Export of dairy products of the Altai Region: opportunities, prospects, and problems

V Belyaev¹, M Butakova¹* and O Goryaninskaya¹
¹ Altai State University, 61 Lenin Ave., Barnaul, 656049 Russia

E-mail: marina.butakova.59@mail.ru

Abstract. The article is devoted to the study of the export potential of dairy products of the Altai region. The factors that determine the possibility of expanding the presence of enterprises in the markets of the near and far abroad are identified and carefully analyzed in the paper.

1. Introduction
One of the key drivers of the regional socio-economic development is the presence of the products of their enterprises in the national and global markets. The economic development of the Russian Federation and its regions depends largely on the quality of trade relations, the intensity and distribution of commodity trade flows. Domestic researchers in the food market note that in the context of globalization, it is necessary and appropriate to focus on improving the competitiveness of agro-industrial products of deep processing and increasing its share in exports of domestic products [1-2]. The need for these measures is confirmed by the strategic objectives set for the agro-industrial complex of Russia [3].

2. Materials and Methods
The works of researchers in regional markets, including dairy markets, served as the methodological basis of the study [1], [2], [4], [5], [6]. To analyze the dynamics of the production of milk and dairy products in the Russian Federation and the Altai region, the authors used the balance method and methods of economic and statistical analysis. Their application made it possible to assess the role and place of the Altai region in the domestic and foreign markets, to analyze the problems of the industry in the Altai Region, to justify the feasibility and necessity of export-oriented specialization of the dairy industry in the Altai region. The materials of the Federal State Statistics Service of the Russian Federation, the territorial body of the Federal State Statistics Service for the Altai Region, the Altai Region Administration for the Food, Processing, Pharmaceutical Industry and Biotechnology served as background information [7], [8].

3. Results
A comparative analysis of the volume of milk production in the Russian Federation, the Siberian Federal District, and the Altai Territory allowed the authors to conclude that it is possible to sell dairy products of the Altai Region in the markets of the near and far abroad. The Altai region ranks fourth in this indicator in the country, and it is the first in the Siberian Federal District. In 2018, in the Altai Region, an amount of 1,178 thousand tons of milk was produced, which amounted to 3.84% of the all-Russian indicator (Fig. 1).
Figure 1. Dynamics of milk production in 2010-2018, thousand tons.

Table 1. The “production-demand” demand of cheese and butter in the Altai region.

| Year | Population, thous. people | Production, thous. tons | Requirement, thous. tons | “Production-demand” balance, thous. tons | Self-sufficiency, % |
|------|---------------------------|-------------------------|------------------------|------------------------------------------|-------------------|
|      | Cheese and cheese products |                         |                        |                                          |                   |
| 2011 | 2407                      | 68.6                    | 16.8                   | 51.8                                     | 407               |
| 2012 | 2399                      | 67.5                    | 16.8                   | 50.7                                     | 402               |
| 2013 | 2391                      | 61.1                    | 16.7                   | 44.4                                     | 365               |
| 2014 | 2385                      | 71.3                    | 16.7                   | 54.6                                     | 427               |
| 2015 | 2377                      | 83.1                    | 16.6                   | 66.5                                     | 499               |
| 2016 | 2366                      | 83.4                    | 16.6                   | 66.8                                     | 504               |
| 2017 | 2350                      | 86                      | 16.5                   | 69.6                                     | 523               |
| 2018 | 2333                      | 91.2                    | 16.3                   | 74.9                                     | 558               |
|      | Butter                     |                         |                        |                                          |                   |
| 2011 | 2407                      | 12.2                    | 4.8                    | 7.4                                      | 253               |
| 2012 | 2399                      | 11.2                    | 4.8                    | 6.4                                      | 233               |
| 2013 | 2391                      | 11.8                    | 4.8                    | 7.0                                      | 247               |
| 2014 | 2385                      | 16                      | 4.8                    | 11.2                                     | 335               |
| 2015 | 2377                      | 19.1                    | 4.8                    | 14.3                                     | 402               |
| 2016 | 2366                      | 20.1                    | 4.7                    | 15.4                                     | 425               |
| 2017 | 2350                      | 20.3                    | 4.7                    | 15.6                                     | 432               |
| 2018 | 2333                      | 18.4                    | 4.7                    | 13.7                                     | 394               |

