Agricultural development trends in Russia

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Abstract. A generalized assessment of the parameters of the agricultural development in Russia is given based on the analysis of the structure and dynamics of its development in the context of the federal districts of Russia on such parameters as the cost of agricultural production, the profitability of crop production, the profitability of livestock production. The most important features of the reproduction cycle in the agricultural sector are emphasized, which should be taken into account when developing regulatory measures based on a differentiated assessment of the potential of territories. The objective necessity of strengthening the regulatory impact of the government on market processes in the agricultural sector is emphasized. The primary tasks of the government to regulate agricultural development at this stage of socio-economic development of the country and its territories are updated.

Great challenges in terms of scientific and technological development of the Russian Federation at present are ensuring its food security and increasing the competitiveness of domestic products on world markets [1]. As competition for economic resources, including food resources, intensifies in the world, Russia needs coordinated measures to strengthen food security. Therefore, it is particularly important to activate and systematize the government approaches to regulating the development of the food supply system, which is based on the agricultural production sector [2; 3]. In a regulated market economy, the government supports the agricultural sector to a certain extent and seeks to smooth out the negative impact of macroeconomic factors, primarily such as unemployment, monopolism, inflation, disparity, risks, etc. In conditions of large size of the territory of the government, such as in Russia, the spatial dispersion of economic resources and production capacity has a significant impact on reproduction, so the government regulation of territorial and industrial development is of particular importance.

The last few years are considered by economists as the start of the “new life” of the Russian agricultural sector, as a period of formation of conditions for the progressive development of domestic agriculture and rural areas in general. The main driving force here was the global background, including the introduction of a food embargo in Russia in response to financial and economic sanctions from a number of foreign countries [4].
To assess trends in the agricultural development in Russia, the main parameters of its development are considered, first of all, the agricultural production output (table 1).

**Table 1. The agricultural production output in farms of all categories, in actual prices, million rubles*.**

| Federal districts         | 2005 | 2010 | 2015 | 2017 | 2018 | Growth rate (times) 2018 to 2005 |
|---------------------------|------|------|------|------|------|---------------------------|
| Central                   | 292952 | 557811 | 1265435 | 1302579 | 1467970 | 5.0 |
| Northwestern              | 73976  | 128509 | 225538  | 224475  | 246115  | 3.3 |
| South                     | 208111 | 395217 | 811568  | 891718  | 903937  | 4.3 |
| The North Caucasus        | 104073 | 197873 | 384914  | 436752  | 461495  | 4.4 |
| Volga                     | 355588 | 562141 | 1113852 | 1194371 | 1191874 | 3.4 |
| Ural                      | 97487  | 169204 | 292395  | 320286  | 321680  | 3.3 |
| Siberian                  | 185003 | 337213 | 520459  | 539652  | 556883  | 3.0 |
| Far Eastern               | 63771  | 114219 | 180454  | 199642  | 198823  | 3.1 |
| Russian Federation, total | 1380961 | 2462187 | 4794615 | 5109475 | 5348777 | 3.9 |

* compiled by the authors according to Rosstat [5]

During the period under consideration, the agricultural production output in Russia as a whole increased 3.9 times in actual prices. The largest production output increased in the Central, North Caucasus and South federal districts, and the smallest was in the Siberian, Far Eastern and Ural ones. The structure of agricultural production is differentiated by federal districts (figure 1).

