Analysis of export and import of agricultural industry of the Republic of Kazakhstan

Aigul Alzhanova, Aziza Mergenbayeva, Gulzhanar Abdikerimova, Darikul Kulanova, and Marat Seidakhmetov

M. Auezov South Kazakhstan University, Higher School Management and Business, Shymkent, Kazakhstan

Abstract. This article helps to assess the problem of food security in the Republic of Kazakhstan based on the obtainable resources of the agro-industrial complex and statistical data on export and import of products. The publication considers the problem of ensuring the connection between productivity and export opportunities, as well as the need to take into account the import component to ensure the economic growth of the country. In the article, special attention is paid to the indicators established in the national project for the development of the agro-industrial complex in the Republic of Kazakhstan for 2021-2025 and the preliminary results of its implementation. Since there are no clear ways to ensure food safety, we believe that this issue requires a deeper study. The publication proposes measures to ensure this and evaluates their effectiveness.

1 Introduction

At what level is the sufficient potential of Kazakhstan's agro-industrial complex to ensure national food security? State authorities and researchers have not yet given a clear answer to this question.

This question has arisen for many years during the emergence of the agrarian sector of the national economy, which is developing on the basis of various economic and labor relations in rural areas the transition from the absolutely predominant state form of ownership to private ownership.

Currently, the share of agriculture, forestry and fisheries in the gross domestic product of the republic is 5.1% [1], which, in our opinion, is not enough to ensure stable national food security.

2 Methods

As part of the research, methods of statistical analysis based on the study of information portals, media, blogs and methods of analyzing textual information were used. The material is a study of state programs of Kazakhstan aimed at supporting and regulating the agricultural sector, statistical data in the context of world countries and Kazakhstan, allowing analyzing
trend levels of various indicators. All the data obtained made it possible to conduct a comparative analysis of food safety and conservation issues.

3 Results and discussion

Food security is closely related to the country's agricultural productivity. As can be seen from Table 1, labor productivity in the agro-industrial complex during the period of analysis was on average 2.5 times lower than in the economy as a whole and 3.3 times lower than production. In terms of labor productivity, the agro-industrial complex is ahead only of the water supply sector, where that figure was 2.5 million tenge per worker [1].

At the end of 2022, labor productivity per worker in agriculture increased by 37.5% in monetary terms compared to 2021. At the same time, the labor productivity index, which showed real growth, was only 105.2% in 2020 compared to 2019 and even 98.2% in 2021 compared to 2020 (a value below 100% means a real contraction in the industry).

According to the plan of the national project for the development of the agro-industrial complex of the Republic of Kazakhstan for the period 2021-2025, labor productivity in this area is expected to be 3.4 million tenge per worker by the end of 2021, 3.4 million tenge by the end of 2025 - provision in the amount of 6.2 million tenge [2].

The agricultural sector, the country's second largest economy, is likely to be left behind. Based on the results of the first year of project implementation, labor productivity in this area was the final 20.6 percentage points. higher than planned (23.9%). The failure to meet the indicator in the report on the implementation of the national plan relates to a reduction in the growth rate of all agricultural products. For example, at the end of 2021, there was a 6.6% reduction in the number of agricultural harvests, which is related to a reduction in the mass harvest of grain and leguminous crops due to harsh weather conditions in some regions of the Republic. The second goal of the development of the national project is to double the export of agricultural products and to ensure the domestic production of food of social importance (Table 2).

On the one side, this assertion that the growth of exporters and exporting companies is more productive than the growth of non-exporters can be questioned. At the same time, companies that export products regularly have higher productivity. Average labor productivity among exporters who regularly sell goods in foreign markets is 1.3 times higher than that of occasional exporters and 1.5 times higher than that of non-exporters. Volatility in export sales can be attributed to companies that are too close to the productivity frontier to ship abroad and reduce the fixed costs of exporting. Therefore, in such a situation, Kazakhstan's exports show unstable competitiveness.

