

# OPPORTUNITIES FOR KAZAKHSTAN'S AGRICULTURAL EXPORTS TO THE CHINESE MARKET

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## ABSTRACT

This research delves into the dynamic relationship between China and Kazakhstan in the realm of agri-food trade, exploring the evolving landscape from 2012 to 2022. China, as the world's second-largest economy, commands a significant share in global agri-food imports, presenting a lucrative opportunity for Kazakhstan. Notably, China represents about 8% of the world's agri-food imports and stands as Kazakhstan's largest trading partner. In 2021, China emerged as one of the top four largest buyers of Kazakh food. Crucially, as China's middle-income population continues to expand, the domestic market presents substantial potential. This demographic shift has implications for the evolving demand in China's agri-food market and offers an avenue for Kazakhstan to tap into this growing consumer base. Despite being one of Kazakhstan's major trading partners, the country currently holds a modest share of China's agri-food market. The Kazakh government, aligning with China's "Belt and Road" initiative, aspires to double agricultural exports by 2025. Our analysis underscores the growing demand in China's agri-food market and its potential for Kazakhstan. Challenges such as technical disparities, logistical limitations, and institutional constraints are identified, necessitating collaborative solutions. The conclusion emphasizes the need for concrete actions, including technological advancements, infrastructure improvement, and standards harmonization, to enhance Kazakhstan's competitiveness in the Chinese market.

**Keywords:** agricultural economy; agro exports; agricultural products; international trade; index of the revealed comparative advantage; export potential

## INTRODUCTION

This original research aims to identify specific differentiators and assess the development opportunities of Kazakhstan's agricultural export potential for the People's Republic of China. The study takes into account trade dynamics, complementarity, and the pros and cons in terms of potential supply opportunities to the entire market.

The structure of agricultural product exports from the Republic of Kazakhstan to China could be key in evaluating its significance for the contemporary global economic landscape. Rich and extensive lands, coupled with a suitable climate, allow for the production of a wide range of products for international trade. This goes beyond economic growth, encompassing flexible expansion of trade ties and diversification of trade routes between countries. Government efforts in Kazakhstan have led to the adoption of measures to maintain a growing level of exports, emphasizing the importance of such a working process.

Furthermore, Kazakhstan's location at the intersection of Europe and Asia creates an ideal central platform for the Belt and Road Initiative (BRI), providing access to a vast market with over 4 billion consumers. Government efforts to modernize and upgrade transportation infrastructure, including the construction of new roads, railways, and airports, further enhance the country's competitiveness in the region and its ability to leverage BRI advantages. The creation of special economic zones and the improvement of business conditions also create more favorable conditions for foreign investments and trade. Overall, Kazakhstan's favorable conditions, combined with the government's commitment to reforms and development, position it as a country benefiting significantly from the BRI (Lee, 2018).

As of 2020, Kazakhstan has 39 million hectares suitable for agriculture and 179 million hectares for livestock farming. Approximately 70% of the country's territory is dedicated to agriculture and animal husbandry, employing 20% of the working population. The government's key task is to increase the efficiency of agribusiness to strengthen its contribution to the overall economy and implement effective mechanisms to achieve set goals. Kazakhstan exports around 6 million tons of wheat annually, including 444 thousand tons to China. The highest wheat

export index in the last decade was recorded in 2022 (Buyanov, 2022).

Cooperative structures are a growing influence in Kazakhstan's agricultural economy. Financing and support for the activities of small farms involve agricultural cooperators. In 2016, the Ministry of Agriculture of Kazakhstan conducted 157 operations aimed at special funding for cooperatives. These financial injections contributed to the acquisition of means for storing and transporting agrochemicals and other products by 15 thousand farms united in 157 cooperatives (Demchenko, 2022).

The evolution of Kazakhstan's agrarian economy was studied by Mutaliyeva et al. (2023), revealing that until the 1920s, livestock farming predominated in the agricultural sector, while in the 1960s-1970s, the production of agricultural and fruit-berry crops became the main share of the modern agrarian economy of Kazakhstan.

Currently, the Republic of Kazakhstan actively participates in global trade operations focused on exporting agricultural products, including grains, meat, and other agricultural goods. However, the lack of scientific research systematically evaluating and analyzing Kazakhstan's competitive advantages in the context of trade relations with China makes this study relevant and innovative.

The need for such analysis is driven by the dynamic nature of the global market and the necessity for a systematic examination of trade strategies that can contribute to optimizing and expanding agricultural export flows between Kazakhstan and China. The proposed study, focusing on identifying and analyzing competitive advantages, complementarity aspects, and the prospects of agricultural export development, not only fills a gap in existing scientific literature but also provides valuable recommendations for the formulation of effective agricultural trade strategies between the two countries.

## LITERATURE REVIEW

In recent years, scientific interest has been centered on contemporary aspects of issues within the agricultural sector. Scholars have been exploring various strategies to enhance the export potential and competitiveness, both concerning meat (Tazhibayev et al., 2014) and dairy products (Petrick et al., 2014;

Toleugaliyeva et al., 2021; Han et al., 2022; Nurtayeva, 2022; Dambaulova, 2022).

The export competitiveness of a country or region is defined as its ability to penetrate and conquer markets and the ability to make a profit in the foreign markets where its products are sold (Farinha et al., 2018).

