

Agricultural exports from Russia to Asian countries: Analysis of prospects and trends

Exportaciones agrícolas de Rusia a países asiáticos: análisis de perspectivas y tendencias

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Abstract

The recent recovery in Russian agriculture is due not only to the producers support from the State, but also to an increase in the production of foodstuffs substituting the imported ones. This was a result of negative foreign policy factors, and now further promising guidelines for Russian agriculture are expected to be developed by the government. The article is relevant due to the fact that the expansion of agricultural exports is a strategically important task for the entire Russian economy. The article analyzes the dynamics of agricultural production in Russia by farm categories over the past 19 years, as well as the production of main types of import-substituting foods for 2017-2018. The main agricultural exports to the Asian countries are identified and grouped. The current state and the possibility of a potential increase in exports of agricultural products by sectors of agro-industry have been studied. On the example of priority agro industries, ensuring the strategic expansion of exports to Asian countries, the current financial and economic state of the largest agro-industrial enterprises has been studied using special indicators of the SPARK system (system of professional analysis of markets and firms in Russia). The analysis showed that more than 90% of companies fall into the low-risk group by composite risk indicator, which is undoubtedly a positive development. This increases the likelihood of these entities stable development and the growth of their exports to Asian countries.

Keywords: Agro-industrial complex, Infrastructure, Agriculture, Industrie

Resumen

La reciente recuperación en la agricultura rusa se debe no solo al apoyo de los productores por parte del Estado, sino también a un aumento en la producción de alimentos que sustituyen a los importados. Esto

fue resultado de factores negativos de política exterior, y ahora se espera que el gobierno desarrolle nuevas pautas prometedoras para la agricultura rusa. El artículo es relevante debido al hecho de que la expansión de las exportaciones agrícolas es una tarea estratégicamente importante para toda la economía rusa. El artículo analiza la dinámica de la producción agrícola en Rusia por categorías de granjas en los últimos 19 años, así como la producción de los principales tipos de alimentos que sustituyen las importaciones para 2017-2018. Se identifican y agrupan las principales exportaciones agrícolas a los países asiáticos. Se ha estudiado el estado actual y la posibilidad de un aumento potencial de las exportaciones de productos agrícolas por parte de los sectores de la agroindustria. En el ejemplo de las agroindustrias prioritarias, que aseguran la expansión estratégica de las exportaciones a los países asiáticos, se ha estudiado el estado financiero y económico actual de las empresas agroindustriales más grandes utilizando indicadores especiales del sistema SPARK (sistema de análisis profesional de mercados y empresas). En Rusia). El análisis mostró que más del 90% de las empresas caen en el grupo de bajo riesgo por indicador de riesgo compuesto, lo que sin duda es un desarrollo positivo. Esto aumenta la probabilidad de desarrollo estable de estas entidades y el crecimiento de sus exportaciones a países asiáticos.

Palabras clave: complejo agroindustrial, infraestructura, agricultura, industria



Introduction

The activity of Russian agro-industry directly depends on the state and development of agriculture, since the latter is its most significant and largest area. The volume of agricultural production by sub-sectors significantly affects the performance of the Russian agricultural sector as a whole. For example, a decrease in livestock and crop production may hinder the development of such sectors as processing and light industries; and reducing of croplands and cattle grazing areas will lead to a reduction in forage production.

Methods

The works of Russian and foreign scientists on economic analysis, laws and regulations governing the development of Russian

agricultural sector have served as a theoretical basis for the study. The following methods were used: analysis, synthesis, abstract-logical and monographic methods, methods of systematizing and summarizing the results of the study.

Results

2.1. Current situation in Russian agro-industrial complex

Although the recent development of Russian agribusiness involved some difficulties, the government measures taken to ensure the national food security and to protect the interests of domestic agricultural producers, contributed to an increase in the output of agricultural products (Khoruzhiy, 2008). Figure 1 shows the dynamics of agricultural production over the past 19 years for all categories of farms.

