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INDUSTRIES AND INTERINDUSTRY COMPLEXES

On the Assessment of the Potential Expansion of Agricultural Production and Its Structural Shifts

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Abstract—This paper deals with retrospective trends in the development of Russian agriculture and the long-term potential for agricultural production growth. Based on this analysis, the importance of adjusting agricultural policy is justified.

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At present, the Russian authorities and some experts are making optimistic predictions about the prospects of development in agriculture based on the high average annual growth rate demonstrated by the sector over the last 10–15 years. However, our studies have shown that these expectations are not justified, as the dynamic development of the sector during this period was due to several specific factors of a transient nature. In retrospect, the factors that ensured the overall positive development of the industry have exhausted their strategic potential.

The Food Security Doctrine of the Russian Federation[1] (hereafter, the Doctrine) provides a political declaration for the government agricultural policy. The Doctrine's requirements for the level of per capita consumption and the share of imports were naturally translated onto a course towards agricultural raw materials and food production growth. Given the initially low average per capita consumption and growing household incomes, the potential for increasing the capacity of the domestic agri-food market was quite high. The effective demand for food had high income elasticity. Considerable financial resources allowed the government to pursue the policy aimed at agricultural modernization and agricultural production expansion. The agri-food sector was growing through satisfying the increasing domestic demand and import substitution (especially after the imposition of countersanctions and the ruble deviation in 2014).

Figure 1 provides the calculations [1, authors' calculations] showing the following key factors for the increase in the Russian agricultural output in 2000–2015:

—the growth of per capita food consumption (the contribution of the growing consumption of (42%), fruits and berries (22%), and vegetables (10%));

– meat import substitution (with the contribution of 8%);

—agri-food export growth (24%, including the 15% contribution of cereals export).

The growing consumption of dairy products, fruits, and berries was provided by imports expansion. However, the aggregate contribution of foreign trade in agricultural and food products to the increase in gross agricultural production was positive (9%).

Furthermore, the potential increase in the livestock feed consumption was almost completely offset by the increasing feed conversion ratio. This is a striking example of the fact that the enhancing the effectiveness of the agricultural products intermediate use reduces their relative consumption and decreases corresponding market volume, thereby restraining the agricultural production growth.

The branch structure of gross output growth in the Russian agriculture for 2000–2015 is shown in Fig. 2 [1; authors' calculations]. The contribution of grain and meat production was 72%, whereas the contribution of dairy farming was negative (–2.5%).

The agrarian policy pursued in the period under review has ensured a fundamentally higher level of food self-sufficiency of the Russian Federation. At the same time, it also indicates that the potential for the growth of agricultural production orientated towards basic food security criteria has largely been exhausted. For example, the volume of meat production doubled in 2000–2015, which predefined more than half of the increase in the overall agrarian production over the same period. As a result, per capita meat consumption in Russia has reached the level of rational norms,[2] which is only 10–15% lower than the level of consump-

[1] Approved by the Russian Federation's Presidential Decree no. 120 of January 30, 2010.

[2] According to Decree no. 614 of August 19, 2016, issued by the Ministry of Health and Social Development, the rational norm for the consumption of all types of meat is 73 kg/yr.

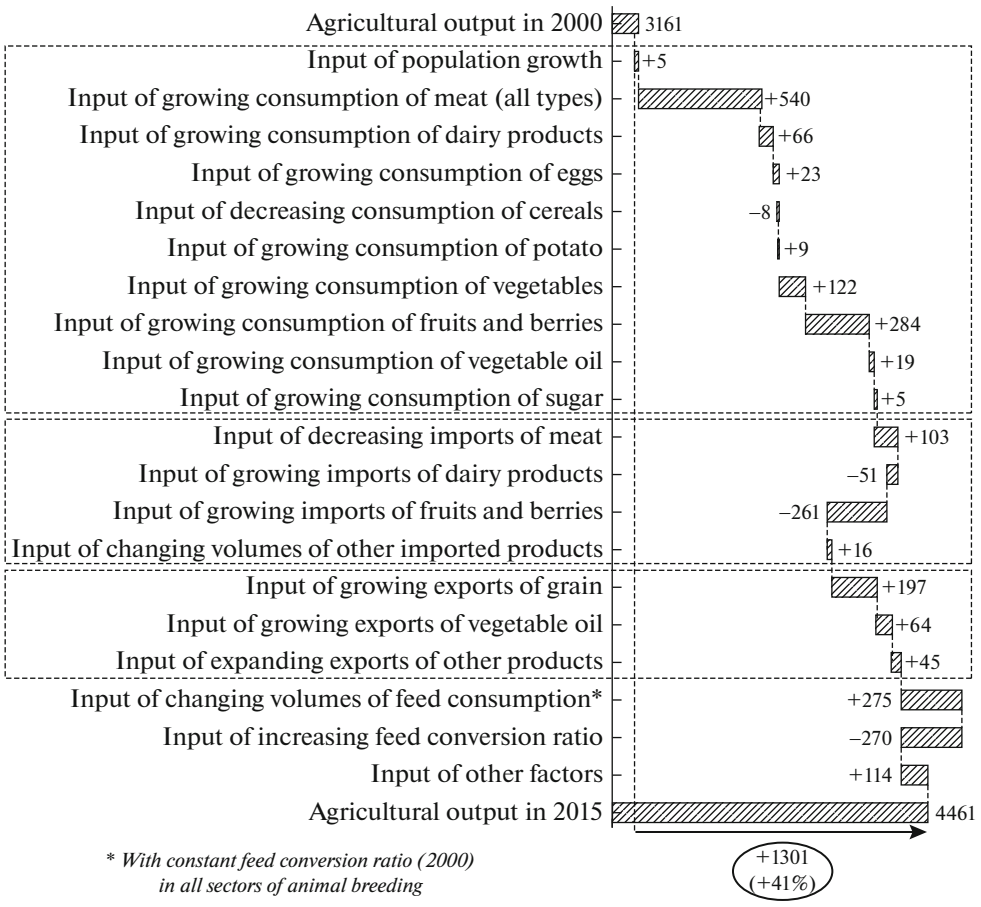


Fig. 1. Contribution of various factors to gross output growth in agriculture in the Russian Federation in 2000–2015, in billions of constant 2014 rubles.

