Leasing in agriculture of the Russian Federation: trends, development problems and ways to solve them

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Abstract. The agricultural machinery market is constantly updated. However, today not all Russian enterprises of the agro-industrial complex have the opportunity to purchase modern agricultural equipment, which is increasingly in demand, due to its high cost. In this situation, leasing is one of the most effective tools in the process of modernizing currently available agricultural machinery. Leasing allows the company to modernize the fleet of agricultural machinery, while giving the lessee more opportunities in the form of obtaining additional borrowed funds, optimizing taxation, and a number of others. The paper is devoted to the current situation of using leasing programs for the purchase of agricultural machinery in the framework of state support for agricultural producers. The authors analyze the effectiveness of leasing in the field of agriculture using budget funds at various levels.

1. Introduction
Currently, there is a tendency to transform the production sphere and circulation under the influence of scientific and technological progress. Changes in the conditions of economic management determine the need to search for and arrange new non-standard forms and methods of renewal for the country’s economy.

The state and development of agricultural production directly depends on natural and climatic conditions, which affects the financial position of agricultural production. The relevance of the problem is determined by the discrepancy between the standard loads of cultivated areas on outdated agricultural equipment. Modern equipment in comparison with the existing fleet of agricultural machinery is more effective, because it is used to process more areas, reduce the time of work, and requires fewer workers to maintain it. In this situation, leasing is one of the most effective tools in the process of modernizing currently available agricultural machinery.

The number of unprofitable farms in the agro-industrial complex of the country is growing (in 2015 – 12.4%, in 2019 – 26.5%). The state tries to implement various programs for the development of agriculture, but they do not always bring the desired results. One of the reasons for this situation is the high cost of equipment necessary for the operation of agricultural enterprises [1-2].

State support for agricultural enterprises is the main method of state regulation of agriculture in modern conditions. Based on the relevance of the research problem, the aim was determined – to consider existing problems of updating agricultural machinery and determine ways to solve them.
2. Materials and methods
To achieve this aim, a number of tasks were solved, namely, to analyze data on the state of Russian agriculture for 2014-2018, to review the provisions of the State program for agricultural development, to analyze data on expenditures for the purchase of agricultural machinery at the expense of federal funds under the Program, to consider the structure of new equipment purchased, to study the proposals of leading leasing organizations working under leasing programs with agricultural organizations.

The main methods used in the study are: dialectical, comparative-historical, abstract-logical, graphical, statistical analysis, SWOT analysis.

3. Results
The main points of the research are that Russian agriculture needs serious state support, as a long period of stagnation has led to the obsolescence of equipment due to high competition with foreign agricultural products. It is the leasing mechanism that will allow Russian agriculture to develop competitive advantages by, among other things, modernizing the fleet of agricultural equipment of national producers.

The results of the research were the evaluation of the situation in the agro-industrial complex, which exists in Russia today, as well as the development of further directions in the course of scientific research.

The state takes measures aimed at ensuring the stabilization and improvement of the level of technical equipment of agriculture through various federal support programs, one of which is the leasing of agricultural machinery.

Agricultural organizations have the opportunity to update their equipment through purchase, credit or leasing (table 1).

Each of these alternatives has its own advantages. When purchasing a commodity, the producer must have free monetary resources to purchase equipment, which is problematic in the context of the development of the agro-industrial complex. In practice, the following main options for updating equipment are used: purchasing at the expense of own funds, obtaining a loan or attracting funds from a leasing company.

Table 1. Comparison of alternative methods of purchasing agricultural machinery [2].

|                   | One-time purchasing costs | Property right | Putting on the balance | Additional financial liabilities |
|-------------------|---------------------------|----------------|------------------------|---------------------------------|
| Purchase          | +                         | +              | +                      | -                               |
| Credit            | -                         | +              | +                      | +                               |
| Leasing           | -                         | -              | -                      | +                               |

The purchase of equipment using borrowed funds (credit) also allows transferring property rights to the balance. The company pays the loan, accrues depreciation charges. However, the use of borrowed funds affects the ratio of own and borrowed funds, which affects the financial stability of the enterprise [3].