The nation's agricultural sector has the potential to be a significant source of export revenue, which will bolster its standing economically and internationally. Accordingly, positioning and promoting domestic products in both the home and export markets is crucial to boosting the competitiveness of domestic agricultural and processed goods (Zhussupov et al., 2022).

A nation's ability to export agricultural goods and the sustainability of its agricultural sector are both important factors in determining how competitive its agricultural exports are. Encouraging the international competitiveness of agricultural products while preserving the agricultural industry's sustainability is a critical issue for a nation with a sizable agricultural sector (Long, 2021).

Today, dynamic changes are taking place in the external and internal agro-industrial markets of Kazakhstan, where access to the Chinese agricultural market remains a priority. As an integral part of the Silk Road revival initiative, China has a significant impact on Kazakhstan's development prospects, including its agricultural economy (Kantarbayeva et al., 2020).

Results of past studies have shown that the level of development of logistics, rail and road transport, the degree of economic development, the size of the market, and the common border of the countries of Central Asia, including Kazakhstan, have a positive impact on the development of supply chains at different levels of significance. Geographical advantage plays a positive role in promoting the qualitative development of the cross-border supply chain of agricultural products. China has a common border with Kazakhstan (as well as Kyrgyzstan and Tajikistan), and the share of imports and exports of agricultural products is significantly higher than in other Central Asian countries (Kahaer et al., 2022, Ibyzhanova et al., 2024).

Because Kazakhstan sits on the shortest land routes connecting Europe and Asia, the government is utilizing its transit potential by launching the "Nurly Zhol-Bright Path" national

program. Stated differently, the "One Belt, One Road" plan has partially realized the state's geo-economic objective of serving as a transit bridge between Europe and Asia. While the nation is transitioning from a landlocked state to a transit hub, it also gains easier access to the biggest markets in the world—China and Europe. It is the greatest economic opportunity Kazakhstan has had since attaining independence (Meirambekov and Abdkhodaei, 2022).

A feature of China's economic development is a huge domestic and dynamically growing market with a population of more than 1.4 billion people (Can, 2023). It should be noted that China accounts for about 10.6% of the world's agri-food imports and is one of Kazakhstan's largest trading partners. In addition, in 2022, China entered into the top 3 largest buyers of Kazakh food.

The driver for the development of foreign trade relations in the food sector is the growing demand for food in China. The domestic market in China has a significant potential capacity due to its large population (Megits, 2020). In addition, until recently, the main emphasis in ensuring food security in the country was on achieving the physical volume of food necessary to provide the population with food. However, now the emphasis has shifted towards improving the quality and diet (Kuznetsova et al., 2018).

## METHODOLOGY

Data from the International Trade Center on the export and import of agri-food products in line with HS CODE's commodity nomenclature served as the foundation for this study. The time frame covered in this research is the period from 2012 to 2022, which provides a sufficient time horizon to identify long-term changes in the structure of comparative advantage. The study's main objective is to analyze export specialization, identify the pattern of comparative advantage, and identify possible adjustments in the export structure to maximize the benefits of trade with the study subjects as partners.

The methodological approach has previously been widely employed in the scientific works of various scholars (Pawlak and Smutka, 2022; Markovic and Baran, 2019; Naumov et al., 2020; Juric et al., 2020), where the trading cost was expressed in U.S. dollars at current prices.

The comparative advantage analysis was

conducted at the level of two-digit Harmonized System (H.S.) nomenclature, which is a standard approach widely used in the literature (Pawlak K., 2022; Szczepaniak I., 2019; Carraresi L., 2015). For a more specific identification of export specializations in these two-digit groups, 4-digit H.S. positions with the highest export potential were identified.

The agri-food trade complementarity indices were generated by groups 1-24 of HS CODE at the level of two signs for the period 2012-2022 to determine the degree of similarity between the commodity structure of Kazakhstan's exports and the commodity structure of China's imports. Such indices were computed using the following formula for a certain year:

$$TCI = \left[ 1 - \left( \left| \frac{x_{i,s}}{X_s} - \frac{m_{i,d}}{M_d} \right| \right) \cdot \frac{1}{2} \right] \cdot 100\%, \quad (1)$$

where  $i$  – is the set of goods (product groups over 2 chars of HS CODE);  $s$  – state - exporter;  $d$  – state - importer;  $m_{i,d}$  – state  $d$ 's import of  $i$  - goods worldwide;  $M_d$  – import  $d$  of agricultural products worldwide;  $x_{i,s}$  – export of  $s$  state of products  $I$  to worldwide;  $X_s$  – export of state -  $s$  of agricultural goods worldwide. The complementary index takes values from 0% to 100%. The minimum number shows that the export and import profiles of the relevant trading partners are completely out of line. The maximum value identifies the exact alignment of partners' export and import structures.

The revealed comparative advantage (RCA) index (Balassa, 1965) was used to determine the characteristics of Kazakhstan's production efficiency of various types of agri-food products in comparison to other nations. The formula used to calculate this index is:

$$RCA_i = \frac{x_i/X}{x_{wi}/X_w}, \quad (2)$$

where  $x_i$  – is the export of goods  $I$  of the country in review;  $X$  is – the total export of the target country;  $x_{wi}$  – is the world export of  $I$ ;  $X_w$  – is compound world export. If  $RCA > 1$ , a nation has a distinct comparative advantage for that commodity.