![Figure 1. The share of districts in the total Russian agricultural production*.](image)

* compiled by the authors according to Rosstat [5]

The total output is dominated by the products of enterprises in the Central, Volga and South districts. The proportion of the other districts is significantly below that predetermined by many factors, first and foremost, historically, the territorial proportions of production, climatic conditions, level of industry efficiency, the accumulated potential of agricultural enterprises, demographic factors, production and commercial infrastructure development. The efficiency of production and commercial processes in agriculture is evidenced by the profitability of economic activity (table 2).
In general, crop production in Russia has been profitable throughout the considered years, with the highest level of profitability achieved in 2015 and the lowest in 2005. Over the years, the profitability of crop production has increased by 14.2 percent points. A number of enterprises in the Ural, Far Eastern and Northwestern districts have relatively worse payback and profitability indicators for crop production, and some years have even been unprofitable for them. In 2018 the highest profitability indicators were achieved by farms in the South, Central and North Caucasus districts, and the lowest in the Far Eastern, Northwestern and Volga federal districts. Compared to 2005, the largest increase in the level of profitability in 2018 was achieved in the Central federal district (19.6 percent points). In the Northwestern district, there was a decrease in the level of profitability by 1.2 percentage points. The Ural and Far Eastern districts moved from the “zone” of loss-making in the industry to the “zone” of profitability. From the “zone” of unprofitable industry moved to the “zone” of profitability.

The profitability of livestock products is relatively lower (table 3).

### Table 2. Profitability (unprofitability) of crop production, %.

| Federal districts       | 2005 | 2010 | 2015 | 2017 | 2018 | Growth, percent points 2018 to 2005 |
|-------------------------|------|------|------|------|------|-----------------------------------|
| Central                 | 4.1  | 7.9  | 40.0 | 13.0 | 23.7 | +19.6                             |
| Northwestern            | 2.8  | 4.4  | 4.4  | -2.1 | 1.6  | -1.2                              |
| South                   | 16.3 | 24.0 | 45.8 | 27.6 | 29.1 | +12.8                             |
| The North Caucasus      | 10.5 | 16.6 | 36.6 | 21.2 | 23.2 | +12.7                             |
| Volga                   | 1.6  | 3.2  | 23.2 | 13.8 | 6.7  | +5.1                              |
| Ural                    | -2.1 | -3.4 | 10.7 | 7.5  | 8.8  | +10.9                             |
| Siberian                | 1.7  | 11.8 | 20.6 | 12.4 | 10.6 | +8.9                              |
| Far Eastern             | -4.0 | 8.2  | 19.0 | -1.4 | 1.3  | +5.3                              |
| Russian Federation, total | 6.4  | 12.4 | 35.4 | 17.2 | 20.6 | +14.2                             |

* compiled by the authors according to Rosstat [5]

### Table 3. Profitability (unprofitability) of livestock products, %.

| Federal districts       | 2005 | 2010 | 2015 | 2017 | 2018 | Growth, percent points 2018 to 2005 |
|-------------------------|------|------|------|------|------|-----------------------------------|
| Central                 | 11.0 | 11.7 | 20.5 | 16.2 | 18.6 | +7.6                              |
| Northwestern            | 9.7  | 7.1  | 13.8 | 12.4 | 14.5 | +4.8                              |
| South                   | 13.2 | 12.1 | 16.5 | 4.1  | 3.6  | -9.6                              |
| The North Caucasus      | 5.3  | 7.0  | 14.8 | 13.9 | 17.4 | +12.1                             |
| Volga                   | 8.0  | 3.5  | 12.3 | 10.7 | 9.2  | +1.2                              |
| Ural                    | 9.5  | 5.7  | 10.4 | 7.5  | 7.6  | -1.9                              |
| Siberian                | 13.0 | 13.0 | 12.7 | 9.9  | 9.0  | -4.0                              |
| Far Eastern             | -14.4| -3.4 | -4.4 | -13.7| -10.8| +3.6                              |
| Russian Federation, total | 9.5  | 8.6  | 15.4 | 12.0 | 12.8 | +3.3                              |

* compiled by the authors according to Rosstat [5]

The dynamics of efficiency of livestock products in farms is variable: on average in Russia it reached 15.4% by 2015, by 2017 it decreased to 12.0%, and in 2018 it was 12.8%, an increase of 3.3 percentage points compared to 2005. The largest increase in this series of dynamics is typical for the North Caucasus and Central districts, the smallest is typical for the Far Eastern and Volga federal districts. The decline occurred in the South, Siberian, and Ural districts, while the farms in these districts maintained a positive financial result. During the years under review, enterprises in all
districts, with the exception of the Far East, made a profit from the production and sale of livestock products and worked at break-even. At the same time, the economy of the Far Eastern district in 2018 managed to increase the level of payback of products and, compared with the previous year, reduce the unprofitability by 2.9 percent.

