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# LEVEL OF DEVELOPMENT OF MILK AND DAIRY PRODUCTS MARKET OF THE FEDERAL DISTRICTS OF THE RUSSIAN FEDERATION

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## ABSTRACT

*The article provides an updated definition of the milk and dairy products market. A methodical approach to assessment of the market entities has been developed. On its basis, an analysis of the current state of the milk and dairy products market in each federal district of the Russian Federation has been carried out. Their grouping has been conducted; recommendations have been given.*

**Keywords:** milk and dairy products market, assessment of the level of market development.

**Cite this Article** Aleksandr Borisovich Melnikov, Pavel Aleksandrovich Shcherbakov, Olga Yurievna Voronkova, Pavel Valeryevich Mikhaylushkin and Andrey Leonidovich Poltarykhin, Level of Development of Milk And Dairy Products Market of The Federal Districts of The Russian Federation, *International Journal of Mechanical Engineering and Technology*, **9**(10), 2018, pp. (1214)-(1219).  
<http://www.iaeme.com/IJMET/issues.asp?JType=IJMET&VType=9&IType=10>

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## 1. INTRODUCTION

The development of the milk and dairy products market, as one of the key elements of the agro-food market, is a strategically important task for any state. To date, the Russian Federation has exceeded the threshold values of the doctrine of food safety in many areas, but production of milk and dairy products still remains well below accepted standards. The main problems hindering the development are the low efficiency of agricultural producers, disintegration of enterprises along the entire reproduction chain, insufficient innovation, weak development of cooperation, insufficient capacity utilization, disparity of prices and redistribution of profits in favor of processors and trade organizations, insufficient level and inefficient mechanism of state support organizations. The problem of increasing the economic efficiency and competitiveness of the subjects of the agro-food market, in particular, the milk and dairy products market, has acquired additional urgency due to the difficult current economic situation, as well as significant pressure from foreign countries on the Russian economy.

Analysis of the current state of the market traditionally is the initial stage in development and justification of the future strategy of its development. Therefore, it is necessary to consider theoretical concepts that reveal the essence of the milk and dairy products market, as well as to identify methodological approaches that allow making a comprehensive assessment [1-3].

The milk and dairy products market is a complex multifunctional system of economically and technologically connected subjects, united by a common goal – production, processing and sale of milk and dairy products. The system exists in the conditions of competition and inconsistency of its subjects' interests. The purpose of the system is to provide the population with affordable high-quality products with consideration of scientifically grounded standards of food consumption. The main feature of the market is the specifics of the raw material – milk is a biologically valuable indispensable in human diet product containing the optimal ratio of proteins, fats and carbohydrates. Dairy products are perishable and poorly transportable, which limits the location of processing plants in order to ensure the speedy primary processing and delivery of products to the consumer.

Evaluation of the milk and dairy products market implies identification and subsequent study of information about the current situation in the regional market in order to develop and substantiate the correctness and expediency of decisions in the context of a set of measures in the market under consideration [4-6]. The current state is determined based on the effectiveness of activities of the subjects of the chain of reproduction “agricultural producer the optimal – processing industry – trade organizations”.

## 2. JUSTIFICATION OF THE PROBLEM UNDER STUDY

The issues of efficiency are studied in the works of many scientists, but consideration of its essence remains highly debatable. Any activity, regardless of scale and scope, causes the objective need for comparing the costs and the results obtained to assess the economic effect. In the authors' opinion, efficiency should be understood as maximization of the resulting effect in the implementation of any process while minimizing costs and losses. In fact, efficiency reflects the nature of cause-and-effect relationships of the market subject under study, that is, not even the result itself, but how it is achieved.

In the process of producing milk and dairy products, various resources that are qualitatively different from each other take part, the presence of which, respectively, also differs. Therefore, for further analysis of the resources used in the process of production and sales of products, it is necessary to apply methods that take into account the degree of their influence on each other and on the final result. Evaluation of the effectiveness of the system involves the study of factors affecting the entire reproductive process, both on demand and supply side. In the authors'