The purchase of agricultural machinery through leasing does not give the property right, which is retained by the lessor until the entire amount is paid. Compared to the purchase, the lessee has more available funds. Leasing payments are expenses of the enterprise, which optimizes taxation, as the tax base of the Unified agricultural tax (UAT) is the difference between income and expenses. In 2018, 5474 units of equipment were purchased for leasing, and in 2013 – 4780. Thus, for agricultural producers, the purchase of equipment on lease is the best option, as it allows solving the problem of modernization of fixed assets and optimizes taxation. In addition, the lessee has more available funds for business development. Besides, the company can take out additional loans.

The improvement of leasing in the agro-industrial complex should take into account the conditions that affect this process and, consequently, the improvement of the renewal of fixed assets of agricultural producers. This is an important factor in the production processes in agriculture, which, in turn, are a component of the Russian economy as a whole [4].
The experience of using leasing in Russian agriculture has existed for many years. However, today there are problems associated with the activation of the processes of updating the fixed assets of agricultural producers, the solution of which requires close attention of the Federal authorities. This situation requires new approaches to the development and improvement of the agro-industrial complex of the Russian Federation [5].

To understand the feasibility of purchasing new agricultural equipment, they should consider the conditions under which Russian agriculture is developing. The graph of figure 1 shows the change in arable land between 2000 and 2017.

![Figure 1. Arable land area, million ha](image)

According to the data of the Ministry of Agriculture of Russia, the area of arable land increased by 1 percent (or 1.2 million hectares) in 2016. Based on the load standards per unit, the optimal demand for the main types of agricultural machinery was determined, taking into account the annual full-fledged renewal of the fleet once every 10 years (Fig. 2). So, they need to buy 560 thousand units of tractors, 160 thousand units of combine harvesters, 23.5 thousand units of fodder harvesters [7].

![Figure 2. Annual purchase of agricultural machinery (plan)](image)

The graph of figure 3 shows the current state in terms of the number of self-propelled vehicles in 2017 – 2018, available to agricultural producers in Russia.
In 2018, the number of self-propelled vehicles increased by 622 units (or 0.1 percent). There were only 3 tractors per 1 ha of arable land, and the load on 1 tractor was 333 ha.

According to FSSS data on Russian agricultural products produced in 2014-2018 (Fig. 4), there was a positive trend, the volume of produced agricultural products increased by 32.7 percent.

In 2015, the volume of produced agricultural products increased by 19 percent compared to 2014, which coincided with the beginning of sanctions against Russia. In the following 2016, there was an increase of 6 percent. 2017 showed a decrease in the volume of agricultural complex production by 0.5 percent. This was due to abnormal weather events, when temperatures ranged from abnormally low to abnormally high in various parts of Russia.

In 2018, there was again a positive change of 5 percent compared to 2017. Thus, the performance of agricultural producers depended on both political factors and weather conditions. The volume growth was possible by both investment programs in the industry and the use of high-quality equipment.

The priority task of the state in the development of agriculture was the implementation of state programs aimed at supporting small and medium-sized businesses. One of the main directions is preferential leasing aimed at purchasing agricultural machinery and improvised means for harvesting.
The graph of figure 5 shows the amount of budget funds allocated for the purchase of agricultural machinery.

![Graph of figure 5](image)

**Figure 5.** Federal expenditures related to the renewal of the agricultural machinery fleet, million rubles [9].

In 2016-2018, the amount of budget funds for updating the agricultural machinery fleet has decreased. So, in 2016, the amount was 11162 million rubles. In 2017, the volume of budget funds increased by 41 percent and amounted to 15699.8 million rubles. In 2018, the amount of funds decreased by 36.3 percent and amounted to 10,000 million rubles.

Further, we will consider how much agricultural equipment was purchased annually under the Program (Fig. 6). During the period 2014 – 2018, the number of new equipment in the agro-industrial complex had a positive dynamics.

![Graph of figure 6](image)

**Figure 6.** Purchase of new agricultural machinery from 2006 to 2018 under the State Support Program, units [10].

In 2006 29,226 units of new equipment were purchased. In 2010, there was a significant decrease to 17,262 units of equipment. However, in 2014, agricultural enterprises of various forms of ownership purchased only 3053 units of new equipment. In 2015, the number of vehicles increased by 109.8 percent to 6,405 units. In the subsequent year 2016, compared to 2015, the number of new purchased equipment amounted to 17,483 units (an increase of 173 percent or 11,078 units). In 2017, the number of purchased agricultural machinery was already 26,366 units, which is an increase by 8,883 units (or 51 percent) compared to 2015. In 2018, the number of purchased equipment decreased by 8,727 units (or 33 percent) compared to 2017.
So, over the period from 2014 to 2018, the number of new combine harvesters increased by 116.4 percent, fodder harvesters – by 227.5 percent, tractors – by 5.5 times, and other types of equipment – by 10 times. In the lease 4034 was purchased in 2014, 3507 – in 2015, 4867 – in 2016, and 5474 – in 2018. Thus, over the period from 2014 to 2018, the purchase of agricultural machinery in leasing increased by 35%.[10]