The authors note that, the milk production per capita was 504.9 kg per year in the Altai region in 2018, which exceeds the average figure for Russia by 2.5 times and significantly exceeds the rational norms of milk consumption approved by the Ministry of Health of the Russian Federation (325 kg per year) [9]. The dairy industry of the region meets the needs of its population and other geographically close regions. This is confirmed by the author's calculations of the “production–demand” balance (Table 1), which is based on a comparison of the volume of dairy products production and the needs of the population of the Altai Region for them, taking into account rational consumption norms.
The analysis shows the overproduction of dairy products of deep processing in the region, which allows to conclude that there is a high export potential of dairy production. In the face of declining consumer demand, this fact determines the need to increase exports of dairy products, encourages manufacturers to largely focus on foreign markets, and consider the possibility of their presence as a necessary condition for the growth of dairy production in the region. In 2018, the share of exports of dairy products in the total volume was 13.9%, amounting to 3.85 million dollars in value terms (Fig. 2).

![Figure 2. Exports dynamics of dairy products of the Altai region in 2014-2018, millions USD.](image)

At the present time, the geography of export supplies of dairy products of the Altai Territory covers the CIS countries (Kazakhstan, Belarus, Kyrgyzstan, Tajikistan) and other countries (China, Mongolia, France). Preserving the presence of Kazakhstan and China in the most capacious markets, searching for new markets should be evaluated not only as a way to increase sales, but also as a means of reducing the risks of introducing restrictive measures in the partner countries. The structure of the export of dairy products of the Altai region (Fig. 3) corresponds to the logic of the formation of an effective foreign economic policy involving the export of products with higher value added (cheese, milk and condensed cream, ice cream, butter).

![Figure 3. Export structure of dairy products of the Altai region in 2018, %.](image)

The authors identified constraints that adversely affect the development of the industry and its export potential. First of all, this is the low efficiency of the raw material base, the evaluation indicator of which is milk yield per cow. During 2010-2017, it ranged from 76 to 86% of the level in the Russian Federation in the Altai region, and from 94 to 99% of the level in the Siberian Federal District. The lower value of the indicator is largely offset by the size of the livestock in the Altai region. Reducing the attractiveness of cattle breeding for producers actualizes the problem of shortage
of raw milk, speaks about the need to solve it by attracting investment, improving the breeding base and feeding rations. The authors consider the pronounced negative impact of seasonality on the volume and quality of raw milk, the cost of its production as the second deterrent. The climatic features of the Altai region force manufacturers to make appropriate adjustments to the product and sales policy, which is reflected in economic performance.

The authors believe that changes in processing and storage technologies have a positive effect on the ability to export domestic dairy products. These changes in technology have allowed to expand the boundaries of the market by increasing the shelf life of milk and dairy products. In addition, a conscious orientation to the preferences of customers in various market segments contributes to the competitiveness of domestic manufacturers. Expanding and deepening the range of dairy products is a reflection of the orientation on the preferences of customers. The popularity of a healthy lifestyle among different categories of the population is also becoming a factor contributing to the growth of the dairy market. The result of its influence is expressed in the growing need for natural, environmentally friendly products, products with biologically and physiologically active substances, with reduced calorie content, with therapeutic and prophylactic properties, and in products with a mixed raw material composition. Some enterprises expand their product line by including other types of milk (goat, mare) along with cow's milk as products with unique properties. Expansion and updating of the export range should be carried out by creating new export-oriented products that are competitive in the world market. Prerequisites for increasing the export potential of enterprises in the Altai region include an increase in the proportion of durable products in the assortment of dairy products, as well as a corresponding change in the production technology of products, the use of the latest developments in packaging and storage. In the context of globalization, it is economically feasible for producers to reduce the share of raw materials and low value-added goods in the export structure by developing the production of butter and cheese. It should be noted that the market for this product is less stable. In addition, the customs tariff legislation of some countries provides for an increase in the rate of customs duty as the degree of processing of goods increases.