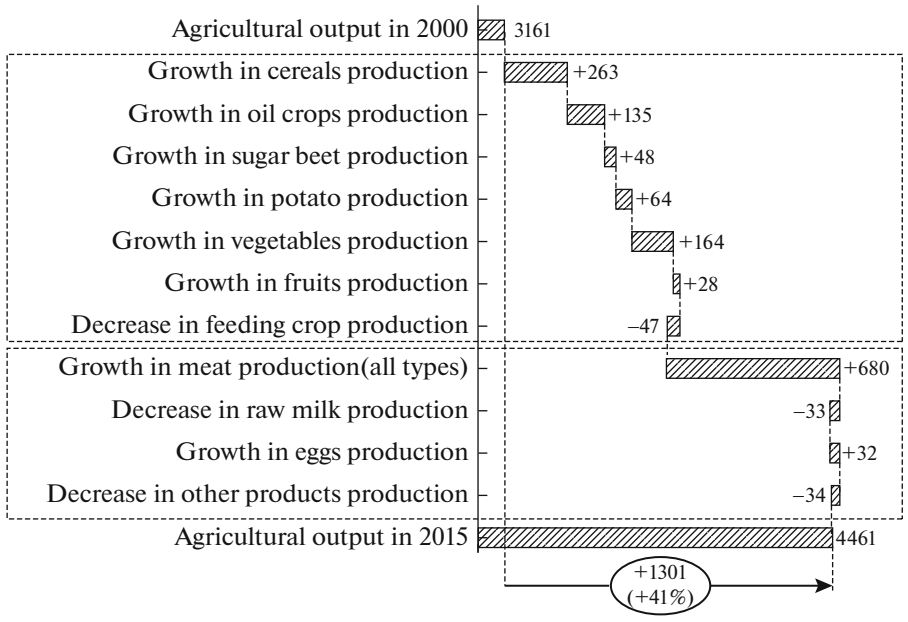


Fig. 2. Contribution of specific sectors to gross output growth in agriculture in the Russian Federation in 2000–2015, in billions of constant 2014 rubles.

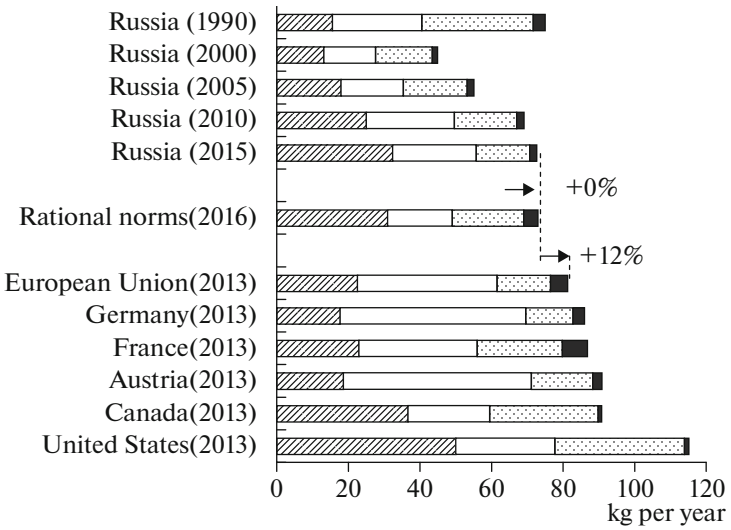


Fig. 3. Average per capita meat consumption in Russia and in developed countries: ▨ poultry; □ pork; ⊡ beef; ■ other types.

tion in the European Union (Fig. 3) [1, 2; authors' calculations].

If Russia targets the level of average per capita meat consumption in countries such as Germany, France or Canada, the corresponding potential of production growth should be 15–25% (compared to +115% in 2000–2015), which would require a sharp change in the development trends of meat production.

At the same time, the share of meat imports in total domestic market resources significantly decreased during the last 10–15 years (Fig. 4) [1, 3; authors' calculations]. The significant potential for import substitution can only be observed in the cattle breeding sector.

In the future, an increasing number of subsectors in the Russian agriculture will experience limitations,

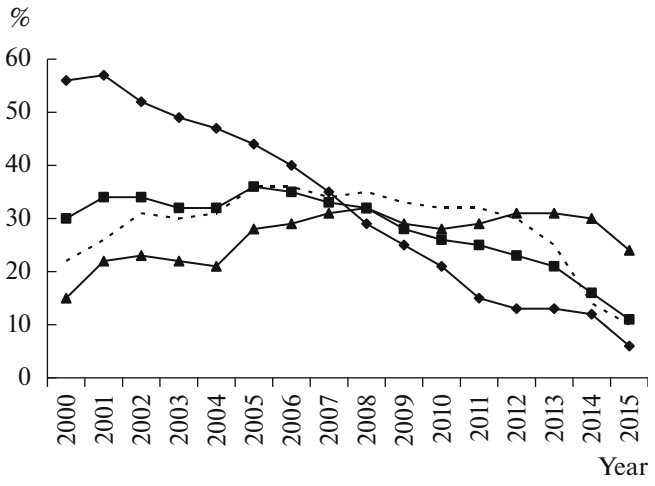


Fig. 4. Share of imports in total domestic market resources (by types of meat): —■— all types of meat; —▲— cattle meat; ---- pork; —◆— poultry.

while the production volumes of the corresponding types of agricultural products reach the physical limits of the traditional markets saturation. Specifically, these limitations are due to the relatively high level of satisfaction of customer needs in physical terms, rather than the consumers' purchasing power. Therefore, the prospect agricultural policy has to focus on either helping the industry to adapt to the development in the context of a saturated domestic market or creating prerequisites for expanding the exports of agricultural products and foodstuffs.

Assessment of the growth potential for domestic agrarian production. The subject analysis of the prospect development of the Russian agriculture involves scenario forecasting. The aim is to assess the potential rate and structure of output growth in agriculture for different agro-food policy options based on the existing opportunities for the expansion of the domestic market volume, import substitution, and exports.[3] The prospects of agricultural development were explored in five scenarios.

The first (normative) scenario is based on the full implementation of the Doctrine's targets for the rational norms of the per capita consumption of basic food products and the Russian Federation food self-sufficiency.

The second scenario is based on the fact that some important targets of the Doctrine contradict the real preferences of consumers. A critical review of the relevance of the accepted rational consumption norms for the main groups of food products and their compli-

[3] This paper continues our studies presented in our previous publications, which provide an in-depth description of the main tasks, methodology, and instruments applied for variant forecast calculations with the aim to assess the long-term growth potential of Russia's agriculture [4, 5].