The export potential of a product is typically directly correlated with its RCA value.

To determine the comparative advantage, the method of measuring the cost of resources in the domestic market, described in the works of Monke and Pearson (1989) is applicable. DRC is defined as the value of the opportunity cost of domestic factors of production per unit of

surplus product, expressed in world prices. The social value thus corresponds to the benefit derived from a decrease in imports or an increase in exports in the expansion of domestic production. DRC determines the efficiency of production using domestic resources to win a unit of international exchange. The factors of production offered on the international market are valued at world prices, and the resources of the domestic market are valued at the cost of their alternative use (Fane, 1995).

DRC is calculated by the formula:

$$DRC_{ij} = c_{ij}^d/p_{ij} - c_{ij}^f, \quad (3)$$

where  $c_{ij}^d$  and  $c_{ij}^f$  – the cost of domestic and foreign factors of production for the production of the product  $i$  in country  $j$ ,  $p_{ij}$  – the world price of the finished product.

$DRC_{ij} < 1$  serves as an indicator that a country has a comparative advantage in the production of a product  $i$

The lower the DRC, the higher the country's advantage in producing a particular product.

For the products most in demand in the Chinese market, the degree of realization of Kazakhstan's export potential was calculated as the ratio of the actual volumes of supplies in 2022 of a certain product to the potential volumes of supplies of the same product obtained based on the Export Potential Map of the International Trade Center (Export Potential Map, 2022).

## DISCUSSION

China is the world's largest economy after the U.S. and has one of the largest and fastest-growing food and agricultural production sectors. It represents 10.7% (\$209.0 billion) of the world's agri-food imports, a sizeable share. China is also one of Kazakhstan's largest trading partners, having risen to third place in Kazakhstan's agri-food exports in 2022. At the same time, however, Kazakhstan currently occupies a relatively small share of the agri-food market of China (0.1%), supplying mainly wheat, seeds, and oils from flax, sunflowers, safflowers, and barley [ITC Trade Map].

However, the Kazakh government aims to increase the value of exports as part of the implementation of the "One Belt, One Road" initiative, as well as the policy of creating a highly productive export-oriented agricultural sector. The Decree of the Government of the

Republic of Kazakhstan set an ambitious task of increasing exports of agricultural products from \$3.3 billion in 2019 to \$6.6 billion in 2025 (National project for the development of the agro-industrial complex of the Republic Kazakhstan for 2021 - 2025, 2021).

The Chinese market is one of the fastest-growing agri-food markets in the world. In 2021, China ranked first in imports of soybeans, beef, and frozen fish, second in imports of rapeseed, rapeseed and sunflower oil, and crustaceans, third in imports of oats and pork, and fourth in imports of soybean oil.

China accounts for a significant share of world imports of pork – frozen, offal, hams, soybeans, and, to a lesser extent, oilseeds, meat, fish, dairy products, and vegetable oils. Overall, China is the

second largest importer of food products (\$121.2 billion) after the United States.

In terms of China's agri-food imports, the distribution is as follows. Oilseeds and fruits (29%); edible meat by-products (15%); cereals (10%); fats and oils (8%); fruits and nuts (8%); fish and crustaceans (7%); dairy products and honey (5%); finished products from cereals and flour (3%); and alcoholic and non-alcoholic beverages (3%) (see Table 1).

Forecast data on demand for the main types of agri-food products in China until 2025 show an upward trend for sugar -12%, flour - 11.3%, soybeans, barley - 11%, butter -10.6%, lamb - 10.2%, corn - 8.6% and poultry meat - 7.8% (see Table 1).

**Table 1.** Forecast of demand for the main types of agri-food products in China until 2028 according to OECD-FAO, thousand tons

| Product              | 2021    | 2022    | 2023    | 2024    | 2025    | 2026    | 2027    | 2028    | 2028 to 2021 in % |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|-------------------|
| Wheat                | 134 171 | 136 117 | 137 806 | 139 355 | 140 243 | 141 172 | 142 209 | 143 518 | 7.0               |
| Maize                | 291 397 | 294 542 | 299 481 | 302 714 | 306 313 | 308 674 | 313 060 | 316 499 | 8.6               |
| Rice                 | 153 598 | 154 115 | 154 426 | 154 903 | 155 376 | 155 785 | 156 155 | 156 547 | 1.9               |
| Soy                  | 115 083 | 116 744 | 118 557 | 120 357 | 122 152 | 123 995 | 125 862 | 127 742 | 11.0              |
| Other oilseeds       | 34 890  | 35 371  | 35 899  | 36 485  | 37 064  | 37 556  | 37 944  | 38 433  | 10.2              |
| Protein flour        | 99 030  | 100 657 | 102 189 | 103 837 | 105 417 | 107 020 | 108 612 | 110 261 | 11.3              |
| Vegetable oils       | 39 403  | 39 795  | 40 188  | 40 595  | 41 022  | 41 431  | 41 828  | 42 246  | 7.2               |
| Sugar                | 17 811  | 18 138  | 18 447  | 18 745  | 19 039  | 19 339  | 19 647  | 19 947  | 12.0              |
| Beef and veal        | 7 899   | 7 958   | 8 040   | 8 107   | 8 173   | 8 253   | 8 331   | 8 393   | 6.3               |
| Pork meat            | 56 259  | 56 696  | 57 120  | 57 545  | 57 974  | 58 404  | 58 822  | 59 247  | 5.3               |
| Poultry              | 20 023  | 20 252  | 20 473  | 20 696  | 20 918  | 21 135  | 21 354  | 21 576  | 7.8               |
| Sheep meat           | 5 293   | 5 373   | 5 449   | 5 526   | 5 603   | 5 680   | 5 756   | 5 833   | 10.2              |
| Fresh dairy products | 25 207  | 25 483  | 25 752  | 26 017  | 26 277  | 26 539  | 26 799  | 27 057  | 7.3               |
| Oil                  | 217     | 221     | 224     | 227     | 230     | 233     | 237     | 240     | 10.6              |