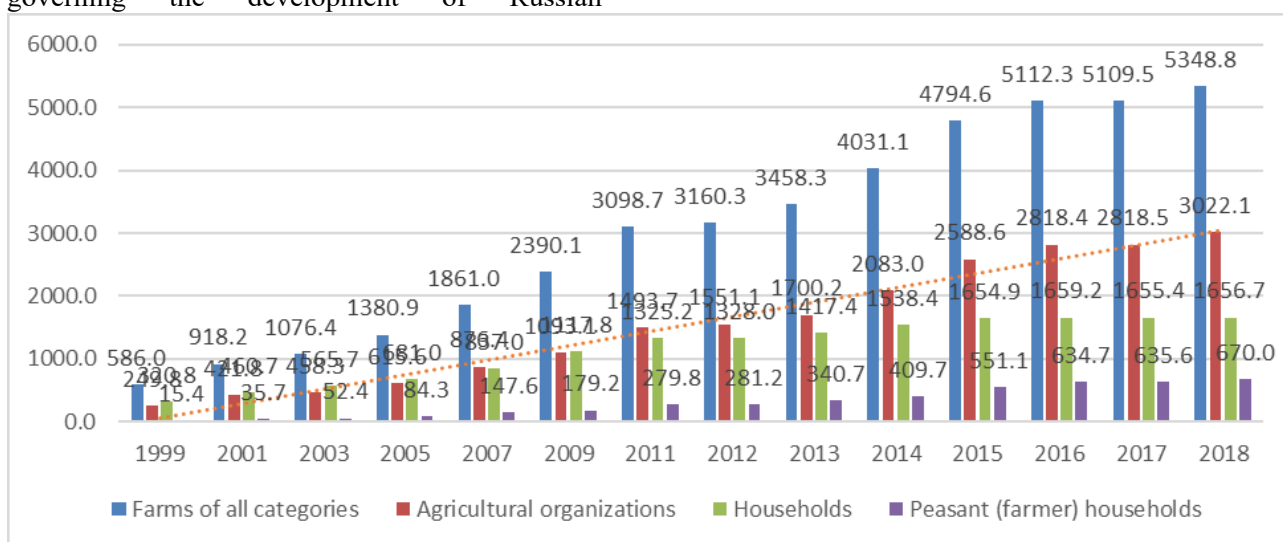


Fig.1. Agricultural production in the Russian Federation by farm categories (billion rubles)*

*compiled based on the data of Federal State Statistics Service

http://old.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/economy/#

As can be seen from the data of Figure 1, the value of agricultural output tended to increase. Thus, in 2018 the value of agricultural products produced by Russian enterprises increased by 203.6 billion rubles or 7.2% compared to 2017, and by 1109.8% compared to 1999.

There is also a significant increase in the output of agricultural households (the growth rate in 2018 was 5.4% compared to 2017, and 138.3% compared to 2012). This growth was caused not only by the price factor, but also to the measures

taken to improve the technical condition, material and resource base of small-scale farms and personal plots, rural livelihoods and housing conditions.

The prolongation of food embargo, in effect since August 2014, contributed to an increase in production of basic import-substituting foods in the Russian Federation (Development Plan for the Agro, 2019). The valuation of main import-substituting foods produced in the last two years is presented in table 1.