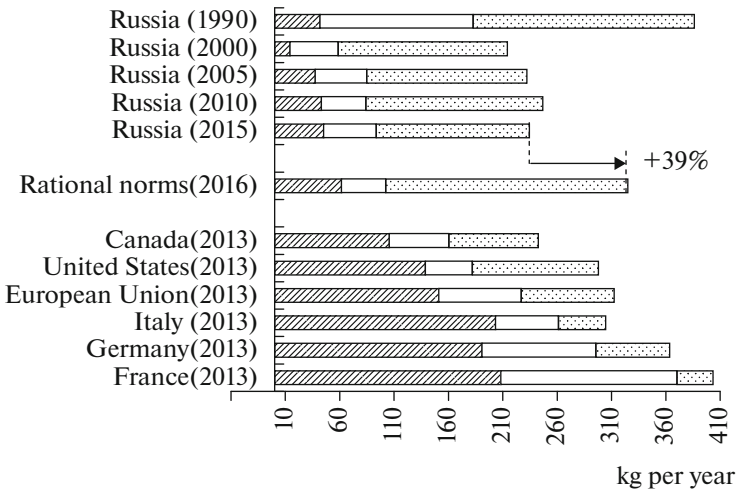


Fig. 5. Average per capita consumption of dairy products in Russia and in developed countries (in raw milk equivalent): ▨ cheese; □ butter; ⬚ other dairy products

ance with the current trends in changing of consumer preferences could reduce the possible distortion of both strategic targets and the government policy of corresponding agricultural sectors development. For example, the rational norms of dairy products consumption, which are used to justify the prospects of farming and milk-processing industry development, suggest an increase in the average per capita consumption of whole-milk products by more than 1.5 times (exceeding the 1990 level) and only a slight increase in cheese consumption. This contradicts the retrospective trends in Russia and abroad (Fig. 5) [1, 2; authors' calculations]. In other words, the current rational norms of milk consumption most likely fail to correspond to the changes in the volume and consumption patterns of dairy products. One direct implication is the overdramatized inability to ensure recovery growth in milk production; i.e. the development pattern which was characteristic of many other subsectors of agriculture after 2000.

In retrospect, the per capita consumption of basic food groups showed a dependence on the changes in real incomes of the population (Fig. 6) [1; authors' calculations]. The only exception was the lack of recovery growth in the consumption within the dairy-products group, despite the growing purchasing power of consumers and the possibility of satisfying demand through expanded imports (as was in the case of meat, vegetables, and fruits). This phenomenon can be explained using an analysis of foreign experience.

The long-term trends of developed countries point to the growing average per capita chees consumption and the declining consumption of butter and "other dairy products" (Fig. 7–8 [2, authors' calculations]). In the consumption structure of dairy products, cheese is the most dynamically growing group. Reduced butter consumption is caused by the government policy aimed at the prevention of cardiovascular diseases.

The reducing consumption of other dairy products is entailed by the replacement of drinking milk with other beverages. A slight increase in the average per capita consumption of other dairy products can only be observed in southern countries, where its level was initially abnormally low (Italy, Spain, and Greece).

If the hypothesis that the shift in the consumption of dairy products in Russia will mirror global trends in the long term is valid, the production demand of domestic milk-processing enterprises for milk will be defined by their competitiveness, primarily in the domestic cheese market, which has the highest growth potential. Therefore, state support for dairy farming is an important, but insufficient prerequisite for the successful development of this problematic subsector of

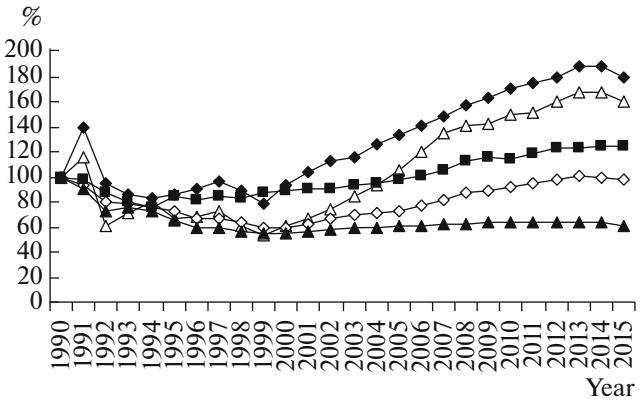


Fig. 6. Dynamic real incomes of population (–△–) and per capita consumption of meat (–◇–), milk (–▲–), vegetables (–■–) and fruit (–◆–) in the Russian Federation (1990 = 100%).

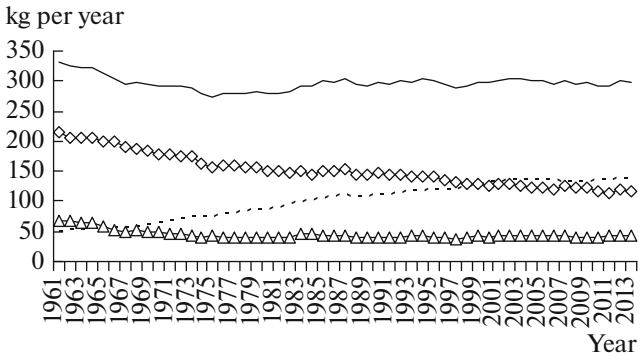


Fig. 7. The average per capita consumption of dairy products in the United States in retrospect (in milk equivalent): — all dairy products; **----** cheese; —△— butter; —◇— other products.

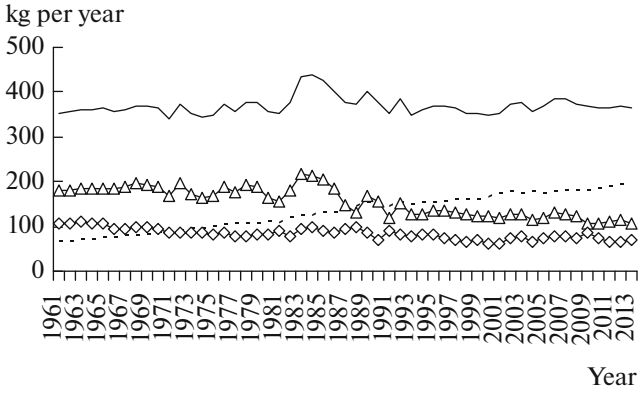


Fig. 8. Average per capita consumption of dairy products in Germany in retrospect (in milk equivalent): — all dairy products; **----** cheese; —△— butter; —◇— other products.

Russian livestock. This support should be aligned to the policy of the development of the domestic milk-processing industry, particularly cheese making, aimed at increasing the efficiency of production, improving product quality, and expanding assortment diversity.

The third scenario explores the possible orientation of state policy towards maintaining high rates of production growth in successfully developing sectors based on export expansion (instead of priority support for the problematic subsectors of agriculture aimed at ensuring import substitution). This scenario implies a higher share of imports of products like cheese, butter, beef, fruits, and higher volumes of exports of grain, poultry and pork, and vegetable oil.

The fourth scenario involves time-differentiated targeting of agricultural policy. In the medium term, the priority goal is to actively stimulate production growth in export-oriented sectors and develop the necessary infrastructure. At the same time, it is expected to moderately ease import restrictions and increase budget support for domestic production in the problematic segments of the domestic market (primarily in the dairy segment). Thus, the Doctrine's objective to ensure self-sufficiency can be softened: the concept of minimal agricultural imports can be replaced by the concept implying a balance of foreign trade in agricultural products.

This measure should improve the economic and physical accessibility, quality and assortment diversity of the corresponding types of food. Thus, specific prerequisites are created for a more dynamic development of the domestic cheese market and the rise of a cheese consumption culture in Russia typical of developed European countries. In the long term, there is a plan to shift the focus of state support to the intensified development of problem sectors of the agro-industrial complex aimed at import substitution in a more mature domestic market.

