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## REDUCING THE EFFECTS OF THE UKRAINE WAR: ANALYSIS OF INCREASING FOOD IMPORTS FROM ECO MEMBER STATES TO AZERBAIJAN

**Abstract.** *The paper analyzes the stabilization of the situation in Azerbaijan against the background of rising food prices on world markets as a result of the war in Ukraine. The authors studied the effects of the Ukrainian war on the world and Azerbaijani import markets. Opportunities to replace the import of Azerbaijan's largest importers Russia and Ukraine by ECO member states were analyzed. It was also investigated the question of whether OIC member states can be considered as an alternative markets. Analysis and evaluations were conducted to find answers to these and other similar questions. As a result, using the tools of the International Trade Centers such as the Market Access Map, Export Potential Map, etc., three member states of the Economic Cooperation Organization (Turkey, Kazakhstan, and Pakistan) with high potential for strategic food products for Azerbaijan have been identified. The article concluded the following: the war in Ukraine still continues to destabilize the world market. The Azerbaijan state should find alternative sources in a very short time.*

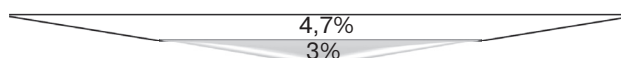
**Keywords:** *war in Ukraine, strategic food products, price increase, import market, alternative market, ECO member states.*

### INTRODUCTION

The war between Russia and Ukraine, which began on February 24, 2022, hit the world economy hard. This conflict has led to the acceleration of inflation and rising food prices even more.

Today, Ukraine was forced to suspend production and, consequently, suspend imports due to the war. According to the estimation of the Food and Agriculture Organization (FAO), 20–30 % of the soil used for the winter grain, corn and sunflower seeds in Ukraine in the 2022–2023 season will either not be planted or will remain unharvested (FAO, 2022).

The OECD informed that while the December 2021 report predicted a 4,5 % increase in global GDP in 2022, since the beginning of the war the processes occurred in commodity prices and the foreign exchange market will lead to a global GDP decline of more than 1 % and increase inflation by 2,5 % in 2022.



**Figure 1.** Forecast-2022

**Source:** compiled by the author.

The Ukraine-Russia conflict has already caused economic and financial shocks, especially rising oil, gas and wheat prices in commodity markets.

The World Trade Organization (WTO) has cut global trade growth from 4,7 % to 3,0 % in 2022, citing the conflict in Ukraine as a reason (**Figure 1**).

According to the WTO, military operations in Ukraine have hit the global economy, «forcing WTO economists to reconsider their predictions for world trade for the next two years.

The WTO expects goods trade to increase by 3,0 % in 2022, below the previous forecast of 4,7 %, and by 3,4 % in 2023 (**Figure 2**).

According to the WTO forecast, the rapid economic impact of the crisis is a sharp rise in product prices. According to the WTO notes, Russia and Ukraine, despite their small share in global trade and production, are major suppliers of basic goods, including food, fuel and energy products, and fertilizers.

Delays in grain supplies through Black Sea ports could have serious consequences for food security in poor countries.

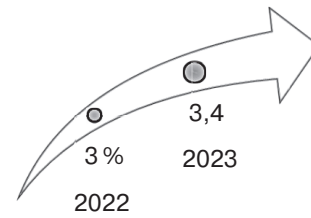
The main directions of the conflict impact are high energy and raw material prices, disruption of international trade.

Note that about 30 % of world grain exports belong to the share of these countries (Ukraine — 11,5 %, Russia — 16,8 %). About 17 % of the world’s corn exports and 64 % of sunflower oil fall on the share of Ukraine (**Figure 3**).

Russia and Ukraine export wheat to China, Turkey and India in addition to Africa and the Middle East. Also, the rise in fuel and energy prices also impacts in food prices. About 17,4 % of imports to Azerbaijan fall on food products and 2,6 % on fuel and energy carriers.

Azerbaijan has close trade relations with Russia and Ukraine. Russia and Ukraine are Azerbaijan’s first and seventh import partners. In 2021, \$ 2,1 billion and \$ 0,5 billion worth of goods were imported from these countries (ITC, 2015; www.trademap.org).

Trade turnover between Azerbaijan and Russia reached \$ 3,355 billion in 2021 and increased to 16,12 % compared to 2020. \$ 2,1 billion of this comes from imports from Russia and \$ 0,921 billion from exports to this country. Last year, trade with Russia accounted for 8,83 % of our foreign trade