Table 1. Production of main import-substituting foods in Russia (thousand tons)*

	2017	2018	2018 B % K 2017

Fresh or cooled beef and veal, including for baby food	205	227	110,7
Frozen beef and veal, including for baby food	56,7	70,7	124,5
Fresh or cooled pork, including for baby food	2171	2414	111,2
Frozen pork, including for baby food	233	254	108,8
Poultry meat and by-products	4839	4877	100,8
Sausage products, including for baby food	2259	2282	101,0
Wild-caught live saltwater fish	112	154	138,1
Wild-caught fresh or cooled saltwater fish	855	847	99,1
Fresh wild-caught crustaceans	45,8	52,5	114,6
Fresh or cooled fish products, including filets and farce)	17,3	17,4	100,5
Frozen fish	3057	3057	100,0
Frozen fish filets	146	155	106,1
Salted and brined fish, fish jerky	106	111	105,2
Smoked fish including filets	58,4	65,3	111,9
Frozen crustaceans	69,9	82,4	117,9
Frozen vegetables (except potatoes) and mushrooms	62,6	55,7	89,4
Vegetables (except potatoes) and mushrooms, canned for short-term preservation	34,5	38,3	111,0
Fresh, heat-treated or frozen fruit, berries and nuts	15,6	16,6	106,3
Processed drinking milk, including for baby food	5390	5466	101,4
Cream	133	150	113,1
Cottage cheese	486	501	103,2
Butter	270	267	98,7
Cheese	464	467	100,6
Condensed dairy products, million standard cans	837	806	96,3
Fermented dairy foods (except cottage cheese and curd products)	2896	2820	97,4

* compiled based on the data of Federal State Statistics Service [<https://www.gks.ru/folder/11188>]

As can be seen from Table 1, the agricultural sector is the largest contributor to the total import-substituting production in Russia. The food processing industry has also increased the import-substituting production. For example, the cream production in 2018 increased by 13.1% compared to 2017, and the cottage cheese share - by 3.2%. Such trends open one of the most promising areas for the further development of Russian agricultural sector – higher volume of agricultural products export. This strategic task took its form with the adoption of the national project "Export

of agricultural products" suggesting a double increase in exports of agricultural products by 2024 with the total growth to \$ 45 billion . In this context, it should be noted that the structure of Russian agro-industrial complex includes the industries, shown in Figure 2. The first includes sectors providing the agriculture with means of production, the second is agriculture itself, and the third is represented by canning, transportation, processing and channeling to the end-user (Moshchenko,2018, Rokotyanskaya,2013).