The fifth scenario involves the more intensive use of the available resource potential of agricultural production. The related conditions formed in this way that the projected rates of output growth in agriculture corresponded to the rates observed in retrospect (on average 3.1% a year in 2005–2015). Indicators of the development of individual subsectors were set taking into account the current long-term growth targets of the Russian Ministry of Agriculture. Specifically, the perspective grain harvest is to increase to 150 million metric tons. The extremely high values were assigned to the average per capita consumption of meat and milk in the Russian Federation in the long term, corresponding to the level of meat consumption in the United States and of dairy product consumption in France. This scenario allows to analyze the extent to which the targets aimed at maintaining the retrospective growth rates are aligned to a balanced future agricultural growth and mitigation of overproduction risks. The main hypotheses described in the analyzed scenarios are presented in Table 1.

The results of variant forecast calculations indicate that the scenarios 1 and 2, which involve the stabilization of meat consumption at the level of rational norms and the relatively low dependence of the Russian market on imports, suggest *no significant potential* for further increase in domestic *meat production* (Figs. 9–10, authors' calculations).

At the same time, assuming that the long-term differentiation of population by the level of meat consumption (which is currently quite high due to a strong social stratification) will decrease and become oriented towards the level of per capita meat consumption in developed countries, the potential for further expansion of the domestic market is quite significant (about 20–25% in scenarios 3 and 4, and 70% in scenario 5). However, the average annual growth rate for the domestic market volume in the forecast period does not exceed the retrospective growth rates in all of the considered scenarios. This means that, in the

Table 1. Scenario hypotheses of variant projections for assessing long-term growth potential in Russian agricultural sector

Indicator	2005	2010	2015	2030, by scenarios				
				1	2	3	4	5
Average per capita consumption of major types of food, kg/year								
Cereals	119	113	111	96	96	96	96	96
Potato	108	104	112	90	90	90	90	90
Vegetables	86	101	111	140	140	140	140	140
Fruits and berries	45	58	61	100	100	100	100	100
Sugar	41	43	39	24	40	40	40	40
Vegetable oil	12.1	13.4	13.6	12.0	15.0	15.0	15.0	15.0
All types of meat:	55.0	69.1	72.6	73.0	75.0	85.0	85.0	115.0
Beef	17.6	17.1	14.9	20.0	14.0	18.0	18.0	27.0
Pork	17.5	24.6	23.3	18.0	25.0	28.0	28.0	40.0
Poultry	18.1	25.2	32.4	31.0	34.0	37.0	37.0	45.0
Other types	1.9	2.1	2.0	4.0	2.0	2.0	2.0	3.0
Dairy (in raw milk equivalent):	232	247	234	325	268	268	325	400
Cheese (in physical terms)	4.3	4.9	5.1	7.0	6.5	6.5	13.0	20.0
Butter (in physical terms)	2.3	2.0	2.4	2.0	3.0	3.0	3.0	3.0
Other dairy products (in raw milk equivalent)	147	163	141	223	150	150	150	163
Eggs (pieces/year)	249	269	269	260	260	260	260	260
Share of imports in total domestic market resources, %								
Fruit and berries	52.2	62.4	53.6	30.0	40.0	60.0	40.0	40.0
Sugar	27.6	20.5	11.1	11.0	11.0	5.0	5.0	5.0
Vegetable oil	28	21	17	17	17	10	10	10
All types of meat:	36	26	11	11	11	8	5	5
Beef	31	31	26	26	26	25	10	10
Pork	40	35	11	11	11	5	5	5
Poultry	49	23	7	7	7	5	5	5
Other types	19	14	6	6	6	10	10	10
Dairy products:	18	19	18	10	10	21	10	10
Cheese	43	42	27	25	25	35	15	15
Butter	25	27	27	15	15	35	15	15
Other dairy products	15	17	16	5	5	16	5	5
Exports of basic types of agricultural products, million tons								
Cereals	12.2	13.9	30.7	40.0	40.0	50.0	50.0	60.0
Vegetable oil	0.3	0.6	2.2	2.4	2.4	4.6	4.6	4.6
All types of meat	0.07	0.10	0.14	0.63	0.63	1.03	1.03	2.00
Beef	0.02	0.03	0.02	0.03	0.03	0.03	0.03	0.10
Pork	0.02	0.03	0.03	0.20	0.20	0.40	0.40	0.70
Poultry	0.02	0.04	0.09	0.40	0.40	0.60	0.60	1.20
Other types	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

The following hypotheses were applied for all explored scenarios by 2030: – the population of the Russian Federation will be 147.2 million people (the middle scenario of Rosstat); – the share of imported grain (1%), potato (2%), vegetables (10%), and eggs (3%) in total domestic market resources; – exports of potato (0.1 million tons), vegetables and melons (1 million tons), fruits and berries (0.15 million tons), sugar (0.05 million tons), dairy products (650 000 t) (in milk equivalent), cheese (30 000 t) (in physical terms), butter (4000 tons) (in physical terms), other dairy products (30 000 t) (in milk equivalent), and eggs (400 million pieces); – the cereals yield (30 centners per hectare); – the norm of sowing seeds in the cereal crop per hectare of arable land (2 centners per hectare); – the index of feed consumption per unit of production: in livestock (90%), in dairy farming (89%), cattle breeding (94%), pig breeding (76%), poultry farming (99%), and eggs production (100%) compared to the 2015 level.