Source: OECD (2023)

According to OECD-FAO forecasts, China will continue to increase imports of corn, barley,

soybeans, and other oilseeds in order to support domestic meat production. Behind these

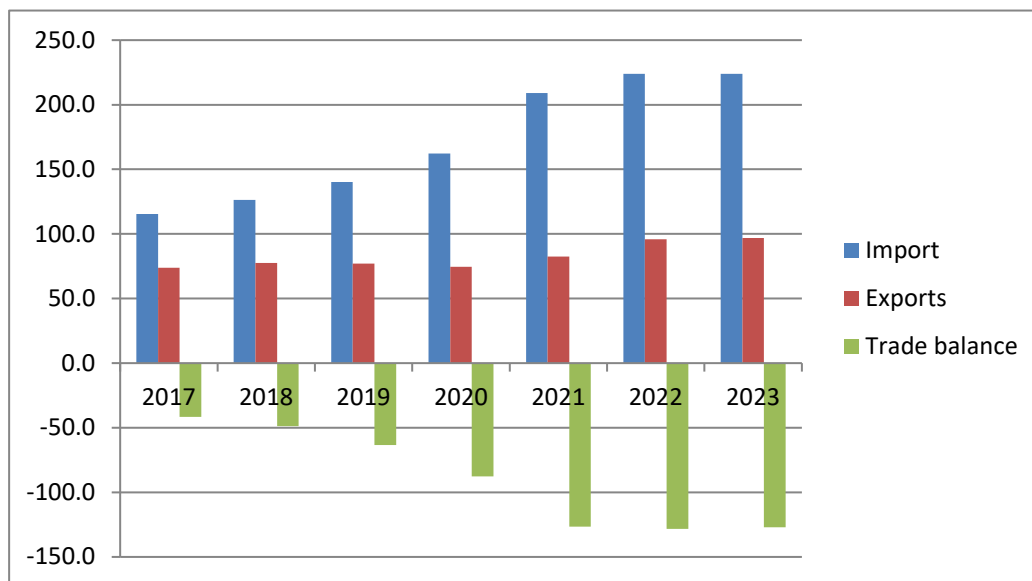
forecasts lies the growing demand for livestock for grain and protein. China's liberalization of soybean and soybean meal markets in the 1990s removed constraints on the development of domestic livestock production and strengthened its competitiveness in this area. Oil is extracted from imported soybeans, and the remaining meal is a source of protein for farm animals (Gale, F., et al., 2015).

In general, forecast estimates (Table 1) show that in the medium term, under the influence of rising incomes and living standards, China will increase imports of agricultural raw materials and food. The key challenges to China's food security are land scarcity and degradation, water scarcity and pollution, climate change and natural disasters, fiscal pressures caused by increasing agricultural subsidies, the triple burden of malnutrition, food safety issues, and increasing food losses and food waste. This requires institutional and technical innovations to modernize agriculture, increase productivity, and improve water, land, and energy efficiency. All this requires a transformation of China's food

security strategy.

China's food security strategy aims to increase national agricultural production and diversify imports. Under the new food security paradigm, China plans to adjust the balance of supply and demand from a "double balance" (domestic production - consumption) to a "triple balance" (domestic production - consumption - foreign trade). In this regard, China is changing its approach to foreign trade, as trade in production surpluses is based on incorporating foreign trade into national medium- and long-term planning of the supply and demand balance of important agricultural commodities. (Fan, 2021)

With limited land resources, including pastures, China faces the challenge of meeting domestic demand for livestock feed. Therefore, there is an increase in imports of feed barley and soybeans. China's total imports of agri-food products have consistently exceeded its exports. In 2023, the country's agricultural trade deficit reached US\$127.0 billion, while 7 years earlier this figure was US\$41.6 billion (Fig. 1).