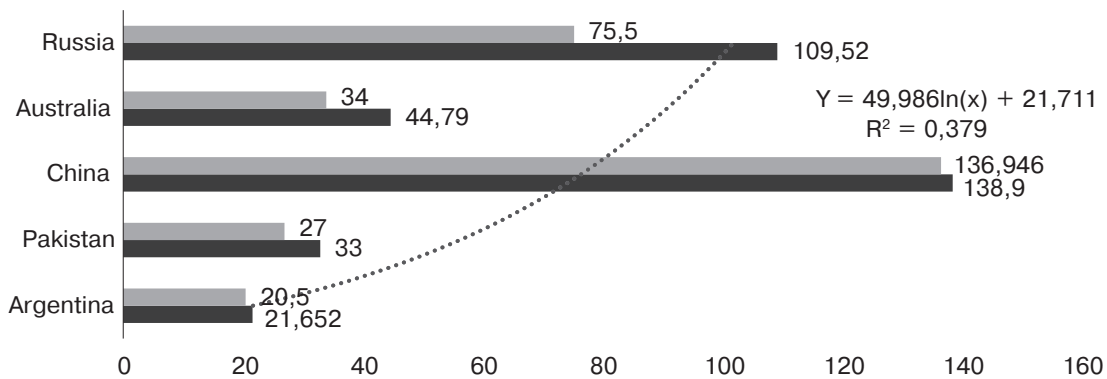


**Figure 2.** Forecast-2022-1

**Source:** compiled by the author.

turnover. In particular, the share of Russia in imports to Azerbaijan was 17,72 %, and in exports — 4,15 %. Compared to 2020, the volume of trade with Russia increased by 12,1 %, exports to this country by 29,8 %, imports from this country by 5,7 %.

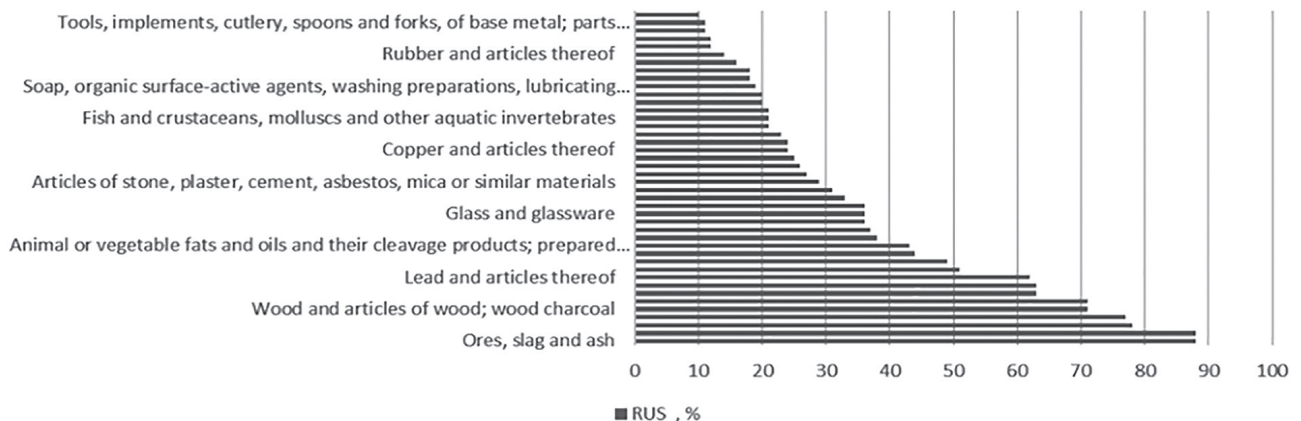
Azerbaijan imports 83 % of grain and 100 % of sugar from Russia. Russia’s share in grain imports is 98,8 %, Kazakhstan’s share is 1,2 %. One of the main products imported by Azerbaijan from Russia is wood products (100 million USD in 2021). Azerbaijan imports most products 100 % from Russia (**Figure 4**).



**Figure 3.** Wheat producers

**Source:** <https://latifundist.com/rating/top-10-stran-proizvoditelej-pshenitsy-v-2020/21-mg> (27.04.2022).

The main products imported from Russia



**Figure 4.** Top 10 products exported from Russia to Azerbaijan

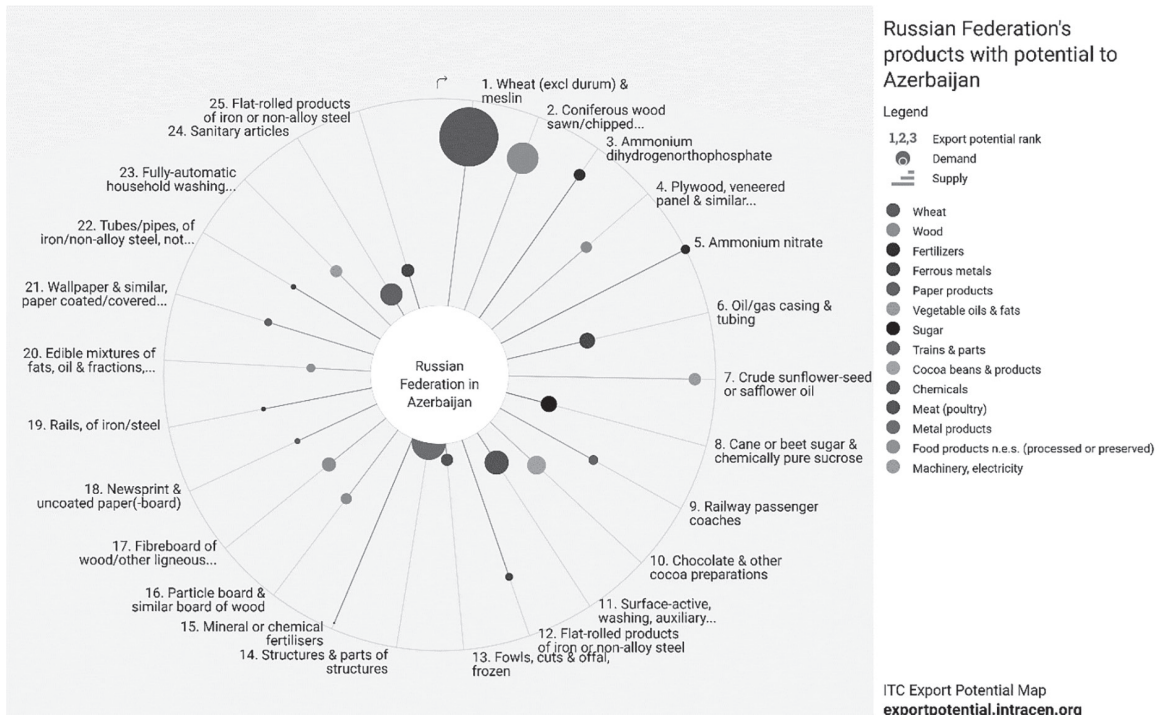
**Source:** Trade Statistics for International Business Development, www.trademap.org (27.04.2022).