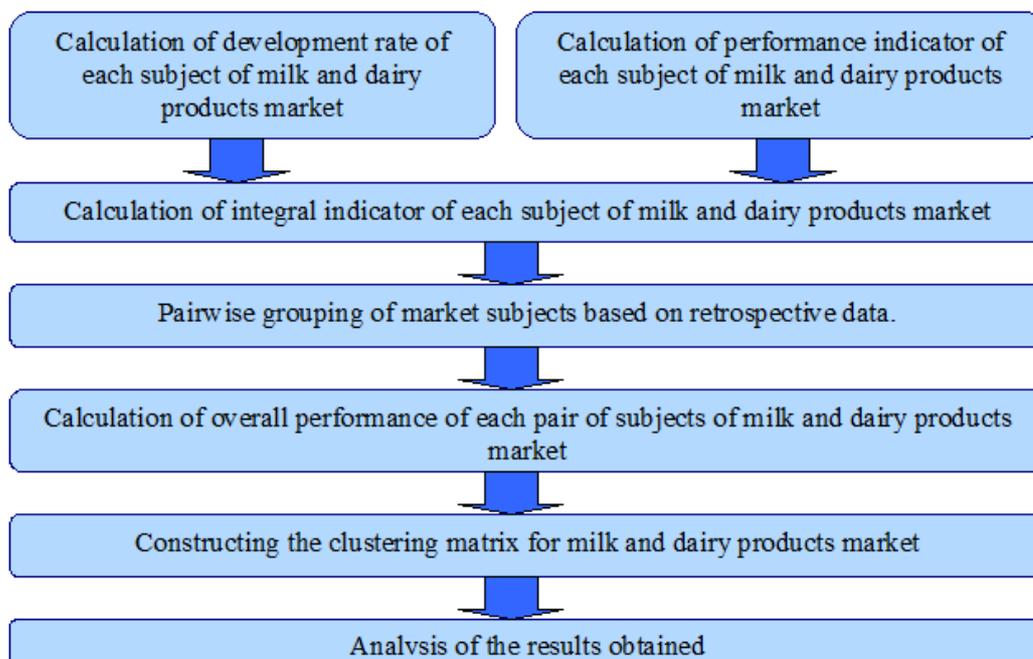
opinion, today there is no single method that allows the comprehensive assessment of all subjects of the reproduction chain “agricultural production – processing industry – trade organizations – final consumer”, requires the addition of the system of indicators for evaluating each subject [7, 8].

Within the framework of the developed methodological approach (Figure 1), the integral indicators were proposed to be calculated based on efficiency and development indices of each link in the agricultural producer – processing industry – trade enterprises – the final consumer. The distinctive feature of the methodical approach is a pair-wise assessment of the subjects of the reproduction chain that requires the greatest consistency: producer – processing industry (Table 1), trade organizations – final consumer (Table 2) (the grouping was made on the basis of retrospective data analysis of the Russian Federation).

Assessment of the effectiveness of the subjects of milk and dairy products market is based on a synthesis of statistical reports, analysis of the availability of resources and their effective use. The costs are supposed to be justified taking into account the specifics of each subject per unit of used resources and the possibilities of their minimization. The effectiveness of the subjects of the milk and dairy products market is determined taking into account financial results and growth rates of production indicators.

### 3. DEVELOPMENT OF METHODOLOGICAL APPROACH

The methodological approach is based on the system of indicators, which, in addition to generally accepted indicators of demand and supply in the milk and dairy products market, takes into account the level of mechanization, labor productivity, feed supply efficiency, the level of processing capacity utilization, the level of recycling, gross value and profitability for producer-processor pair; volume and the level of loading of warehouse premises, the range and satisfaction with them, profitability, the level of retail and wholesale trade, real incomes of the population, purchasing power index, period of sales of products, as well as population movement for a trade-consumer pair.



**Figure 1** Schematic representation of the methodological approach to the assessment of the development of milk and dairy products market in the Russian Federation

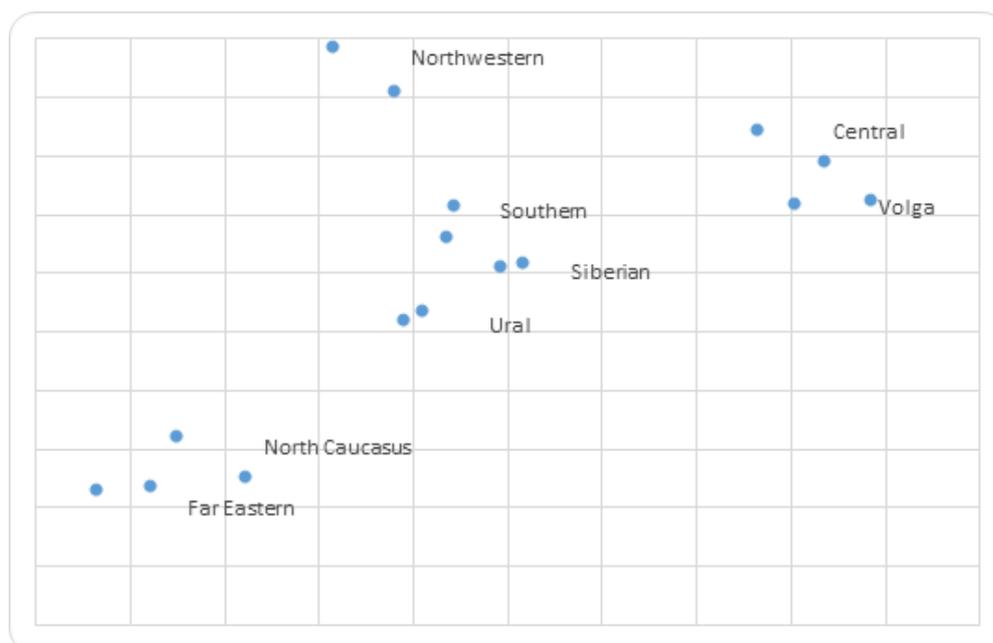
**Table 1** Integral indicators of production/refining pair of the federal districts of the Russian Federation