**Figure 1:** Imports, exports, and trade deficit of China's agri-food products in 2017–2023, in billion United States dollars

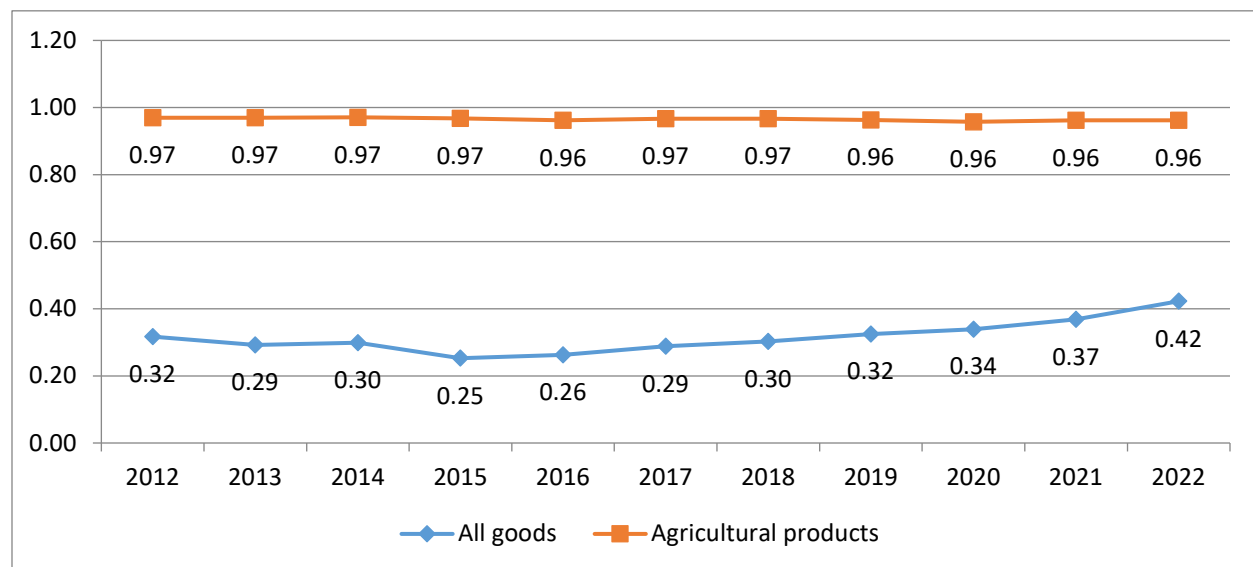
Source: authors' own calculations based on TRADEMAPa (2023).

Chinese consumers' tastes have started to shift recently; there has been a noticeable increase in the consumption of vegetable oils, meat, and dairy products, as well as high-value goods and cereals for animal feed. Thus, if issues with

veterinary and sanitary regulations are resolved and logistics are established, agri-food exports can partially meet China's expanding needs (Cherkasova et al., 2021).

China is ranked third in Kazakhstan's international trade when it comes to mutual trade in agri-food goods as well as overall trade turnover. China is one of the countries that Kazakhstan's non-resource and non-energy exports have as a top export priority, according to the National Export Strategy of the Republic of Kazakhstan. A high Trade Complementarity Index score indicates greater effectiveness in international trade cooperation between the two nations. Since it may be used to find chances to deepen economic relationships between nations,

we think this is an important signal for deciding on trade and investment relations. The pertinent indicator calculations for the years 2012–2022 show a general tendency to preserve the extent to which Kazakhstan's export structure complies with the import profile of its Chinese partner (Fig. 2). Furthermore, the agri-food trade index values are substantially greater than the complementarity assessed for all commodities.



**Figure 2:** Complementarity of trade between Kazakhstan and China in 2012–2022.

Source: authors' own calculations based on TRADEMAP<sub>c</sub> (2023)

Uzbekistan is a major consumer of Kazakhstani agro-products, with a specific weight in exports amounting to 27.6% or US\$861.2 million to the countries of the Eurasian Economic Union account for 14.2% or US\$791.1 million. The share of Kazakhstan's agricultural exports to China is 9.9%.

Exports of Kazakhstani agro-products to China for the last 5 years show steady growth except for 2021, which is explained by the action of the COVID-19 pandemic, which led to a reduction in international trade in general and tightening of phytosanitary requirements by the Chinese government. The imposition of restrictive measures and border closures also hampered international trade transactions. But in 2022, Kazakhstan's agriproduct exports to China

exceeded the pre-pandemic level by 40% (ITC Trade Map). This growth is explained by active cooperation between the countries, expansion of trade relations, and increased interest from both sides.

Noteworthy, items with a relatively low degree of processing comprise around 60% of Kazakhstan's supplies to the Chinese agri-food market (Table 2).