Among the products exported from Russia to Azerbaijan, the products with the largest export potential are wheat (excluding durum varieties) and meslin, longitudinally sawn / gravel, chopped/peeled softwood, and ammonium dehydrogen phosphate. Russia has the highest potential for the supply of ammonium nitrate. The most popular products in Azerbaijan are wheat (except durum varieties) and meslin (Figure 5).

Ukraine is Azerbaijan’s second largest trading partner after Russia. The list of imported products from Ukraine contains tobacco products and cigarettes, meat and meat products, food products, and pharmaceuticals (Figure 6).

The list of imported products for both countries is sizeable.

On the other hand, in response to Russia’s military aggression against Ukraine, governments

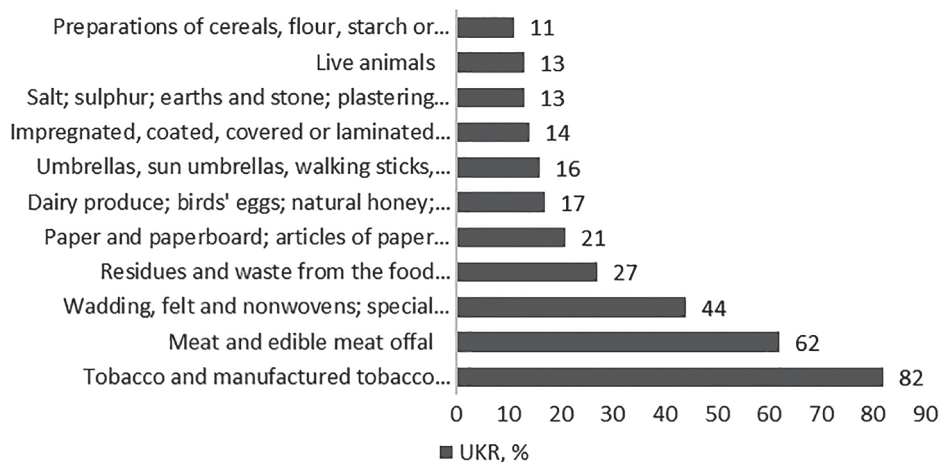


**Figure 5.** The products exported from Russia to Azerbaijan according to the export potential

**Source:** Export Potential Map, <https://exportpotential.intracen.org> (27.04.2022)\*

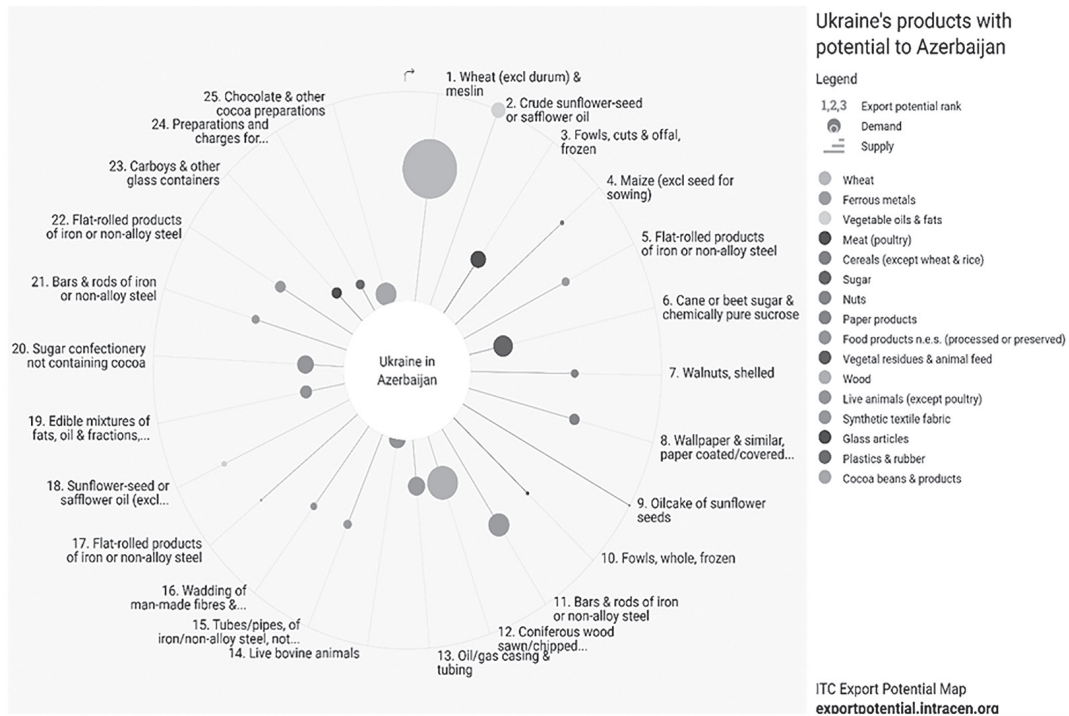
\*circle size Estimated cost of import (considering the specific tariff and distance advantage for the product); line length Forecasting market share(adapted to global tariff preferences and re-export filter).