Based on the studied information, a SWOT analysis of leasing operations of the agro-industrial complex was conducted (table 2).

|   | Strengths (S) | Weaknesses (W) |
|---|---------------|----------------|
| 1. | Leasing market development in the Russian Federation | 1. A large amount of equipment is leasing. |
| 2. | Wide range of leasing programs for financing agricultural machinery. | 2. Unskilled employees of agricultural enterprises who are not qualified to work on new equipment. |
| 3. | Solvency of agricultural enterprises. Demand for domestic agricultural products. | |
| 4. | A wide range of domestic products. | |

|   | Opportunities (O) | Threats (T) |
|---|-------------------|-------------|
| 1. | Changing the legal framework aimed at developing leasing in the agro-industrial complex. | 1. Reduction of Federal financing of leasing programs in the agro-industrial complex. |
| 2. | Development of import substitution policy, including in the agro-industrial complex. | 2. Growth of interest rates on leasing. |
| 3. | Staffing of agricultural enterprises with employees who have the appropriate qualifications to work on modern equipment. | 3. Low demand for domestic agricultural products. |
| 4. | Increasing the volume of produced agricultural products. | 4. Decrease in profits of agricultural enterprises due to climatic and natural conditions. |

4. Discussion

Thus, after analyzing the statistical data for 2014-2018, we can conclude that the renewal of the technical fleet of enterprises belonging to the agro-industrial complex of Russia has a positive dynamics, which was achieved with the help of state support through the implementation of various leasing programs. At the same time, we would like to note that the mechanism for subsidizing equipment manufacturers, which was approved in the State Program, does not allow meeting fully the needs of agricultural producers in equipment, which is primarily due to the lack of resources in this area. In the future, this may cause accelerated technical degradation of agricultural production.

In order leasing relations in the agricultural sector to be effectively developed, it is necessary to carry out the following series of measures:

– to ensure the existence of sound competition in the market of leasing services in the agro-industrial sector, namely, to avoid monopolization of preferential leasing of PC “RosAgroLeasing”. The company is located in a leading position, occupying more than half of the market share of agricultural leasing (64% in 2018 and 66% in 2019). Among the main competitors are Sberbank Leasing, Deutsche Leasing Vostok, and UniCreditLeasing, but this segment is not a target for them;[11];

– to implement the state program of subsidies for reimbursement of the cost of purchasing equipment on leasing terms at the federal level, an example of which is subsidized by existing Federal State Programs, namely the Program for compensation of interest on loans or Government program for reimbursement of part of expenses for payment of insurance premium;

– to introduce a system of incentives for private leasing companies that will be active participants in leasing operations for agro-industrial enterprises on preferential terms, based on the provision of tax preferences;
– to pay attention to the seasonality of agricultural enterprises during the development of the schedule of repayment of lease payments;
– to provide an opportunity to purchase imported equipment by using the leasing mechanism on preferential terms if domestic analogues are inferior in terms of innovation and technical parameters;
– to arrange support for leasing operations in the same way as it is done in other regions of the southern Federal district at the regional level, as soon as possible. It is necessary to subsidize 70% of the initial advance payment or reimburse 50% of the cost of paying interest on leasing agreements; [12].

5. Summary
Summing up, we can conclude that at the moment, in order to reach a new level of agricultural leasing, it is necessary to improve and develop leasing relations in the agro-industrial sector, namely, measures to support them from the state, which will help leasing to find demand and carry out material and technical re-equipment of fixed assets of agro-industrial enterprises. Agricultural leasing can undoubtedly be considered the main financial instrument that accelerates the pace of modernization of the agricultural sector. The proposed measures will help to increase the effectiveness of state support in this area, as well as help resolve significant issues of food security, which will increase the importance of Russia on the world stage.

6. References
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