**Table 2:** Export of agri-food products of Kazakhstan to China, thousand U.S. dollars

| H.S. Code           | Product types   | 2018   | 2019   | 2020   | 2021   | 2022    |              | Growth rate from 2022 to 2017 in % |
|---------------------|---|--------|--------|--------|--------|---------|--------------|------------------------------------|
|                     |   |        |        |        |        | th. USD | structure, % |                                    |
| '12                 | Oilseeds and fruits; other seeds, fruits and grains; medicinal plants                     | 47846  | 95583  | 130923 | 76893  | 214 130 | 39.48        | 447.54                             |
| '15                 | Fats and oils of animal or vegetable origin and their cleavage products; prepared food... | 59606  | 99684  | 92765  | 40374  | 165 700 | 30.55        | 277.99                             |
| '23                 | Remains and waste of the food industry; prepared animal feed                              | 6900   | 30905  | 45436  | 12793  | 73 614  | 13.57        | 1066.87                            |
| '10                 | Cereals   | 98970  | 98210  | 95558  | 42736  | 71218   | 13.13        | 71.96                              |
| '24                 | Tobacco and manufactured tobacco substitutes  | 0      | 4377   | 11915  | 14237  | 5987    | 1.10         | -                                  |
| '18                 | Cocoa and cocoa preparations  | 1037   | 846    | 1571   | 1700   | 5562    | 1.03         | 536.35                             |
| '05                 | Products of animal origin, not elsewhere specified or included                            | 2943   | 3307   | 942    | 2037   | 2476    | 0.46         | 84.13                              |
| '04                 | Milk products, bird eggs; natural honey; food products of animal origin, ...              | 230    | 94     | 4726   | 2215   | 2259    | 0.42         | 982.17                             |
| '19                 | Prepared products from cereal grains, flour, starch, or milk; flour confectionery         | 3366   | 5783   | 8644   | 2157   | 1 415   | 0.26         | 42.04                              |
| Other               |   | 14537  | 27709  | 14525  | 5790   | 2971    | 0.54         | 185.85                             |
| All products (1-24) |   | 235435 | 366498 | 407005 | 200932 | 545332  | 100          | 231,63                             |
| TOTAL               |   | 161634 | 228380 | 353724 | 389097 | 182804  | x            | 113.09                             |

Source: Source: authors' own calculations based on TRADEMAPc (2023)



Oilseeds and fruits account for a significant share in the total structure of agro-products exports from Kazakhstan to China - 39.27%, indicating a significant contribution of these products to Kazakhstan's foreign trade activity with China. Fat and oil products (30.39%) form the basis for the delivery of higher-processing products. A steady increase in the volume of oilseeds and fruit exports from Kazakhstan to China characterizes the analyzed period from 2018 to 2022. Especially sharp growth was recorded in 2022, where exports increased more than 2.7 times compared to the previous year. Due to its geographical proximity, China is seen as a priority destination for sales and wastes of the food industry and grain; in 2022, their share in the export structure was 13.57 percent and 13.13 percent, respectively. Exports of tobacco and cocoa have increased annually as well, although their share in the structure of agro-product exports is about 1 percent.

Kazakh oilseed processors have signed an agreement with China for the supply of high-protein animal feed (meal and cake of oilseeds) and contracts for the delivery of over 4,000 tons of vegetable oils. The export potential of the mentioned products is estimated to reach US\$300 million by 2026. (Tonkonog, 2023).

Based on the International Trade Center [ITC Trade Map], several conclusions can be drawn

regarding Kazakhstan's agri-food exports to China, as well as the comparative advantages of individual goods. Kazakhstan exports 64 types of products at the level of six-digit codes in groups 1-24 of H.S., demonstrating a certain diversity in the export portfolio, of which 13 items have a value of comparative advantage index (RCA) above 1 (see Table 3).

In addition, based on the data provided, several conclusions can be drawn regarding Kazakhstan's agri-food exports to China, as well as the comparative advantages of individual products. The analysis of comparative advantage by DRC (Domestic Resource Cost) index in combination with RCA (Relative Comparative Advantage) index provides a deeper understanding of the competitiveness and export potential of Kazakhstan's products to China. Kazakhstan exports 65 products at the level of four-digit codes in groups 1-24 of the H.S. in this direction, demonstrating a certain diversity in the export portfolio. Flax, sunflower and safflower seeds take the leading positions in terms of export volume with US\$101.02, US\$91.27, and US\$18.90 million, respectively. They also have high RCA (65.80, 7.37, and 70.60) and low DRC (0.21, 0.40, and 0.51), indicating high domestic resource utilization efficiency and significant comparative advantage.

**Table 3:** Analysis of the competitiveness of exports of Kazakhstani agricultural products to the Chinese market in 2022

| Code   | Commodity item name  | Export volume, thousand dollars | RCA index | DRC Index |
|--------|--|---------------------------------|-----------|-----------|
| 120760 | Safflower seeds  | 18 896                          | 70.60     | 0.51      |
| 120400 | Flax seeds   | 101 018                         | 65.80     | 0.21      |
| 110100 | Wheat or rye flour   | 1 378                           | 32.61     | 0.83      |
| 151511 | Linseed oil  | 17 314                          | 23.53     | 0.08      |
| 100199 | Wheat and meslin   | 13 204                          | 8.93      | 0.83      |
| 120600 | Sunflower seeds  | 91 267                          | 7.37      | 0.40      |
| 100390 | Barley   | 56 264                          | 6.21      | 0.42      |
| 151211 | Sunflower or safflower oil raw   | 102 873                         | 5.50      | 0.97      |
| 713100 | Peas   | -                               | 3.75      | 0.42      |
| 190230 | Pasta  | 93                              | 3.64      | 1.28      |
| 100119 | Wheat  | -                               | 3.51      | 0.21      |
| 201100 | Meat of bovine animals, fresh or chilled: carcasses and half carcasses | -                               | 2.55      | 2.01      |
| 240220 | Cigarettes containing tobacco  | 287                             | 1.21      | 0.68      |

Source: authors' own calculations based on TRADEMAPc (2023)

Crude sunflower oil has a high export volume (US\$102.87 million) and RCA of 5.50, with a DRC of 0.97, indicating efficiency in the utilization of domestic resources. Linseed oil has a significant comparative advantage (RCA 23.53) and low DRC (0.08), with an export volume of US\$17.31 million. This sector also shows high export potential and competitiveness in the world market. Kazakhstani cereals - barley, wheat, and meslin - also demonstrate good export competitiveness.