### The main products imported from Ukraine



**Figure 6.** The main product imported from Ukraine

**Source:** Export Potential Map, <https://exportpotential.intracen.org> (27.04.2022).



**Figure 7.** The products exported from Ukraine to Azerbaijan according to the export potential

**Source:** Export Potential Map, <https://exportpotential.intracen.org> (27.04.2022).

\*circle size Estimated cost of import (considering the specific tariff and distance advantage for the product); line length Forecasting market share (adapted to global tariff preferences and re-export filter).

are imposing temporary trade measures as part of a package of economic sanctions and counter-sanctions.

The rapid destabilization in the region has led to further restrictions on the export of vital products such as food and fertilizer by a number of countries (<https://www.macmap.org>, 2022). Most countries have restricted the export of products.

Ukraine also suspended exports of socially important food products and certain types of raw materials on April 5, 2022 due to trade restrictions adopted in connection with the war. These include: rye, oats, buckwheat, millet, sugar, salt, meat, beef (<https://www.macmap.org>, 2022).

On April 15, 2022, Kazakhstan also announced restrictions on the export of wheat and flour. The restriction will remain in force until June 15. Today, the export quota for wheat is not more than 1 million tons, and flour is not more than 300,000 tons. The Central Asian country describes this as the threat of global famine.

Kazakhstan is the world's ninth largest exporter of wheat, exporting \$ 1 billion 137 million annually. Kazakhstan's export restrictions are the response to Russia's ban on grain exports to the Eurasian Economic Union (Armenia, Belarus, Kazakhstan, and Kyrgyzstan) (Order of the Minister of Agriculture of the Republic Kazakhstan No. 110, 2022).

Temporary trade and political measures should be held to mitigate supply disruptions and food price increases. In response to conflicts and consequent economic shocks, states take trade measures. The best way is to eliminate dependence on imports.

The stopping of imports from the countries causes a change in the supply-demand ratio in the Azerbaijani market and an increase in prices.

In this regard, the government is trying to optimize the prices of strategic food products as part of anti-inflation measures. Subsequent price changes will also depend on changes in world markets. The Cabinet of Ministers is trying to maintain stability in the provision of the demand for food products by promoting other alternative sources, including new incentive mechanisms. For example, negotiations are underway on the import of wheat from India.

Alternative markets are searched to prevent price increases. Of course, the best way is to eliminate dependence on imports. For instance, in 2021, wheat was planted on 595,000 hectares in the country. Practically, 38 % of arable land is used for wheat.

Annual wheat production is 1,9 million tons, and in recent years there has been an insignificant increase in production. The liberated territories were also involved in wheat production.

Products imported from Russia and Ukraine should be replaced by other countries. So, let's compare the export potential of the member countries of the Economic Cooperation Organization (ECO).

Let's analyze the export potential of strategic food products of the ECO member states. For this purpose, we will evaluate the export potential of countries on products using the tools of the International Trade Center such as the Market Access Map, Export Potential Map, etc. (<https://export-potential.intracen.org>).

### LITERATURE REVIEW

The export potential indicator determines the potential value of exports for a particular product and the target market for any exporter based on an economic model that combines the exporter's supply, target market demand, market access conditions, and bilateral relations between two countries.

The Product Diversification Indicator estimates the supply using the Product Space methodology (<https://exportpotential.intracen.org>), which links products that are matching with countries' export baskets. The supply is adjusted to the demand of the target market and the conditions of the market access.

We should note that the export potential map does not consider external shocks (climate and weather changes, war, etc.). Therefore, this map can be used as a reference point in decision making.

In the world experience, numerous studies have been done on the analysis of products in terms of trade. These studies are mainly focused on research represented by different countries or groups of countries, as well as the application of competitiveness, price changes, labor resources, innovative innovations, etc. Also, we should note that this type of research is more common in the work of international organizations.

Mathias I., Robert J. evaluated the comparative advantage of Central Asian economies in international trade. For this purpose, factor prices, transport costs, samples of historical production assortments, and geographical and product composition in the period under review were used (Lücke, M., & Rothert, J. (2006)).

Yingqi W. and Vudayagi B. jointly analyzed the processing industries of China and India. They studied the processing industry of India. They claimed that this is impossible for India to follow China's growth strategy based on exports of labor-intensive products (Wei, Y. & Balasubramanyam, V., 2015).