Federal district	Production integral indicator	Refining integral indicator	Average indicator of production/refining pair
Central	3.41	4.92	4.165
Northwestern	1.48	2.31	1.895
Southern	2.47	1.87	2.17
North Caucasus	1.18	1.02	1.1
Volga	5.52	3.32	4.42
Ural	1.41	2.66	2.035
Siberian	3.13	2.01	2.57
Far Eastern	0.55	0.64	0.595

**Table 2** Integral indicators of trade/consumer pairs of the federal districts of the Russian Federation

Federal district	Trade integral indicator	Consumer integral indicator	Average indicator of trade/consumer pair
Central	4.78	3.16	3.97
Northwestern	3.81	5.31	4.56
Southern	3.54	3.1	3.32
North Caucasus	1.21	1.35	1.28
Volga	3.13	4.15	3.64
Ural	3.21	2.18	2.695
Siberian	1.98	4.22	3.1
Far Eastern	1.37	1.01	1.19

Within the framework of the developed methodical approach for grouping the Federal districts of the Russian Federation as to the level of development the matrix system of parameter clustering is proposed to be used [1, 2] the axes of which are postponed averages of each pair, namely, production/refining and trade/consumer (Figure 2).



**Figure 2** The matrix of clustering of milk and dairy products market of Russia

## Level of Development of Milk And Dairy Products Market of The Federal Districts of The Russian Federation

It is advisable to determine the boundaries of clusters based on the method of expert evaluations [7], which results in the following outcomes (Table 3).

**Table 3.** Grouping of federal districts on the level of development of milk and dairy products market

Type	Federal district
High level of development of production/refining, high – trade/end consumer	Central, Volga
Middle level of development of production/refining, high – trade/end consumer	Northwestern
Middle level of development of production/refining, middle – trade/end consumer	Southern, Siberian, Ural
Low level of development of production/refining, low – trade/end consumer	North Caucasus, Far Eastern

### 4. CONCLUSIONS

When searching for optimal directions of development of milk and dairy products market in the federal district with a low level of production/processing and trade/end users, it is necessary to ensure the development of logistics to provide the population with dairy products from neighboring federal districts, as well as to increase the availability of retail space, which will create conditions for attraction of large retail chains and expansion of the range. The districts with medium indicators should focus on the development of peasant farms and increase the number of seasonal agricultural fairs and company chains.

The middle level of development of production/processing with a high indication of trade/final consumer testifies to the need of developing the production of raw milk by agricultural producers, which will increase the average annual loading of processing facilities, as well as self-sufficiency in dairy products of their own production. The high rates of pairs leave many specific options for further development of the market while the basic strategy should be based on the consistency of all subjects of the chain of reproduction.

### REFERENCES

- [1] Kundius, V.A., Chermyanina, V.V. and Poltarykhin, A.L. Clustering and diversification of production in the agro-industrial complex. Barnaul: Azbuka, 2008.
- [2] Poltarykhin, A.L. Development of regional agro-industrial complex in the context of global financial crisis. *Regional'naya ekonomika: teoriya i praktika*, **18**, 2010, pp. 73-75.
- [3] Stroiteleva, E.V., Poltarykhin, A.L. and Shenshinov, Y.V. Conceptual approach to modernization of social and economic programs of the region. *World Applied Sciences Journal*, **25(10)**, 2013, pp. 1454-1459.
- [4] Kovalev, A.A., Belyaev, V.I. and Suray, N.M. Marketing research in solving the problems of regional reproduction of sectors of agro-industrial complex and providing food security of regions in Russia. *Vestn. Alt. Gos. agrar. Un- ta*, **10(108)**, 2013, pp. 142-150.
- [5] Kundius, V. and Poltarykhin, A. Model of spatial organization of regional food cluster. *Mezhdunarodnyi sel'skokhozyaistvennyi zhurnal*, **6**, 2010, pp. 45-47.
- [6] Shumakova, O., Mozzherina, T.G. and Poltarykhin, A.L. Import substitution as the basis of solving problem related to food safety of the Russian federation. *International Journal of Applied Business and Economic Research*, **14(9)**, 2016, pp. 5911-5920.

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Voronkova, Pavel Valeryevich Mikhaylushkin and Andrey Leonidovich Poltarykhin

- [7] Shcherbakov, P.A. and Poltarykhin, A. L. Clusterization of municipal districts of the region on the basis of factors affecting milk production in the region (based on materials from the Ulyanovsk region). *Voprosy ekonomiki i prava*, **5**, 2018, pp. 121-128.
- [8] Sycheva, I.N., Svistula, I.A., Belaya, N.V., Mezhev, I.S. and Poltarykhin, A.L. Regional economy in import substitution strategies: agro-industrial integrated corporations. Barnaul: Altaiskii gosudarstvennyi tekhnicheskii universitet im. I.I. Polzunova, Institut ekonomiki i upravleniya, 2016.