4. Discussion

The recent studies of the market of milk and dairy products pay close attention to the features of the demand formation in this market [5], [6], the prospects for exporting the dairy products of the Russian producers [1], [2]. Analyzing the market for milk and dairy products, some experts note a different price elasticity of demand, which implies a low elasticity for drinking milk and whole milk products and a high elasticity for its processed products (cheese, butter). Also, these experts note that the demand for dairy products is strictly dependent on the level of income and the purchasing power of the population [5], [6]. In the scientific literature, considerable attention is paid to the development of regional dairy products markets and the assessment of export potential [1], [2], [4]. But the issues of formation and valuation of value added when exporting raw materials and finished products are not sufficiently covered. The study of the involvement of regional producers in global value chains in the supply of raw materials and intermediate products to the international market is of scientific interest. The problems of stimulating and supporting the export of products were the subject of discussion in the works of domestic and foreign authors.

Our analysis of the main achievements of scientific discussion in the theory of regional economics and spatial development on the problems of interregional interaction allowed to justify the author’s position on the need and desirability of deepening the processes of interregional economic interaction. As a result of theoretical and practical research questions, the authors came to the conclusion that it is necessary to form a scientifically grounded approach to the formation of an effective model for managing the region’s export potential in the context of economic sectors. The authors substantiated the export potential of the dairy industry of the Altai region in the international market based on the balance method and methods of economic and statistical analysis.
5. Conclusion
The article reflects the results of a study focuses on the possibilities of expanding the presence of enterprises, producers of milk and dairy products of the Altai Region in foreign markets. The authors systematized information about the specifics of the demand for dairy products, opportunities and problems of expanding the geographical boundaries of the market. Despite the difficulties of entering the foreign markets of dairy products, we note the continuing high capacity of this market with various possibilities of our own production. This preserves the potential attractiveness of the market for producers of dairy products in the Altai Region.

Increasing export volumes of dairy products of deep processing and the geographical expansion of foreign markets will give a multiplicative effect to the sectoral and regional development. The multiplicative effect is characterized by the growth of value added for producers of dairy products, increasing the efficiency of the economic system of the region and shaping the image of the region as a region specializing in the production and export of dairy products.

6. Acknowledgments
The article was prepared with the support of the RFBR grant, № 18-010-00593 A “A Study of Global Value Chains as a Factor in Improving the Efficiency of the Regional Economy”.

References
[1] Krylatykh E N and Frolova E Yu 2017 Creating the export potential of the dairy complex of Russia Ostrovskiiy Chteniya 1 pp 55-60
[2] Anfinogentova A A, Morekhanova M Yu, Blinova T V and Andryushchenko S A 2018 Russia's national food security: strategic priorities and conditions for ensuring (Saratov, Russia: Saratov source)
[3] Presidential Executive Office 2017 Decree on the main directions of state policy on the development of competition: the national plan for the development of competition in the Russian Federation for 2018-2020 (dated December 21, 2017, No. 618) Available at: http://www.consultant.ru (Accessed 06 04 2019)
[4] Altukhov A I 2017 Improving inter-regional food ties in the country: questions of methodology and practice Russia's Agri-Food Policy 2(62) pp 2-11
[5] Suray N M, Levichev V E and Buzoverov S Yu 2016 Analysis of the impact of socio-economic factors on the production and consumption of dairy products Vestnik of the Altai State Agrarian University 5(139) pp.186-192
[6] Yakovenko N A and Ivanenko I S 2018 Overcoming regional differentiation in the dairy market Agrarian Scientific Journal 9 pp 96-100
[7] Federal State Statistics Service 2018 Regions of Russia: socio-economic indicators Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1138623506156 (Accessed 23 03 2019)
[8] EMISS: unified inter-agency information and statistical information Available at: https://fedstat.ru/ (Accessed 06 04 2019)
[9] Ministry of Health of the Russian Federation 2016 Order of the Ministry of Health of the Russian Federation on approval of recommendations on rational norms of food consumption that meet modern requirements for healthy nutrition (dated August 19, 2016, No. 614) Available at: https://www.garant.ru/products/ipo/prime/doc/71385784/ (Accessed 23 03 2019)