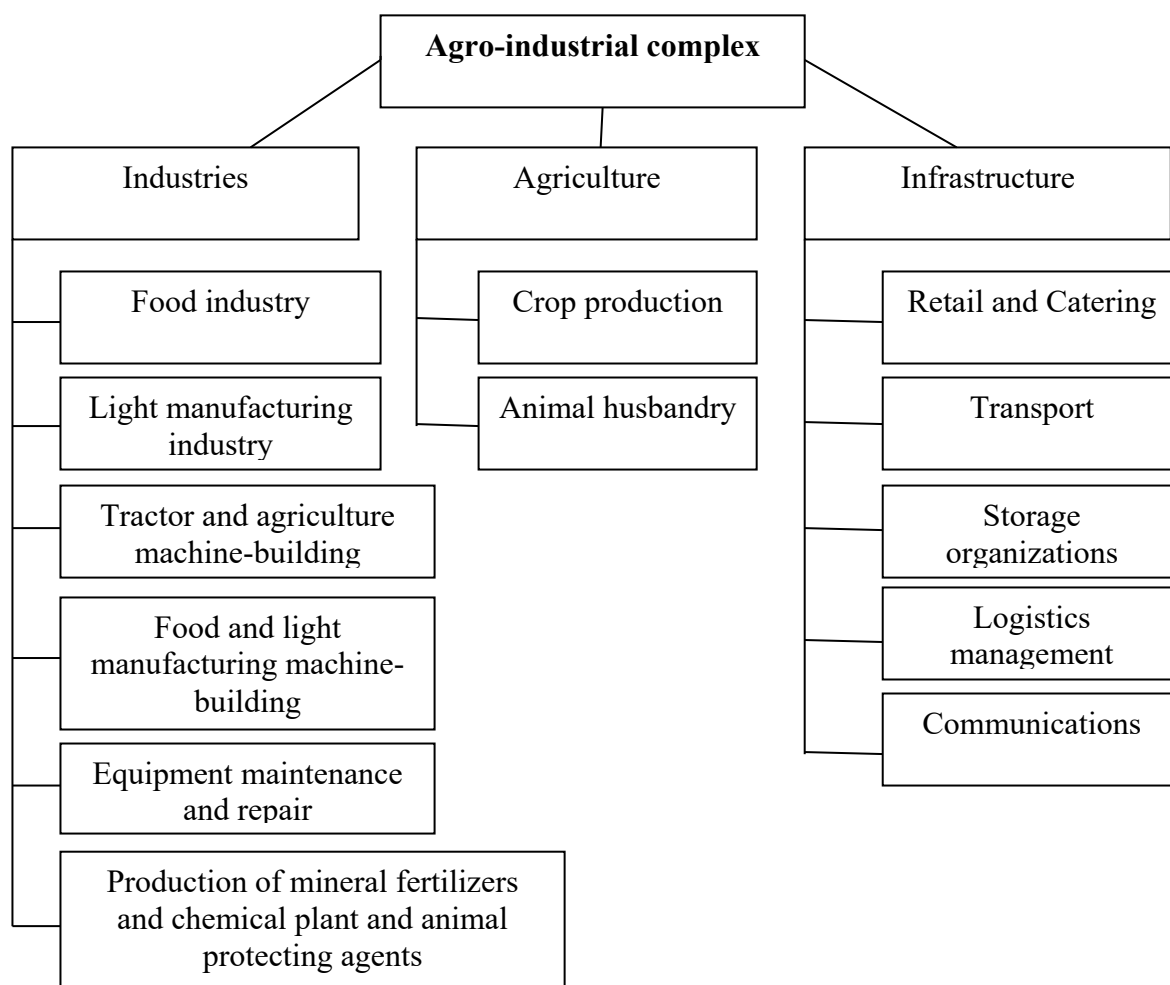


Fig. 2 The structure of Russian agro-industrial complex

Therefore, in order to implement strategic tasks of increasing the agricultural products exports, it is necessary to increase the production of other agricultural sectors, in addition to agricultural production.

2.2 Priority areas for expanding agricultural exports to Asia

The sanctions policy pursued by the Western countries tempted Russian authorities to intensify

the cooperation with Asian countries. Analysis of foreign trade guides compiled for Russian companies by the Department for Coordination, Development and Regulation of Foreign Economic Affairs of the Ministry of Economic Development of the Russian Federation allowed grouping the main areas of Russian agricultural exports to Asian countries by their type (Table 2).

Table 2. Priority areas of agricultural exports to Asian countries*

Country	Agricultural production type
India	Agricultural and food products
Pakistan	Agricultural machinery; fertilizers and pesticides; forest products
Korea	Agricultural products; fishery products
Iran	Agricultural and food products; mineral fertilizers
Tajikistan	Agricultural and food products
Abkhazia	Agricultural products; timber; fertilizers
China	Agricultural and food products; forest products

*Compiled based on the data of Ministry of Economic Development of the Russian Federation
[\[http://www.ved.gov.ru/exportcountries/businessguide/\]](http://www.ved.gov.ru/exportcountries/businessguide/)

As can be seen from table 2, agricultural and food products are one of the promising areas for expanding the agricultural export to India. It should be noted that India is one of the largest importers of food products in the world. Russia is a traditional supplier of yellow peas, chickpeas, coriander, sunflower oil, wheat. One of the potential export directions may be lamb, chicken and pork meat products, sugar, soybean oil, etc. The most promising Russian products to be exported to Pakistan include:

- spare parts for tractors and combines; technologies for modern agricultural machines; tires for trucks and tractors;
- fertilizers (carbamide; diammonium phosphate, etc.);
- pesticides and chemical fertilizers;
- wood and timber.

Since 2017 the conditions for expanded cooperation between Russia and Japan in the field of agriculture have become much more favorable. One of the promising directions for expanding the export to the country of the rising sun is the supply of meat and meat products, as well as poultry products. In this connection, in 2017, the two largest Russian food manufacturers: Miratorg-Zapad (Kaliningrad) and Ratimir (Vladivostok) successfully passed the veterinary and sanitary control by Japanese specialists to permit the import of heat-treated meat into Japan (Federatsii, 2007).