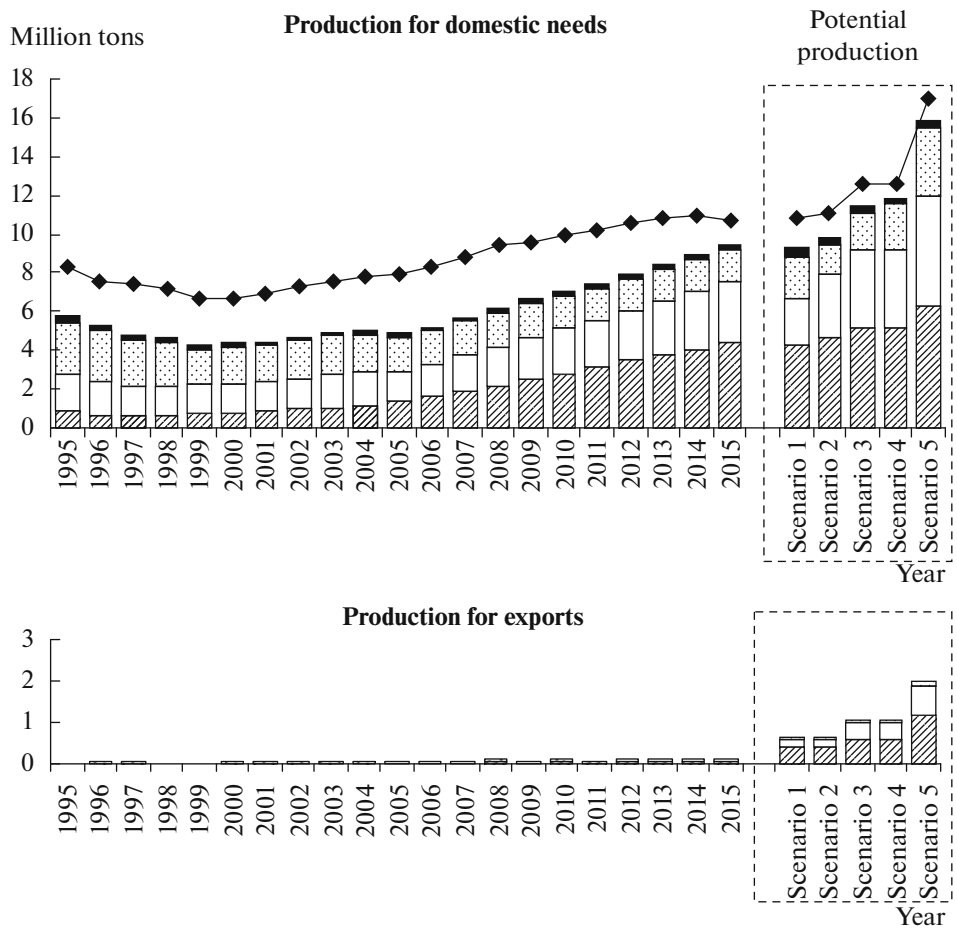


Fig. 9. Meat production capacity for domestic needs and export under different scenarios (in slaughter weight): ▨ poultry; □ pork; ⬚ cattle; ■ other types; —◆— domestic meat consumption (including imports).

medium term, the domestic market will reach the physical limits of saturation, which is expected to happen in some sectors (especially poultry) in the next few years.

Thus, the development of exports is of increasing importance for the further sustainable growth of the meat sector. The potential expansion of exports should not be overestimated; there is fierce competition between suppliers in the global meat market. In terms of scale, the potential increase in meat exports is several times smaller than the increase in domestic meat consumption observed in 2000–2015. In this respect, the domestic meat production sector will not be able to maintain high rates of output growth, comparable with the retrospective ones.

The projected estimates for the dairy farming indicate that the potential increase in domestic raw milk production remains at a high level of 50% in normative calculations (scenario 1) (Fig. 11) [1; authors' calculations]. However, taking into account the existing restrictions, which are mainly associated with the current stereotypes of dairy product consumption and the insufficiently developed domestic milk processing, this potential can only be partially used within the scenario of large-scale state support for dairy farming (scenario 2). The analysis of current trends in the dairy products consumption shows that the rational norms of milk consumption can be achieved in the long run by increasing the consumption of cheese rather than other dairy products (scenario 4).

According to the results obtained for domestic grain market, based on the hypothesis of a moderate increase in feed conversion ratio in livestock (by 10% to 2015), the volumes of domestic grain consumption will be comparable to its current values even in scenario 4, which involves a significant increase in the production in dairy and meat sectors (Fig. 12) [1; authors' calculations]. Potentially high growth rates of domestic consumption (30–35%) can only be observed in scenario 5 coupled with extremely high volumes of meat and dairy production.

Taking into account the estimates obtained for the domestic grain market volume and the hypothesis of the export expansion, the prospective grain production in Russia should not exceed the harvest of 2016

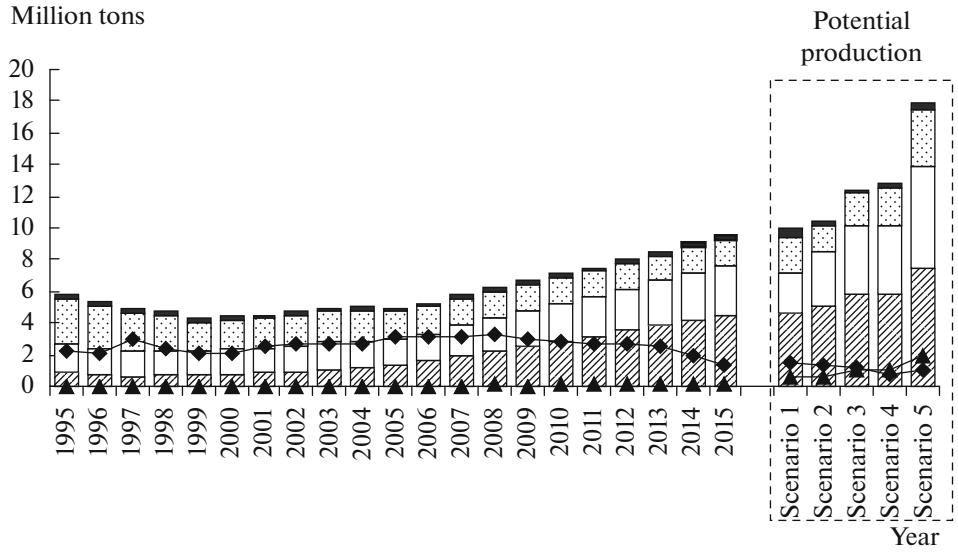


Fig. 10. Potential total meat production in Russia under various scenarios (in slaughter weight): ▨ poultry; □ pork; ⬚ cattle meat; ■ other types; –◆– imports of meat of all types; –▲– exports of meat of all types.

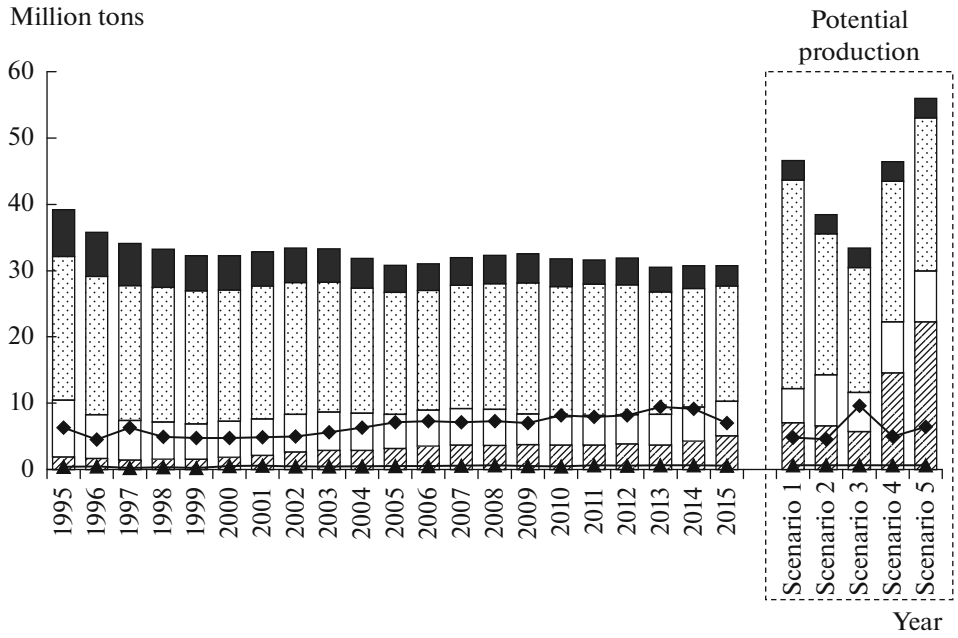


Fig. 11. Raw milk production capacity in different scenarios: ▨ for cheese production; □ for butter production; ■ for feeding; ⬚ for production of other dairy products; –◆– import volumes (in milk equivalent); –▲– export volumes (in milk equivalent).