So, on average in Russia, the profitability of livestock industry is lower than that of crop industry. The only federal district where livestock production is chronically unprofitable is the Far Eastern district, where many enterprises have not been able to fully recoup production and commercial costs and ensure the profitability of the industry for many years. Objectively, this is due to the fact that the largest part of the territory of this district is characterized by extreme natural and climatic conditions, enterprises are unable to provide sufficient own feed, the cost of purchased feed is high, and the price disparity between industry and agriculture does not allow to break even. Therefore, there is a special need for strengthened measures for government regulation of the reproduction process in the agro-industrial complex and the development of food supply system.

The prevailing management parameters of agricultural enterprises, presented in our analysis, due primarily to the nature of climatic conditions, degree of infrastructure development, institutional capacity, market conditions, quality of public and corporate management, as well as the historical potential of the industry in each district region.

It is advisable to develop and implement regulatory measures taking into account the fact that the territories of the country and its regions have a variety and complexity of natural and climatic conditions, and a significant part of these territories (especially in Siberia and the Far East) is located in an extreme zone and is characterized by a relatively high risk of agricultural production [6]. It should also be taken into account that the profitability of economic activity in the agricultural sector is relatively lower than in other types of economic activity, and this has a significant impact on the parameters of demand for means of production and food. It is also significant that high agroecological and technological risks in agricultural production, along with low profitability, determine the lower attractiveness of the agro-industrial complex for investors, and investment, as a rule, is the main factor in the progressive development of any socio-economic system. The chronic price disparity between agricultural and industrial products also requires attention and regulation.

The success of the process to strengthen food security is largely due to the degree of development of the institutional environment, which determines the conditions for interaction, the behavior of economic entities, as well as the effectiveness of their economic activities. In turn, institutions are established and regulated by the government, based on the needs and current challenges of the development of socio-economic systems. Therefore, in such a strategically important matter as agricultural production, food security and strengthening of food security, government regulatory influence is of paramount importance [7].

We believe that the main, primary tasks of the government are the next:

- promoting the formation of adaptation mechanisms in the agricultural sector to achieve stable and sustainable functioning;
- developing the mechanisms for government support of rural producers, including financing of fixed and working capital
- regulating the price disparity for agricultural and industrial products;
- creating conditions for achieving the necessary level of physical and economic accessibility of food for different groups of the population.

It is necessary to have a scientifically based impact on the development of the agricultural sector of the economy in order to create sustainable prerequisites for strengthening national food security [8].

At the same time, despite the measures taken to stimulate the development of domestic agriculture, there are still many problems in this industry that require close attention and coordinated resolution. Measures are needed to improve soil fertility and prevent soil erosion, and this requires significant investment, and enterprises will not be able to cope with this problem without the help of the
government. It also requires a comprehensive modernization of the material, technical and technological base of commodity producers, since this determines labor productivity and the quality of products and services produced. And it also requires investment. Current, as before, is the shortage of highly qualified personnel in agriculture, poor infrastructure, lack of appropriate storage facilities for products, which affects the quality of products received by consumers [9].

In the light of geopolitical processes in the past few years, domestic agriculture has become less affected by global crisis phenomena, and under optimal weather and climate conditions, the use of adapted management technologies, it is able to achieve high results. This contributes to increasing the level of food security in Russia. It is important for the government to ensure macroeconomic conditions and an institutional environment in order for the agricultural sector of the economy to function effectively, the food supply system to be balanced, operate stably, and food security to be strengthened.

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