The main priority areas for Russian exports to Iran may be:

- supply of food and feed species of grain crops such as: wheat, barley, as well as corn, rapeseed and soybean meal, as well as various animal feedstuff;
- supply of unrefined vegetable oils, oilseeds of sunflower, soybeans and rapeseed;
- supply of animals and products of animal origin (poultry, beef, lamb, goat meat and egg powder);
- supply of mineral fertilizers.

The promising areas for Russian agricultural exports to Asian countries must be considered separately. For example, Russia is the largest supplier of agricultural products (cereals, vegetable oil and sugar) to Tajikistan. There are significant prospects for an increase in foodstuffs (flour confectionery, food products)

The main promising direction for Russian exports to Abkhazia is the supply of agricultural machinery, as Abkhazian agricultural machinery is extensively worn out (85-90%). However, in recent years, the exports of Russian agricultural machinery to the domestic market of Abkhazia have been sporadic.

The most promising areas for expanding exports to the largest partner and neighbor - China in the framework of cooperation include the supply of Russian agricultural and food products, as well as timber.

Figure 3 shows the forecast of cumulative potential of Russian agricultural exports to China.

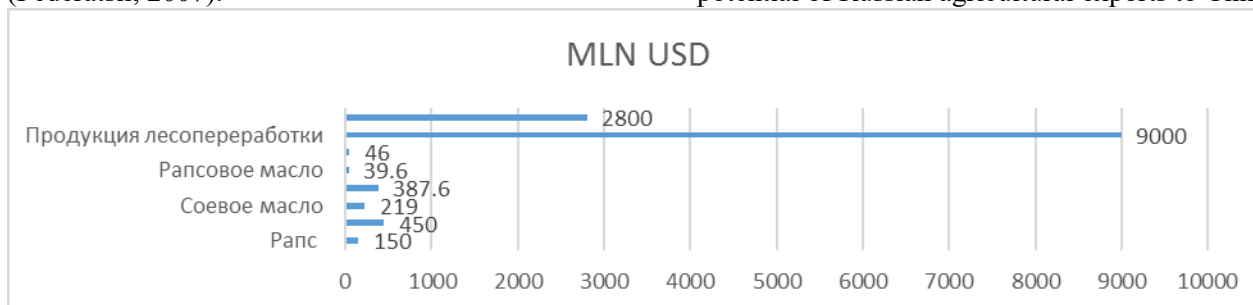


Fig. 3. Forecast of cumulative of Russian agricultural exports to China for 2020.
 Compiled based on the data of Ministry of Economic Development of the Russian Federation
[\[http://www.ved.gov.ru/exportcountries/businessguide/\]](http://www.ved.gov.ru/exportcountries/businessguide/)

As can be seen from the data presented in Figure 3, the increase in the supply of soybeans and soybean oil to China by 2020 is expected to reach 669 million dollars, which is determined by a serious advantage of Russian producers over foreign competitors: the proximity of our countries allowing to reduce logistics costs.

The increase in exports of Russian forest products is also due to the Program of cooperation between the Far East and Eastern Siberia regions and the Northeast of the People's Republic of China for

2009-2018. The document provides for the construction of large export oriented timber processing plants, in particular, the creation of a full wood processing complex on the basis of the Chunksy Timber Processing Complex and a timber processing complex in the Ust-Kutsky District of the Irkutsk Region, a center of advanced wood processing in the city of Amursk and enterprises for production of OSB boards in Komsomolsk-on-Amur, Khabarovsk Krai, wood-processing industry in the Yakovlevsky District of



Primorsky Krai, etc. In total, 19 large joint Russian-Chinese timber processing enterprises will be constructed in the Far East and Eastern Siberia. As can be seen from Figure 3, the forecasted cumulative potential of timber supply is \$ 9 billion by 2020.

Currently, the relevant agencies of the contracting parties are developing a new medium-term cooperation program.