(ca. 121 million tons) under the first three scenarios (Fig. 13) [1; author's calculations].[4]

Higher volumes of exports and domestic meat and milk production may require an increase in grain production to 125 million tons (scenario 4). The volumes of grain production at the level of 150–155 million tons can only be required in scenario 5, i.e., with an export volume of 60 million tons and extreme values of meat and dairy consumption. Thus, the results of the forecast calculations show that the limited capacity of domestic and foreign markets will be the key factor constraining the development of the grain sector in the future. An increase in the exports of Russian grain will enhance the dependence of the domestic market on the world grain market conditions. To effectively damp the risks associated with both the possible overproduction in the harvest years and with the negative world market conditions, it is necessary to accelerate

[4] In Fig. 12, the hypothesis of an annual stocks increase by 1 million tons in the forecast period was applied to all scenarios. As a result, an increase in grain ending stocks for 2016–2030 will reach 15 million tons, or about 23% of the beginning stocks in 2016.

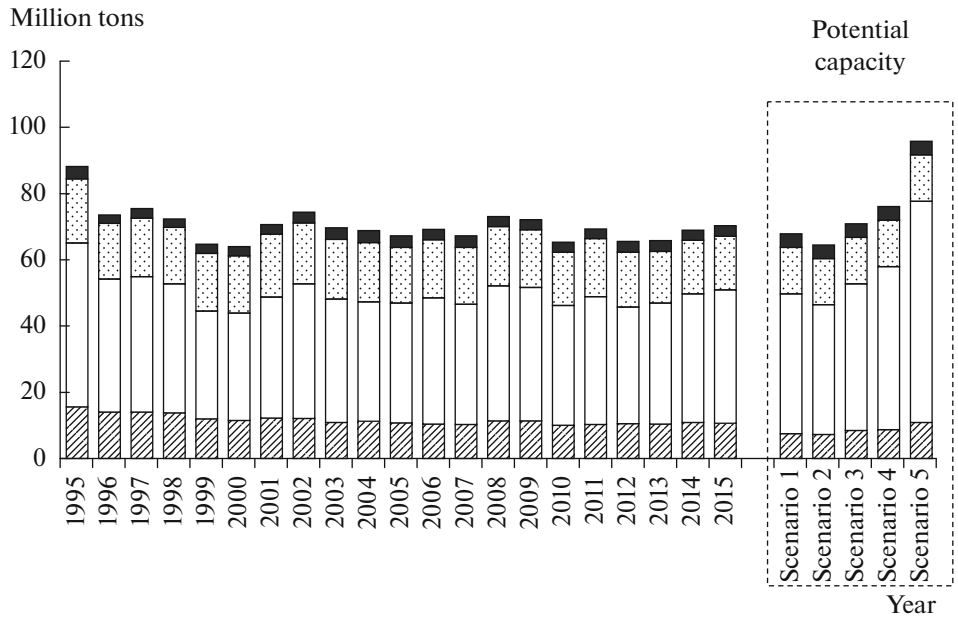


Fig. 12. Domestic grain consumption volumes under various scenarios: ▨ for seeds; □ for feeding; ⬚ for food; ■ for other purposes.

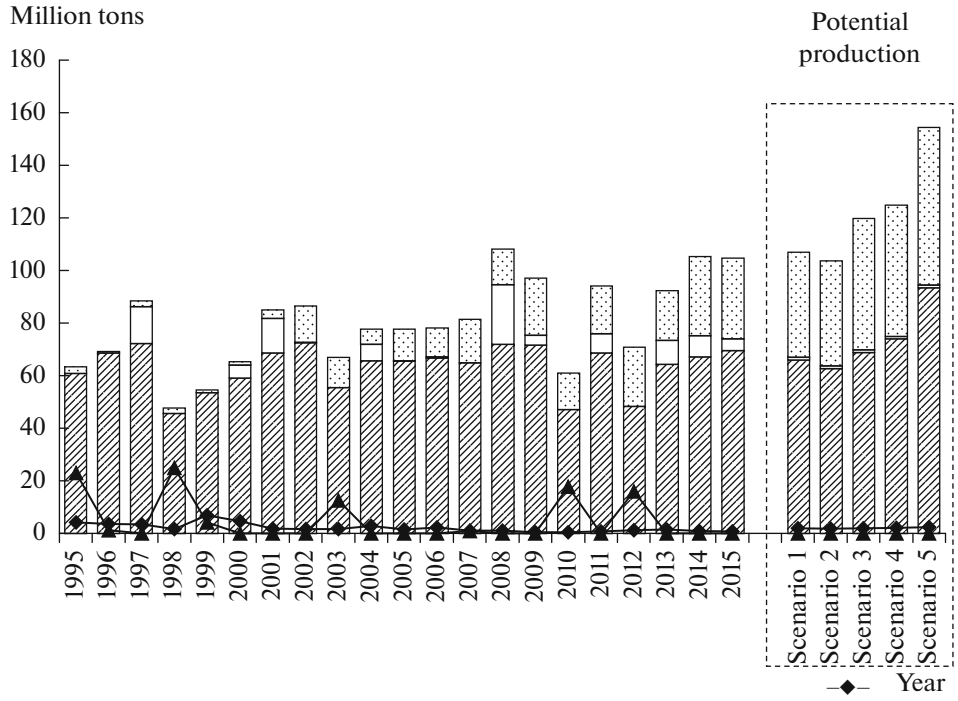


Fig. 13. Grain production capacity of the Russian Federation under different scenarios: ▨ for exports; □ for replenishing reserves; ⬚ for domestic needs; –◆– imports; –▲– use of past year reserves.

the development of the infrastructure and change the regulation of grain market and production.