In his paper, Ulrich Schetter investigated, how to balance the comparative advantages between

quality products. For this purpose, he conducted a regression estimation on the basis of time series and identified an intense relation between per capita GDP and export quality (Schetter, U., 2016).

In the study, Asier Minondo (2011) analyzes the impact of countries' products' comparative advantage on the diversification of their exports. He tried to evaluate this claim using parametric and non-parametric methods.

The United Nations Industrial Development Organization researchers have studied the fields such as trade by country, diversification of production, comparative advantage, and economic growth. They mainly investigated whether the diversification patterns covering 177 countries between the years 1995–2015 were in line with the PS framework forecast. The results of this study have important political importance, especially for the design of industrial policies aimed at actively shaping the structural transformation of countries.

Imran M., Zhang G. and An H. (2017) analyzed the impact of trade costs and comparable technology on the location of the industry for the Chinese economy.

Visser M., Pisa N. M., Kleinhans E. P. J., and Wait R. (2015) evaluated the comparative advantages of the product and industry across South Africa's Province. On this basis, they identified products/

Suleymanov A., Mehdiyev M., Musayev R., Orujova M., and Huseynov V. (2021) analyzed regional markets in Azerbaijan's economy in terms of heavy industry and engineering products. And this can be accepted as the basis of this paper.

The formation of the manufacture of competitive products in the field of promoting the diversification of the economy, as well as the development of the non-oil sector.

### METHODOLOGY

The International Trade Center (ITC) has developed a methodology for evaluating export potential. Based on detailed trade and market access data, this allows to identify existing products in the target market with high export potential and / or diversification opportunities, depending on the needs of the country (ITC, 2018):

- Export Potential Indicator (EPI) — serves countries trying to increase exports to new or existing target markets in order to support existing export sectors. This identifies the products that have proven to be internationally competitive and have good export success in specific target markets.
- The Product Diversification Index (PDI) — serves countries that aim to diversify and develop new export sectors that face promising

demand conditions in new or existing target markets.

ITC's export potential assessment methodology is based on detailed trade and market access statistics to identify products or sectors of a country with export potential in existing or new markets. This can be used to calculate the volume of unrealized export potential at the sector level. The export potential assessment is based on the division of the country's share in total exports into the supply and demand component. World demand is replaced by demand in a specific target market (including market exit conditions). Although a country's ability to supply existing products (EPI) is measured by a comparative advantage found, its ability to diversify into new products (PDI) is based on Hausmann and Hidalgo's concept of product space (Hidalgo, C.A. et al., 2007).

The first approach — EPI — is based on a structural model that (i) identifies potential shares of products from supply and demand opportunities and (ii) converts them into potential values using bilateral export projections. Any difference between the products that countries can export or they actually export depends on the factors that trade consultants can work with local companies, such as target market rules or lack of knowledge about the consumer (quality) preferences, or difficulties in complying with them or in meeting the requirements. Given (unused) potentials point to short-term opportunities to increase exports.

The second approach — PDI — is based on the product space concept. Export potential assessment improves the evaluation of new products based on trade data by considering the natural resources that are the basis for the country's ability to produce certain products. The product area does not allow for a targeted assessment of potential trade values, and therefore only ratings of diversification opportunities are provided in a particular country or regional market. These products should be considered as diversification options providing export earnings in the medium and long term.

Thus, although exports to some markets are significantly lower than potential, they can often exceed export potential to other traditional markets (ITC, 2018).

Data from the Internet portal of the International Trade Center (ITC) [trademap.org](http://trademap.org), the World Trade Organization and the United Nations, and the State Statistics Committee (SSC) of the Republic of Azerbaijan ([www.stat.gov.az](http://www.stat.gov.az)) were used as a database.

The International Trade Center's tool Export Potential Map identifies products, markets, and suppliers with export potential for 226 countries

and territories, as well as 4,376 products, and export diversification opportunities. Based on the ITC export potential methodology, the Export Potential Map evaluates export performance, target market demand, market access conditions, and bilateral relations between exporting and importing countries to rank unused opportunities.

The data was collected during the customs clearance of products in foreign trade using 6-digit codes of the Harmonized System of Commodity Nomenclature of Foreign Economic Activity. The database covers the years 2001–2020, expressing import and export indicators in value and natural.

The database collected on the Harmonized System was processed and the local markets with the highest demand were identified by calculating the localization coefficients of strategic food products on the pattern of Azerbaijan and the Economic Cooperation Organization on the basis of imports.

#### ***Analysis Of The Replacement Possibility Of Some Imported Products In Azerbaijan With Eco Member States***

Azerbaijan is a member of the Economic Cooperation Organization (ECO). ECO's foresight for 2025 is to increase its share in world trade and use its trade potential for economic growth.

Import to Azerbaijan is \$ 11,706 billion. About 18 % falls on Russia, 4 % on Ukraine, 21 % on ECO member states, and 55 % on other states ([www.stat.gov.az](http://www.stat.gov.az)).

1. The import turnover of Azerbaijan with ECO member states is \$ 2,5 billion. Can ECO member states replace imports from Ukraine and Russia?