For Kazakhstan, this indicates an opportunity to develop exports by removing barriers or increasing production for those goods that have high RCA but low export volume. At the same time, it should continue to strengthen its position in commodities that are already leading in terms of export volume in order to maintain and expand its share of the Chinese market. Thus, a focus on improving export competitiveness and efficiency will allow Kazakhstan to realize the full potential of its agri-food sector.

In 2022, the proportion of Kazakhstan's overall

agri-food exports to China that consisted of agricultural items with recognized competitive advantages was approximately 74%. The strategy of export growth for these types of products involves improving the quality of products and increasing the level of their processing in compliance with phytosanitary requirements. However, the growth potential of grain exports is limited. Thus, the import of wheat to China is not so significant, but the barley, soybean, and corn segments are more promising.

Given the aforementioned, it makes sense to inquire about the possible amounts and prospects of Kazakhstan's export supplies to the Chinese market. Estimates from the International Trade Center [ITC Trade Map] were used to respond to this inquiry. Based on the Center's developed methodology, Kazakhstan's realization of export potential in the Chinese market for EAEU nations is 44.63%, as measured by the number of exports of the most popular food products in 2021 (Table 4).

**Table 4:** Realization of Kazakhstan's export potential in the Chinese market about the volume of supplies of the most popular food products in 2022

|   | Actual export, mln. U.S. dollars | Unrealized potential remaining, mln. U.S. dollars | Export potential realization, % |
|---|----------------------------------|---|---------------------------------|
| Linseed                                   | 56.00                            | 144.00  | 28.00                           |
| Barley                                    | 30.00                            | 43.00   | 41.10                           |
| Wheat or meslin flour                     | 3.90                             | 23.00   | 14.50                           |
| Oilcake of sunflower seeds                | 1.00                             | 19.00   | 5.00                            |
| Peas, dried & shelled                     | 0.00                             | 12.00   | 0.00                            |
| Soya beans                                | 2.30                             | 11.70   | 16.43                           |
| Edible mixtures of fats, oil & fractions  | 0.02                             | 9.80  | 0.22                            |
| Fish, frozen                              | 1.30                             | 9.70  | 11.82                           |
| Spirits obtained by distilling grape wine | 0.00                             | 8.90  | 0.00                            |
| Frozen fish fillets                       | 0.02                             | 7.40  | 0.20                            |
| Oil seeds & oleaginous fruits             | 0.02                             | 6.50  | 0.25                            |
| Crude linseed oil                         | 21.00                            | 4.00  | 84.00                           |
| Sugar confectionery not containing cocoa  | 0.60                             | 3.00  | 16.67                           |
| Milk                                      | 0.00                             | 2.10  | 0.00                            |
| Sunflower seeds                           | 56.00                            | 0.00  | 100.00                          |
| Wheat & meslin                            | 43.00                            | 0.00  | 100.00                          |
| Rape or colza oil                         | 30.00                            | 0.00  | 100.00                          |
| Total                                     | 245.15                           | 304.10  | 44.63                           |

Source: authors' own calculations based on TRADEMAPd (2023)

Analysis of data on the export of agro-food products of Kazakhstan shows that the total

volume of realized export potential is US\$245.15 million, while the remaining unrealized export

space in the amount of US\$304.10 million indicates significant opportunities for further growth.

Some product categories show a high level of realization of export potential. For example, exports of sunflower seeds, wheat and rapeseed oil have reached 100% of their potential, indicating full or near full utilization of the market. However, in other categories, there is significant potential to increase exports. For example, the realization of the potential for linseed is only 28%, leaving a large amount of unrealized potential (US\$144 million). The situation is similar in the categories of barley (41.10%), wheat or rye flour (14.50%), soybeans (16.43%), and dry peas (0%).

The export category of linseed oil (crude) stands out with a high realization rate (84%), indicating almost full utilization of its export potential.

Significant unrealized potential in some product categories, such as dried peas, oilseeds, soybeans, and frozen fish, indicates an opportunity to expand export opportunities and increase Kazakhstan's share of international markets. Thus, Kazakhstan has the potential to increase its export performance through strategies to develop production, improve logistics, and remove trade barriers to better capitalize on global market opportunities.

As part of the further development of cooperation in the agri-food sector, Kazakhstan must overcome several constraints and risks, mainly:

### **Problems in the field of production and processing**

These include low yields, poor quality of planting materials and fertilizers, lack and high cost of raw materials, outdated production technologies, shortage of irrigated land, water resources low efficiency of their use, and inefficient system of processing and packaging of goods.

### **Problems in the field of logistics**

In 2018, according to the World Bank, Kazakhstan ranked 71st in the International Logistics Performance Index based on the nominal GDP of the USA.