### Table 1. Labor productivity, thousand tenge.

<table>
<thead>
<tr>
<th>Title</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall economy</td>
<td>6173,2</td>
<td>6869,8</td>
<td>7111,9</td>
<td>8423,4</td>
<td>10083,2</td>
</tr>
<tr>
<td>Production of goods</td>
<td>7716,9</td>
<td>8720,0</td>
<td>9101,4</td>
<td>11278,0</td>
<td>14094,2</td>
</tr>
<tr>
<td>Agriculture, forestry and fisheries</td>
<td>2076,6</td>
<td>2466,0</td>
<td>3004,8</td>
<td>3350,7</td>
<td>4608,2</td>
</tr>
<tr>
<td>Labor Productivity Index</td>
<td>112,2</td>
<td>103,8</td>
<td>105,2</td>
<td>98,4</td>
<td>116,3</td>
</tr>
</tbody>
</table>

### Table 2. Objectives and outcome indicators.

<table>
<thead>
<tr>
<th>Title</th>
<th>Fact for 2019</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in exports of agricultural products by 2 times compared to 2019, billion US dollars</td>
<td>3,3</td>
<td>4,3</td>
<td>4,6</td>
<td>4,9</td>
<td>5,6</td>
<td>6,6</td>
</tr>
<tr>
<td>Share of processed products in total exports of agricultural products, %</td>
<td>-</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>70</td>
</tr>
</tbody>
</table>
Table 3 shows that the actual result for 2022 is 1.2 times higher than the planned result. The planned result of increasing the share of processing products in the total volume of exports of agricultural products was also achieved in 2022.

Table 3. Export of agricultural products.

<table>
<thead>
<tr>
<th>Title</th>
<th>Total for agricultural products</th>
<th>crop production</th>
<th>livestock farming</th>
<th>Processed agricultural products</th>
<th>Share of processed products in total exports of agricultural products, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>thousand tons</td>
<td>13 634,2</td>
<td>10 003,6</td>
<td>95,1</td>
<td>3 535,5</td>
</tr>
<tr>
<td></td>
<td>billion US doll</td>
<td>3,1</td>
<td>1,8</td>
<td>0,1</td>
<td>1,13</td>
</tr>
<tr>
<td>2019</td>
<td>thousand tons</td>
<td>12 266,4</td>
<td>9 358,4</td>
<td>115,5</td>
<td>2 792,5</td>
</tr>
<tr>
<td></td>
<td>billion US doll</td>
<td>3,3</td>
<td>1,9</td>
<td>0,18</td>
<td>1,1</td>
</tr>
<tr>
<td>2020</td>
<td>thousand tons</td>
<td>11 463,6</td>
<td>8 322,2</td>
<td>55,02</td>
<td>3 086,4</td>
</tr>
<tr>
<td></td>
<td>billion US doll</td>
<td>3,4</td>
<td>1,9</td>
<td>0,8</td>
<td>1,3</td>
</tr>
<tr>
<td>2021</td>
<td>thousand tons</td>
<td>10 821,9</td>
<td>8 098,6</td>
<td>101,9</td>
<td>2 621,4</td>
</tr>
<tr>
<td></td>
<td>billion US doll</td>
<td>3,8</td>
<td>2,2</td>
<td>0,2</td>
<td>1,4</td>
</tr>
<tr>
<td>2022</td>
<td>thousand tons</td>
<td>13 152,3</td>
<td>9 227,5</td>
<td>74,1</td>
<td>3 850,7</td>
</tr>
<tr>
<td></td>
<td>billion US doll</td>
<td>5,6</td>
<td>3,1</td>
<td>0,2</td>
<td>2,3</td>
</tr>
</tbody>
</table>

There are many other studies that focus not only on the relationship between exports and economic growth, but also on the role of imports in accelerating productivity.

The Republic of Korea has made significant progress thanks to the state's active intervention in the economy and a number of reforms. In a short time, the backward agrarian country turned into a developed industrial country. The Asian Development Bank conducted a study on the relationship between exports, imports and economic growth in South Korea between 1980 and 2003. Author S. Kim, H. Lim and D. Park, the results observed in the study period prove that import rather than export is the determining factor of productivity in Korea [3,4].

Thus, the results of the study show that the analysis of the relationship between trade and economic growth should include not only exports, but also imports, because they contribute to productivity growth and economic growth no less than exports. This important conclusion should be taken into account, first of all, by high-ranking officials and, of course, by those who develop a strategy for the development of business and the economy in general.

Table 4. Import of agricultural products.

<table>
<thead>
<tr>
<th>Title</th>
<th>Total for agricultural products</th>
<th>crop production</th>
<th>livestock farming</th>
<th>Processed agricultural products</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>thousand tons</td>
<td>7 778,9</td>
<td>1 401,7</td>
<td>68,5</td>
</tr>
</tbody>
</table>
Analysis of tables 3 and 4 shows that Kazakhstan markets abroad more agricultural products than it buys from abroad. However, at the same time, imports consist of processed agricultural products, indicating a lack of domestic production capacity. Plant-based products dominate exports by a significant margin.