2. Can ECO member states be considered as an alternative market?

In the paper, we carry out analysis and evaluation to find answers to these and other similar questions.

Azerbaijan has trade agreements with ECO member states. Some ECO countries are also members of the Commonwealth of Independent States (CIS). In addition to common agreements with ECO member states, bilateral and country-to-country agreements with individual countries are also in force.

Let's carry out some analysis based on the export potential of strategic food products of the ECO member states. For this purpose, we will use the tools such as Market Access Map ([www.trademap.org](http://www.trademap.org)), Export Potential Map (<https://exportpotential.intracen.org>), Export Potential Map (<https://www.macmap.org>).

As known, the price of wheat, a strategic food product, is rising on the world market, and many countries have banned its export. Azerbaijan's annual wheat demand is 3,5 million tons. About 40 %

of wheat demand in Azerbaijan is met through imports (1,4 million tons). The main potential suppliers for the export of 1001Xb Wheat (excluding the durum) and meslin to Azerbaijan are the Russian Federation, Ukraine, and Kazakhstan. Turkey is the main candidate from the ECO member states, as all three countries have banned exports.

After the three main importers, Turkey has the highest export potential among ECO countries in terms of exports of **1001Xb Wheat (excluding the durum) and meslin products** to Azerbaijan. Another exporter of this product is India. Azerbaijan is negotiating with them.

Turkey has the closest export relations with Azerbaijan. The total trade turnover with Azerbaijan is \$ 1,6 billion. Export potential of Turkey for Wheat (excluding the durum) and meslin products is \$ 1,2 million. Real exports are \$ 138,000, unused potential is \$ 1,1 million, and exports are \$ 2,2 million.

**Table 1** demonstrates information on ECO member states and India with the potential to export Wheat (excluding durum) and meslin.

**0201 Bovine cuts bone in fresh or frozen** is imported to Azerbaijan mainly from Belarus (**Table 2**).

Belarus, Poland, and the Netherlands are the largest suppliers with the potential to export 0201Bovine cuts bone-in, fresh or frozen to Azerbaijan. Russia has the closest export relations with Azerbaijan. Poland has the highest supply capacity.

**Table 3** shows the countries with high export potential among ECO member states. Considering that Kazakhstan has imposed restrictions on exports, then Pakistan is more suitable importer. Pakistan's exports on 020120Bovine cuts bone-in, fresh or frozen products are \$ 46 million.

The United States, Ukraine, and Belarus have the most significant potential to export 020220

Table 1

**Information on ECO member states and India with the potential to export Wheat (excluding durum) and meslin**

Country	Export potential (mln. USD)	Real exports (mln. USD)	Unused potential (mln. USD)	Total exports (mln. USD)	Total trade turnover (mln.USD)
Kazakhstan	24	27	–	844	141
Turkey	1,2	0, 138	1,1	22	1600
Uzbekistan	0,62	0	0,62	20	43
India	0,217	0	0,217	110	80
Iran	0,025	0	0,025	2,2	359

**Source:** Potential to export India, <https://oec.world/en/profile/country/ind> (2020).

Table 2

**0201 Countries importing bovine cuts in fresh or frozen to Azerbaijan**

Exporters	Import value in 2020 (thousand USD)	Trade balance 2020 (thousand USD)	Share in Azerbaijan's imports (%)	Imported quantity in 2020	Quantitative unit (USD / unit)	Unit Value (USD / Unit)
World	3927	–3924	100	1215	Tons	3232
Belarus	3596	–3596	91,6	1151	Tons	3124
Ukraine	161	–161	4,1	50	Tons	3220
Luxembourg	91	–91	2,3	5	Tons	18200
Russia	30	–30	0,8	1	Tons	30000
Kazakhstan	22	–22	0,6	6	Tons	3667
USA	20	–17	0,5	1	Tons	20000
Netherlands	5	–5	0,1	0	Tons	
Belgium	1	–1	0	0	Tons	

**Source:** Bovine carcasses and half carcasses, fresh or chilled, <https://oec.world/en/profile/hs/bovine-carcasses-and-half-carcasses-fresh-or-chilled> (2020).

Bovine cuts bone-in, frozen (excluding carcasses and half carcasses) to Azerbaijan. Turkey has the closest export relations with Azerbaijan. The United States has the highest supply capacity. Kazakhstan, Turkey, and Pakistan have the highest export potential among the ECO countries. Pakistan's exports of this product are \$ 2 million (Table 4).

Ukraine and Russia are the main countries with potential to import **020714** frozen cuts and edible offal of fowls of the species *Gallus domesticus*.

The United States, Brazil and the Netherlands are the main countries in the world with potential to import **020714 frozen cuts and edible offal of fowls of the species *Gallus domesticus***. Chile has the largest export relationship with the rest of

Table 3

**Information on ECO member states with the potential to export 020120 Bovine cuts bone-in, fresh or frozen products**

Country	Export potential (mln USD)	Real exports (mln. USD)	Unused potential	Total exports (mln. USD)	Total trade turnover (mln.USD)
Kazakhstan	0,94	0,73	0,89	6,2	141
Pakistan	0,6	0	0,6	46	13

Source: Bovine carcasses and half carcasses, fresh or chilled, <https://oec.world/en/profile/hs/bovine-carcasses-and-half-carcasses-fresh-or-chilled> (2020).

