higher.

Perhaps, it will be difficult for Russia to keep the "grain deal" with its initial conditions. If any problems with grain corridor occur, we *may see a significant rise in*

prices all over the world. First of all, it concerns grain prices and, secondly, oils prices. And it is not a few percent probability, but at least a few dozen percent.

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