Kazakhstan has improved its position in the food security index. In 2022, Kazakhstan improved its position by 5 points, ranking 32nd out of 113 countries. The index was 72.1 points, higher than that of Hungary (71.4 points), South Korea (70.2 points), Malaysia (69.9 points) and Turkey (65.3 points). Significant improvements were seen in supply adequacy (62-point improvement), political commitments on food security and availability (51-point improvement), and agricultural trade (22-point improvement). Kazakhstan's strengths in the components are “resilience and adaptability” (22nd place) and “reach” (23rd place) [5]. It is worth noting that Kazakhstan occupies a leading position in terms of availability and quality of food security and disaster risk management programs.

Notwithstanding the improved position of Kazakhstan in the index, a shortcoming is the change in the average price of food products, Kazakhstan ranked 97th, which caused its affordability position to drop to 49th.

The 2022 study found that the global food environment is deteriorating, with food prices rising and hunger at an all-time high. In addition, the COVID-19 pandemic, significant production costs, and high raw material prices are further exacerbating the systemic challenges that threaten food security.

According to the Law of the Republic of Kazakhstan "On National Security in the Republic of Kazakhstan", the safety of food products is ensured by the actions of state bodies, legal entities and individuals for this purpose [6]:
- ensuring stable development of the national economy;
- ensuring food independence of the Republic of Kazakhstan;
- increasing the share of national goods in the resources of agricultural production;
- ensuring the physical and economic availability and compliance of goods and services produced, imported and sold in the country with the requirements of the quality and safety level established by the legislation of the Republic of Kazakhstan;
- formation, renewal and replenishment of the regional food stabilization fund despite the influence of internal and external adverse factors.

In addition, Kazakhstan implements a number of measures aimed at ensuring the food security of the republic, including:
- creation of regional food groups;
- creation of wholesale food markets in large and medium-sized cities;
- creation of communal markets in regional and district centers;
- creation of food zones around large and medium-sized cities;
- development of interregional cooperation in agriculture and food sector;
- increasing the technical equipment of agricultural producers;
- development of agricultural science and improvement of personnel training in the agro-industrial complex.

The food security plan of the Republic of Kazakhstan for 2022-2024 is available to the public and includes 31 measures for its implementation. According to experts, these measures do not significantly differ from the measures taken earlier in the programs of development and support of the agro-industrial complex of the Republic of Kazakhstan [7].

First, several ministries are involved in the division of functions, thereby reducing the effectiveness of implementation due to the lack of accountability and, therefore, control. Second, solutions to many problems are presented without considering the accompanying data.

The plan aims to create sustainable economic links between agricultural and commercial enterprises and further develop distribution systems. The Head of State instructed the Government to launch pilot projects in several sectors to develop the chain of cooperation from the fields to the point of sale in cooperation with the Atamaken National Chamber of Entrepreneurs. Efforts were made to develop a plan that could be implemented throughout the republic, funds were allocated, but no results were seen in any area [8].

The advance purchase system is very good. A forward arrangement means that farmers can be given low-interest loans for future crops through joint ventures. But the state bodies themselves, the SEC, are afraid to work without guarantees. Therefore, there is a need for provisions to allow them to spend some amount without collateral or with minimal collateral. And all this needs to be resolved.

The state actively supports farmers. It is important for everyone to see the results of this help. The government agency will only work directly with the operator and business here. Therefore, everything related to the economy should be discussed.

4 Conclusion

By setting specific goals, we have the opportunity to observe newsworthy relationships between some indicators and others, and observe the evolution of validity in one or another development scenario. Ensuring food security of citizens is a part of the economic, political and national security of the country. In our research, the agro-industrial complex is the main factor in ensuring food security, which would be at risk without the direct participation of the state and its financial support, especially taking into account the consequences of the 2019 pandemic. Presently, a new field of agriculture is being formed. During the transition from a fully dominant form of state ownership to private ownership, the new agricultural branch of the economy, which is developing today on the basis of fundamentally different economic and labor relations in rural areas, requires qualitatively new measures for the regulation and control of agricultural security of Kazakhstan.

This research is funded by the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan for 2021-2023. Grant No. AP09261075 - The formation of a model of a regional food hub as a horizontally integrated structure to ensure food security (using the example of the meat cluster of the Turkestan region).

References

1. N. Aydapkelov, Reg of Kaz. 2 (2021)
2. N. Aydapkelov, Reg of Kaz. 4 (2021)
3. A. Shenhar, D. Dvir, PMJ 38 (2), 93-99 (2017)