The analysis of the forecast estimates obtained for scenario 5 shows that the current targets declared for the prospective volumes of grain production are not consistent with the real possibility of grain sales in the domestic and foreign markets. Reaching the gross harvest targets (150 million tons) requires achieving meat consumption on the level of the United States and dairy products on the level of France, while exporting 60 million tons of grain and about 2 million tons of meat. These levels of per capita consumption of meat

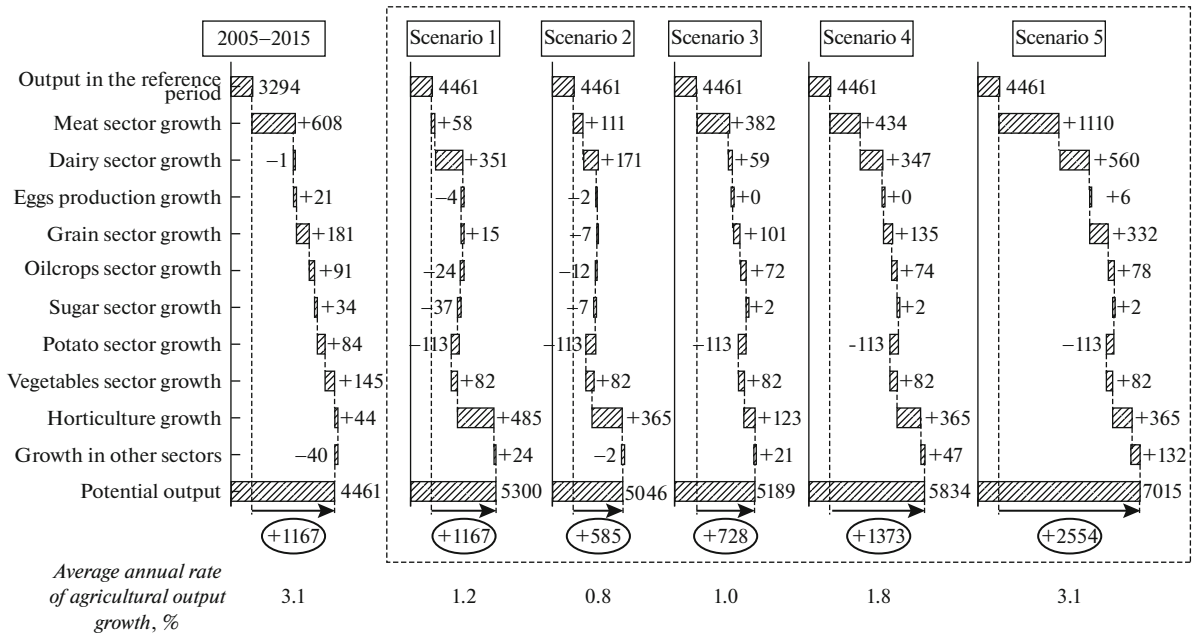
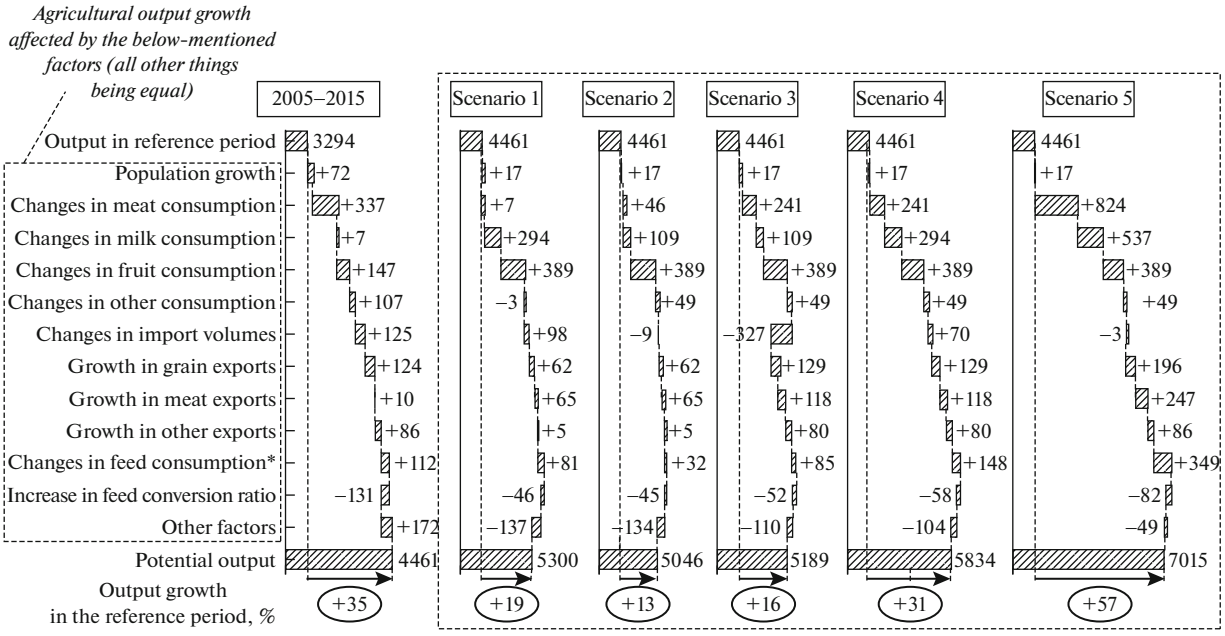


Fig. 14. Share of specific sectors in total output growth in Russian agriculture in retrospect and in various scenarios in forecast period of 2016–2030 (billions of constant 2014 rubles).



* *With feed conversion ratio of 2015, %*

Fig. 15. Share of specific factors in total output growth of Russian agriculture in retrospect and in forecast period of 2016–2030 (all conditions being equal, billions of constant 2014 rubles).

and dairy products are not only difficult to ensure, but also redundant with regards to a healthy diet. The indicated export volumes are also extremely difficult to ensure. At the same time, even in scenario 5, it will not be necessary to involve the idle grain production resources into the economic circulation.

Based on the estimated agricultural output growth potential under different scenarios in Fig. 14 [authors' calculations], it can be noted that, in the first four scenarios, the average growth rates in the forecast period are significantly lower than the rates for 2005–2015. At the same time, the future branch structure of agricul-

tural growth will differ substantially from the corresponding structure of the retrospective period.

In addition to the meat sector, horticulture and dairy farming can be the most dynamically growing sectors. Several sectors that were growing in the last decade, including potatoes, sugar beets, eggs, grains, and oilcrops production, may stagnate or even show negative dynamics in the forecast period (due to the near saturation of the corresponding domestic markets and barriers constraining the expansion of exports).

The analysis of the impact of specific factors on the output growth in agriculture (Fig. 15) (authors' calculations) shows that, as in retrospect, the growth will be mostly driven by the growing per capita consumption of some types of food in the forecast period, particularly fruits, dairy products, and meat. Import substitution will have a minor role in output growth, whereas export expansion will be key in several scenarios.

CONCLUSIONS

Main conclusions for prospective agrarian policy. The prospective agro-food policy options should combine the following targets:

—*support for expanding capacity* of domestic markets;

—*support for expanding exports* in dynamically growing sectors of the agriculture and development of the related infrastructure;

—*the controlled inhibition* of production growth in the sectors with a limited capacity of domestic and foreign markets.