2.3 Analysis of financial and economic activities of largest agricultural enterprises by sectors

The identification of priority directions for the agricultural exports from Russia to Asian countries requires an analysis of the reliability of the largest agricultural enterprises, which are able to fulfill the strategically important objectives. The analysis conducted in paragraph 2.2 showed that, in addition to agricultural products, Asian countries could be interested in the supply of fishery, forest products and mineral fertilizers. The evaluation of the largest Russian agricultural companies reliability by priority sectors (except agriculture) for 2018 is given in table 3.

Table 3. Evaluation of reliability of the largest Russian agribusiness companies by sectors (except agriculture) for 2018*

№	Index	Number of enterprises		
	Fishery			
1	Due Diligence index (DDI)	0-40 97	40-70 0	70- 0
2	Financial Risk Index (FRI)	0-14 69	14-85 28	85-100 0
3	Payment Index	0-49 1	49-79 0	79-100 3
3	Consolidated indicator	Low 96	Medium 1	High 0
15	2018, Revenue, RUB	<1 billion 0	1 billion – 10 billion. 95	10 billion – 20 billion. 2
	Logging			
1	Due Diligence index (DDI)	0-40 39	40-70 1	70- 0
2	Financial Risk Index (FRI)	0-14 10	14-85 27	85-93 3
3	Payment Index	0-49 1	49-79 1	79-100 2
4	Consolidated indicator	1 36	1 4	14 0
16	2018, Revenue, RUB	<1 billion. 0	1 billion – 5 billion. 36	5 billion – 10 billion. 4
	Fertilizers production			
1	Due Diligence index (DDI)	0-40 88	40-70 9	70-78 2
2	Financial Risk Index (FRI)	0-14 23	14-85 74	85-89 2
3	Payment Index	0-49 1	49-79 1	79-100 14
4	Consolidated indicator	High 88	Medium 7	Low 4
16	2018, Revenue, RUB	<1 billion. 81	1 billion.-78 billion. 17	78 billion-157 billion. 1

* compiled based on the data of SPARK [<http://www.spark-interfax.ru/>]

To assess the reliability of individual industries, the authors have chosen:
- 100 largest fishery enterprises with revenues up

to 20 billion rubles in 2018;
- 100 largest fertilizers producers with revenues up to 157 billion rubles in 2018;

- 40 largest forestry enterprises with revenues up to 10 billion rubles in 2018.

Sampling was formed on the basis of data provided by the SPARK-Interfax system. Reliability assessment was also carried out using the indicators developed by SPARK system.

Therefore, the Due Diligence Index (DDI) is a scoring that shows the likelihood that a company is an ephemeral firm. The DDI range is from 1 to 99, the higher the value, the higher the likelihood that an economic entity is created as a "transactional unit" that does not have significant own assets and operations, or is an "abandoned" asset. If the DDI indicator lies in the range from 0 to 40, the risk is low, the medium risk lies in the interval from 40 to 70, and the highest risk is when the index is higher than 70.

The Due Diligence Index is a unique scoring model that takes into account about 20 different factors. The analytical model of the index is constantly being developed, so that the accuracy of the evaluation is constantly growing. This makes it possible to increase the transparency of Russian business, to better identify companies, with which it may be risky to cooperate. Today, about a third of additional assessments made by tax authorities are connected with claims that a company did not show due diligence when choosing a counterparty, and as a result it turned out to be one-day firm. Thus, ephemeral firms and transactional companies pose a threat to law-abiding entrepreneurs, not only in terms of direct threat of fraudulent actions, but also in terms of tax consequences.

As can be seen from the data presented in Table 3, almost all fishing and forestry enterprises have a low level of due diligence index. The same cannot be said about the enterprises producing fertilizers. So the proportion of companies with a low DDI is 88%, 9% of enterprises have a medium DDI, and 2% of them are at highest risk.

Financial Risk Index (FRI) represents the assessment of company's insolvency.