Table 4

**Information on ECO member states with the potential to export 020220 Bovine cuts bone-in, frozen with bones (excluding carcasses and half carcasses)**

Country	Export potential (mln USD)	Real exports (mln. USD)	Unused potential	Total exports (mln. USD)	Total trade turnover (mln.USD)
Kazakhstan	3,37	0	3,37	2,3	141
Pakistan	0,27	0	0,27	2	13
Turkey	0,50	0,000001	0,50	0,197	1600

Source: Bovine carcasses and half carcasses, fresh or chilled, <https://oec.world/en/profile/hs/bovine-carcasses-and-half-carcasses-fresh-or-chilled> (2020).

Table 5

**Countries with potential to import 020714 frozen cuts and edible offal of fowls of the species *Gallus domesticus* to Azerbaijan**

Exporters	Import value in 2020 (thousand USD)	Trade balance 2020 (thousand USD)	Share in Azerbaijan's imports (%)	Imported quantity in 2020	Quantitative unit (USD / unit)	Unit Value (USD / Unit)
World	22866	-22866	100	19151	Tons	1194
Ukraine	17569	-17569	76,8	15556	Tons	1129
Russian Federation	4613	-4613	20	3088	Tons	1494
Belarus	423	-423	1	183	Tons	2311
Moldova, Republic of	99	-99	0,4	153	Tons	647
Canada	80	-80	0,3	103	Tons	777
Turkey	55	-55	0,2	46	Tons	1196
Georgia	27	-27	0,1	22	Tons	1227

Source: Bovine carcasses and half carcasses, fresh or chilled, <https://oec.world/en/profile/hs/bovine-carcasses-and-half-carcasses-fresh-or-chilled> (2020).



Table 6

**Countries with potential to import 151219 sunflower-seed or safflower oil (except crude) and fractions to Azerbaijan**

Exporters	Import value in 2020 (thousand USD)	Trade balance 2020 (thousand USD)	Share in Azerbaijan's imports (%)	Imported quantity in 2020	Quantitative unit (USD / unit)	Unit Value (USD / Unit)
World	11743	-5055	100	11963	Tons	982
Russian Federation	10643	-10643	90,6	11094	Tons	959
Turkey	817	-817	7	645	Tons	1267
Ukraine	205	-205	3	183	Tons	1120
Italy	62	-62	0,5	32	Tons	1938
Belarus	9	-9	0,1	6	Tons	1500
Germany	3	-3	0	1	Tons	3000
Iran	2	-2	0	2	Tons	1000
Spain	1	-1	0	0	Tons	

**Source:** [https://wits.worldbank.org/trade/comtrade/en/country/ALL\(2020\)..və ya zəfəran yağı \(xamdan başqa\) və fraksiyaları məhsulu.](https://wits.worldbank.org/trade/comtrade/en/country/ALL(2020)..və%20ya%20zəfəran%20yağı%20(xamdan%20başqa)%20və%20fraksiyaları%20mehsulü)

the world for this product, while Brazil has the highest potential supply in the category.

**A higher export suggestion among ECO member states may come from Turkey.** Turkey's potential to export **020714 frozen cuts and edible offal of fowls of the species Gallus domesticus** is \$ 306 million.

Real export is \$ 214 million, unused potential is \$ 177 million, export is \$ 214 million.

Another strategic products are 151219 sunflower-seed or safflower oil (except crude) and fractions. The main importer of this product is Russia.

Unused potential is \$ 1,1 billion, real exports are \$ 505 million, exports are \$ 505 million.

Turkey's potential to export 151,219 sunflower-seed or safflower oil (except crude) and fractions to Azerbaijan is \$ 6,9 million. Real export is \$ 725,000, unused potential is \$ 6,2 million, and export is \$ 505 million.

Turkey has the greatest absolute difference between potential and real exports in terms of value, allowing for additional exports worth \$ 619 million. The unused potential is \$ 619 million, and exports are \$ 505 million.

Another country with high export potential is the state of Kazakhstan. Kazakhstan's export potential 151219 sunflower-seed or safflower oil (excluding crude) and its fractions is \$ 149,000. There are no real exports, the unused potential remains at 149 thousand US dollars, exports are 18 million US dollars.

**Conclusion and Recommendation**

The impact of external shocks on the economy is inevitable. In recent years external shocks

such as the pandemic, the rise in world prices as a result of the war in Ukraine, the bans imposed by states on the export of strategically important products, political bans, etc. make the economic crisis inevitable.

The ratio of supply and demand in the market changes. Various countries enter the market with their products, while others leave the market. In this case, making forecasts of price changes is difficult. The price change will directly depend on changes in the market.

Countries are trying to find more stable new importers and are negotiating. The Azerbaijani government is also looking for new alternative sources. For instance, we are negotiating with India on wheat imports and increasing the area under crops. In addition, the Azerbaijani state can expand trade relations with other countries. In our study, we identified only the countries with high export potential among ECO member states for some products.

The analysis of some strategic food officials demonstrates that Turkey is the country with the highest export potential for Azerbaijan in terms of strategic food products among the ECO countries. Azerbaijan's trade turnover with Turkey is \$ 1,6 billion, and it is possible to increase this turnover.