The expanding capacity of domestic markets involves the actions of the following orientation. The focus of social policy based on the Doctrine's imperatives can be made on reducing differentiation of the population incomes and increasing the economic access to food for vulnerable sociodemographic groups. Other things being equal, this will contribute to the expansion of demand for the products of the domestic agribusiness.

The private farms of individuals are a retrograde part of the rural economy and currently form an essential share of its nonmarket part. The expansion of market methods to meet food demand will replace private farms with agricultural organizations and commercial farms. This will expand the capacity of some segments of the domestic market and create additional opportunities for developing commodity agricultural production, the potential of which is comparable to that of import substitution and export expansion. At the same time, the ineffective socioeconomic policy applied for the development of rural areas, as well as the persisting low standard of living (stagnant poverty) and high differentiation of incomes of rural residents, will retain the high demand for the function, which is currently performed by private farms in order to compensate for the low cash income of rural households and will block any potential expansion of commercial agricultural production.

It is necessary to ensure coherence in the development of the related branches of the agroindustrial complex. Several industries, including dairy farming, face problems of development due to the restricted current processing industry demand. Thus, if dairy farming is considered autonomously, the course of recovery growth, which primarily relies on measures for the expanded reproduction of the fixed assets and human resources capacity of the industry is highly probable. Considering the production and technological chain, the course towards the growth of raw milk production is only rational if the growing volumes of raw milk fit into the prospective balance of dairy enterprises of milk-processing industry.

The prospective dynamic increase in dairy farming production depends to a large extent on the ability of domestic milk-processing enterprises to increase the production of cheese, for which the effective demand of the population will grow at the highest rate. In these circumstances, the longer the time required to modernize the domestic milk-processing industry and improve the quality and variety of cheese produced, the greater the gap between the volume of domestic demand for cheese and the capacity of their domestic production. In this context, cheese imports will essentially remain complementary, rather than competing, and provide the necessary assortment variety of supply, which is a key factor in the development of a cheese consumption culture. In other words, in the short and medium term, cheese imports can reduce the demands in the milk processing industry for raw milk and, thus, limit the possibilities of increasing dairy farming production; however, at the same time, they promote a culture of cheese consumption and create a competitive environment on the domestic market that stimulates the qualitative transformation of domestic producers. In the long term, this approach will boost cheese consumption in Russia, and the growing competitiveness of domestic dairy enterprises will build the strategic capacity required to increase dairy farming production. The dual role of imports objectively complicates the development and implementation of foreign trade-regulation policies, which should be flexible and selective, as well as provide the required level of support to domestic producers, ensure sufficient supply, and expand the variety of products in the domestic market.

In the context of the *export expansion* policy, the following has to be considered. The strategic targets for production growth and the direction of the structural shifts, which differ significantly from those that can be justified in the context of national food security policy, can be defined based on an analysis of Russia's potential role in solving the global food problem. This may be, e.g., the new geopolitical project of Russia as a global food power, which can provide a political base

for further state support for a large-scale agricultural production and its export expansion. However, for this purpose, agriculture or the agroindustrial complex as a whole should be able to compete for limited development resources (in particular, political resources) with projects in other sectors of the national economy claiming for state support in the context of the development of structural elements for the Russian economic development strategy.

Furthermore, a significant reduction in global political tension and the achievement of a high level of trust is a fundamental prerequisite for the successful export development. In other words, in the current political climate, one can only speak of export expansion to the national markets of Russia's strategic partners, e.g., China. The capacity of the Chinese market is enormous; however, it can only be accessed through appropriate agreements at the highest political level, rather than based on economic competitiveness.

At the same time, it is possible to develop a policy for integrating domestic production of traditional types of agri-food products in world markets with a focus on solving food problems of low-income developing countries; focus can also be placed on creating prerequisites for integrating in the emerging markets of organic agricultural products and food, which are "perfect" in terms of quality and the used production technologies. The key element of the latter scenario is associated with structural and technological changes, as well as the transformation of agriculture to a sector that uses environment-friendly technologies, which is technological imperative. Expansion into the world market requires the development of production and technological, foreign policy and institutional preconditions (and economic agents), rather than the traditional selection of sector priorities, given that expansion opportunities will arise for products with a relatively narrow set of consumer characteristics, rather than for aggregate commodity groups.

This development scenario can also be implemented in a situation where national food sovereignty is considerably weakened because the use of Russian agricultural production resources to solve global food problems will be enabled by foreign capital, foreign companies, and international institutions. In the context of the *controlled inhibition policy*, the following must be considered.

First, it is necessary to take into account the situation on the food market. The stereotype that any growth in agricultural production is an absolute virtue should be abandoned. The probability of overproduction crises is increasing, which can be extremely destructive under high debt burden of agricultural enterprises. The production growth targets should be clearly formulated in terms of both selecting the subsectors of agriculture and the food industry and assessing the desirable volumes of production growth. For this purpose, government has to develop a state system for regulation of agricultural production and agri-food markets, which has formed in a similar context in most countries with developed agriculture.

Second, the Doctrine of Food Security of the Russian Federation has to be revised. The Doctrine's provisions appear unable to justify the rationality of a course towards the long-term large-scale growth in the domestic agri-food production until 2035. The new version of the Doctrine, which is currently at the stage of discussion, does not introduce any changes in this respect.

On one hand, it is important to critically evaluate the extent to which the success achieved in agricultural production can be reproduced. Since the advanced positions were achieved by expanding the import of equipment and raw materials and components, the direct dependence of the Russian market on agri-food imports was substituted by a more implicit resource and scientific and technological dependence. The severity and significance of the respective threats have yet to be assessed. However, if the relevant threats are considered as important challenges, the Doctrine has to provide the basis for the design and implementation of an integrated multidimensional policy for the development of the national resource and technological foundation for the sustainable development of the agribusiness sectors.

On the other hand, it is also possible to radically revise the concept of *food sovereignty*. The current narrow interpretation based on food self-sufficiency could be replaced by a broader concept that refers to a balanced foreign trade in agricultural products and food, with significant volumes of exports and imports. Overall, this approach will allow both to justify higher targets for the development of domestic agribusiness (implying support for export expansion) and to create favorable conditions for the progressive achievement of other food security criteria, particularly, those related to food quality.

Finally, the content of the agri-food policy should be shaped as a system of *explicit compromises* for a multitude of internally contradictory targets formulated for various development aspects of the agribusiness sector and the national economy as a whole. For example, in a situation where the domestic agri-food market is close to its saturation, the importance of a compromise between the course of intensifying agricultural production and the course of sustainable rural development is growing. Local progress in labor efficiency can aggravate social tension in rural areas due to the increased differentiation of the rural residents' income and standard of living. As a result, it could trigger a wave of labor migration from the rural areas, the concentration of effective production in a limited number of regions, and the aggravation of the socioeconomic problems in rural areas of other regions.

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