The Financial Risk Index ranges from 1 to 99, where a higher value indicates the presence of signs of unsatisfactory financial condition. Low risk companies have FRI from 0 to 14, medium risk companies are in the range from 14 to 85, and companies with FRI higher than 85 are at high risk.

To calculate the FRI, the combined financial results of the company's operations are used, such as liquidity ratios, working capital adequacy, autonomy, and others. The model is built using neural network modeling.

Thus, according to the data of Table 3, the lowest financial risk is observed in enterprises and organizations involved in fishing: 69 of 100 companies have low FRI, 28 companies are in the medium-risk zone.

As for other branches of the agro-industrial complex, the largest share of logging companies has an average FRI, 10 companies are at low risk and 3 companies are at high risk.

A deplorable situation is observed in the production of fertilizers. About 74% of enterprises are in the zone of medium financial risk, 23% have a low FRI, and only 2 companies are at high risk.

The Payment Index is an indicator that reflects the payment discipline of a company.

Its value could be from 0 to 100, and the lowest indicator is associated with a high risk of late payment.

The index is calculated automatically based on the data on company payments received from participants of the "Monitoring Payments" program.

This index could be useful for the following reasons:

- a change in its value manifests a change in the financial position or payment policy of the company;
- the index allows to compare the payment discipline of different companies and choose the better one as a partner.

The data on the timeliness of receivables repayment by buyers received from suppliers of goods / services - participants of the "Monitoring of payments" project are transmitted monthly, the index is updated automatically upon the upload of new information. However, the lack of payment index in the SPARK system for all analyzed economic entities determines the irrelevant nature of the information on it and is not taken into account.

The consolidated indicator is a cumulative assessment of a company's reliability calculated on the basis of publicly available information on the activities of a legal entity.

It represents a cumulative assessment of analytical indicators, including the Due Diligence Index, Financial Risk Index and Payment Index, as well as the company's status (liquidation, bankruptcy, etc.). It represents three risk values: low, medium and high.

As can be seen from Table 3, the lion's share of all enterprises and organizations in all three sectors are at low risk, which undoubtedly is a positive result of the financial and economic activities of sampled enterprises. From this point of view, it is possible to forecast a stable development of these economic entities and an increase in exports of their products to Asian countries.

Results

Thus, having analyzed the development of the Russian agricultural sector in retrospective, the authors grouped the main directions for expanding the export of Russian agricultural products to



Asian countries in sectors. The analysis showed that in addition to supplies of agricultural products themselves, Asian countries need supplies of Russian timber, fishery products, mineral fertilizers, as well as foods.

Discussion

Despite the need for Russian agricultural machinery in Pakistan and Abkhazia, there is a deplorable situation in Russian agricultural engineering, which lasts for decades. The outdated agricultural machinery does not meet the modern requirements, significantly limiting production opportunities. In order to change the situation in the machine-building industry and the agricultural industry, measures are being introduced to popularize leasing programs for the purchase of equipment with long loan periods and favorable interest rates.

The development of agro-industrial complex can be accelerated through the revision of the entire financing system in order to provide managers with funds to purchase mineral fertilizers, fuels and lubricants, materials, and high-quality feed in the amounts necessary for an efficient production. Topical issues such as raising wages for agricultural workers also need attention, which makes it possible to draw on the resources of professionals and, thereby, to reduce the skills shortages.

Conclusions

The analysis of possible agricultural exports promotion from Russia to Asian countries has revealed some difficulties in the further development of individual agricultural sectors. Despite the measures taken by the government in order to support agricultural producers, some important issues remain unaddressed, among them: increasing the competitiveness of Russian agricultural products in domestic and foreign markets; ensuring financial stability of agricultural producers; further sustainable rural development; reproduction and improvement of land and other resources management, greening production (Federal Law 2006; Rokotyanskaya, 2013). It should also be noted that innovative technologies serve as the engine of progress for any agro-industrial complex, but their development also requires significant funds and an appropriate scientific and educational base. The lack of high-skilled specialists and modern testing equipment significantly impedes the development of agribusinesses, hindering the introduction of new, highly efficient means of production.

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