The bulk of Kazakhstan's exports go to China by

rail to the interstate junction points Dostyk or Altyntkol, where they are reloaded into Chinese wagons and then sent through China to the destination station or by road to the checkpoints of Khorgos, Dostyk, Maikapchagai, Kolzhat, and Bakhty, where reloading is carried out on Chinese road transport and then goes through the territory to the destination. However, these paths have limited capacity and plans to improve them have not yet been implemented. The main restrictions on the delivery of goods to China in 2021 are the non-acceptance by the Chinese side of goods in wagons of food products transported by rail and the limited capacity of automobile checkpoints due to mandatory quarantine measures. One of the delivery options could be the Trans-Siberian route through the ports of the Russian Far East. However, constant congestion in China's seaports carries the risk of disruption of delivery times.

In addition, there is a large wear and tear on the existing logistics infrastructure - warehouses, refrigeration chambers, refrigerators, and terminals- which significantly limits Kazakhstan's competitiveness in exporting agricultural products to China.

### **Technical limitations**

Inconsistency between Kazakh and Chinese quality standards. China and Kazakhstan have a low degree of mutual recognition of technical standards, rules, and procedures for assessing the conformity of agricultural trade between the two countries. The requirement for a preliminary inspection by Chinese certification authorities, which goes to Kazakh firms for verification, presents challenges for entrepreneurs exporting meat products to China. There are hardly any laboratories in Kazakhstan whose test results are recognized by China. To verify that the items meet the specified specifications, samples must be sent to port cities or other foreign nations for testing. Furthermore, specific product categories such as flour, wheat, corn, rice, sugar, cotton, wool, and wool fibers are subject to quotas in China. Note that there is no distribution in the PRC; instead, quotas are granted to a single Chinese company that on its own chooses whom to import goods from.

Also, there are restrictive measures on imports and exports. During different periods, the government of Kazakhstan introduced quantitative restrictions on the export of wheat

and meslin, wheat flour and wheat-rye, and live animals. Restrictions are introduced to ensure the food security of the Republic of Kazakhstan.

Additionally, there are several issues with customs declarations, such as complex administrative procedures, high costs, long waiting times, and the necessity to provide numerous and duplicate verification documents.

Lack of adequate SPS (Sanitary and Phytosanitary Measures) capabilities: Failure to comply with Chinese rules, regulations, and requirements, including labeling and packaging requirements.

### **Institutional constraints**

Limited support for export promotion. The current measures of state support are mainly of a service nature (covering the costs of advertising, publishing a catalog of goods, participating in exhibitions, etc.), and are aimed at promoting finished products, which, in our opinion, does not contribute to the development of production capacities and the expansion of the commodity nomenclature, as well as increasing the complexity of the economy. At the same time, it should be noted that conceptual approaches to reimbursement of export costs of subjects of industrial and innovative activity, which provides for reimbursement of costs for goods of the lower redistribution - at the level of 30%, medium redistribution - 50%, upper redistribution - and 80% of the amount presented for reimbursement (Argyngazinov, 2021).

This negative influence can be traced back to the country's lack of good institutions and deficient administration, economic structure, and development strategies (Akhter, 2022).

Resolution of these problems requires the improvement of the export strategy as an integral part of the national policy for the development of the agri-food system of Kazakhstan in the conditions of a mobilization economy, which involves both neutralizing threats and risks, and searching for internal reserves to increase resilience and ensure further sustainable development of trade relations with China.

### **CONCLUSION AND RECOMMENDATION**

In light of the presented data, it becomes evident that China plays a pivotal role in the

global economy as the second-largest economy and one of the fastest-growing sectors in food and agriculture. The country constitutes a significant segment of global agri-food imports, accounting for 10.7% (US\$209.0 billion) of the total volume.

Kazakhstan, as one of China's major trading partners, seeks to increase the export volume of agricultural products, aligning with the "Belt and Road" initiative and the goal of establishing a highly productive, export-oriented agricultural sector. The Kazakh government has set an ambitious target of doubling agricultural exports from US\$3.3 billion in 2019 to US\$6.6 billion by 2025.

Despite notable achievements, Kazakhstan currently holds a modest 0.1% share of China's agri-food market, focusing mainly on supplying wheat, seeds, and various oils. The primary objective is to expand this share through the "Belt and Road" initiative and foster an export-oriented agricultural sector.

A significant driver for the growth of foreign trade relations in the food sector is China's increasing demand for various food products. With a massive population exceeding 1.4 billion, China's domestic market presents substantial potential capacity. Notably, China has become one of the top three buyers of Kazakh food in 2022.

The Chinese agri-food market stands out as one of the fastest-growing globally, ranking first in the imports of several key products. Projections until 2028 indicate an upward trend in demand for various agri-food products in China, providing opportunities for exporting nations like Kazakhstan.

However, challenges such as technical, logistical, and institutional constraints pose hurdles to realizing the full potential of this trade relationship. Addressing issues in production, processing, logistics, and technical standards recognition will be crucial for enhancing Kazakhstan's competitiveness in the Chinese market.

Successful resolution of these challenges requires collaborative efforts between both countries, focusing on technological advancements, infrastructure improvement, and harmonization of standards. Active measures to enhance product quality and compliance will enable Kazakhstan to compete effectively in the Chinese market.

Therefore, the development of agricultural trade between Kazakhstan and China will hinge not only on political will and strategies but also on concrete actions to overcome technical and logistical challenges, create a more favorable business environment, and ensure high product standards.

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