Turkey has 1,1 million USD unused export potential for wheat (excluding the durum) and meslin, 0,5 million USD for Bovine cuts bone-in frozen, 177 million USD for the export of frozen cuts and edible offal of fowls of the species Gallus domesticus, and 619 million USD for sunflower-seed or safflower oil (except crude) and fractions.

Table 7

## Countries with high potential to export some products to Azerbaijan

Product	Unused potential by countries (million USD)				
	Turkey	Kazakhstan	Pakistan	Uzbekistan	Iran
Wheat (excluding the durum) and meslin	1,1	0	–	0,62	0,025
Bovine cuts bone-in, frozen (excluding carcasses and half carcasses)	0,5	3,37	0,27	–	–
Frozen cuts and edible offal of fowls of the species <i>Gallus domesticus</i>	2,7	0,062	–	–	–
Sunflower-seed or safflower oil (except crude) and fractions	505	0,149	–	–	–
Bovine cuts bone-in fresh or frozen		0,89	0,6	–	–

Source: <https://www.worldbank.org/en/research/commodity-markets> (2020).

Although the Kazakhstan, one of the ECO member states, imposes restrictions on some products until July, this country also has a high export potential. Pakistan is the third high-potential country among ECO member state (**Table 7**).

The war in Ukraine still continues to destabilize the world market. The Azerbaijan state should find alternative sources in a very short time. Also, for the import of state strategic food products, trade policy should be improved to stimulate production, export potential and import market should be diversified, competitive production should be achieved and quality, competitive products should be promoted by supporting production activities based on local raw materials.

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### **ЗМЕНШЕННЯ НАСЛІДКІВ ВІЙНИ В УКРАЇНІ: АНАЛІЗ ЗБІЛЬШЕННЯ ІМПОРТУ ПРОДОВОЛЬСТВА З КРАЇН – ЧЛЕНІВ ОРГАНІЗАЦІЇ ЕКОНОМІЧНОГО СПІВРОБІТНИЦТВА ДО АЗЕРБАЙДЖАНУ**

**Резюме.** У статті проаналізовано стабілізацію ситуації в Азербайджані на тлі зростання цін на продовольство на світових ринках унаслідок війни в Україні. Автори вивчили вплив російсько-української війни на світовий та азербайджанський ринки імпорту. Проаналізовано можливості заміщення імпорту найбільших імпортерів Азербайджану, Росії та України країнами – членами Організації економічного співробітництва. Також було досліджено питання про те, чи можна розглядати держави, які є членами цієї організації, як альтернативні ринки. Для пошуку відповідей на ці та інші питання було здійснено аналіз та оцінку. У результаті, використовуючи такі інструменти Центрів міжнародної торгівлі, як карта доступу до ринку, карта експортного потенціалу тощо, були ідентифіковані три держави – члени Організації економічного співробітництва (Туреччина, Казахстан і Пакистан) з високим потенціалом стратегічних продуктів харчування для Азербайджану. У статті зроблено такий висновок: війна в Україні, як і раніше, продовжує дестабілізувати світовий ринок; Азербайджан має в найкоротші терміни знайти альтернативні джерела.

**Ключові слова:** війна в Україні, стратегічні продукти харчування, підвищення цін, ринок імпорту, альтернативний ринок, країни – члени Організації економічного співробітництва.

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## ІННОВАЦІЙНІ СТИМУЛЯТОРИ ПРОРОСТАННЯ ЗЕРНА ПРИРОДНОГО ПОХОДЖЕННЯ

**Резюме.** Важливим питанням агротехнологічного сектору України є винайдення оптимальних умов і ресурсів для пророщування зерна різних культур. Для їх швидкого росту, стійкого перенесення зміни умов, виробництва високоякісної продукції довготривалого зберігання необхідні інноваційні технологічні чинники. Задля отримання необхідних технологічних властивостей пророслого зерна було досліджено та встановлено те, який саме природний стимулятор проростання найкраще відповідає вимогам сьогодення. Для пророщування було обрано насіння маша (бобів мунг), а в ролі стимулятора проростання використовували подрібнену яечну шкаралупу, хлорофіліпт, кальцій глюконат. Було відмічено покращення смакових якостей пророслого зерна та підвищення показників проростання.

**Ключові слова:** мікрогрін, здорове харчування, вітаміни, зернобобова культура маш (боби мунг), ґрунт, стимулятори росту природного походження.

### ВСТУП

На сучасному етапі величезний вплив на здоров'я має якісне, різноманітне, раціональне харчування. Так, у дослідженні [1] було визначено стан економічної доступності продуктів харчування як складової економічної безпеки України. Доступність продуктів харчування є одним із головних компонентів продовольчої безпеки, що визначає рівень споживання їжі, збалансованість харчування, якість та тривалість життя.

Варто зауважити, що Україна є однією з держав, що забезпечують харчову стабільність у світі [2].

Тому насамперед перед науковцями постає задача максимально забезпечити промисловість новітніми розробками у сфері харчування та переробної промисловості, з мінімальною шкодою для навколишнього середовища або взагалі виключити будь-які ризики для екології, економіки країни і світу [3].