On the distribution mechanism of green box subsidies

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Abstract. Worldwide, agriculture is subsidized. The state is trying to provide financial assistance to agricultural producers. But the WTO framework does not allow these financial flows to be directed in any direction. Support is needed that does not directly affect the formation of prices and does not violate the rules of international trade. Therefore, there is a need to improve the mechanism for the provision of budgetary funding. This immediately invokes a dilemma: to increase the efficiency of their use and to increase the efficiency of production. In agriculture, land is the main means of production. Therefore, the issue of improving the efficiency of land use, and in particular, agricultural land, has received close attention. The system of green box subsidies for crop production, which in Russia since 2013 has been used as a tool of state support for agricultural heat producers, requires further improvement. This type of financing is considered to be unrelated, since it does not define the type of supported products. The funds, in accordance with the new rules, are issued to farms for reimbursement of expenses for conducting agrotechnological field work, improving environmental safety, improving fertility and soil quality, based on the total area of crops. But in the distribution of the regional part of subsidies, the methodological approaches for the subjects of Russia have differences that are related to their budgetary support and the attitude of the regional authorities to the agrarian sector. The article proposes the author’s method of allocating budget funds, taking into account the coefficient of costs coverage per unit of soil appraising score. It will enhance the efficiency of their use and, at the same time, increase the efficiency of use of agricultural land. Financing agricultural producers in the region as part of green box subsidies allows them to receive state assistance in a timely manner and gives time to prepare for the sowing campaign in technical and technological terms, as well as to conduct it in the optimum time frame.

1. Introduction. Agrarian production is the basis of the country's food security. The main means of production in the industry are land resources, which have a number of features. They can not be ignored while speaking about the effectiveness of agricultural production. Therefore, the question of the effective and rational use of agricultural lands arises is very urgent. Of particular importance is the problem of maintaining the quality of land resources, and, if possible, improving their fertility. This plays an important role both in the development of the industry and in the economy of the state as a whole [1-7].

Until recently, the problem of increasing the efficiency of use of highly productive lands was being mainly solved. The system of regulatory support for their use was also aimed at this. But the finiteness
of this resource and its non-renewable nature disallow so irrationally using the available land resources, including agricultural land. The study of the economic efficiency of their use should mention the impact of provision of a household with productive resources and labor resources on this process. But one of the main factors is insufficient financing of the production activities of agricultural enterprises. However, as noted by A.N. Semin, most often such an assessment was reduced to the calculated efficiency of individual directions [6]. Currently, the system of state support for rural producers and the overall regulation of the country's agro-industrial complex has undergone a number of changes. First of all, this is due to Russia's accession to the WTO. Traditional pricing methods cannot be applied. At the same time, far from all institutions that can support agrarians in one way or another are underdeveloped due to outdated Soviet experience, insufficient experience to use their tools in modern conditions in comparison with highly developed countries and, finally, the imperfection of the regulatory and regulatory framework, regulatory relations between such institutions and agricultural producers. First of all, we are talking about agricultural insurance. In international practice, agrarian risk insurance in the format of private-state partnership has been effectively used for a long time. At the same time, while respecting the interests of all 3 sides of these relations, it is the state that takes the main "financial blow". That is, in this case, the costs of insurance payments to policyholders are reimbursed and at the same time the protection of agricultural producers is ensured. This is the way the USA, Canada, Israel, Turkey, Germany and other countries work. In our country, this form of protection and cooperation is still underdeveloped, although the riskiness of farming, due to the complex natural and climatic conditions that differ sharply from one another in various regions of the country, has long required the modernization of insurance relations. Insurance premium subsidy is the best indicator of attracting agricultural producers to the agricultural insurance system, and it also contributes to the preservation of their income. It is necessary to form insurance and reinsurance infrastructure, which are used throughout the world, and provide the development of various competing forms of insurance. It is quite achievable. Turkey and China began to develop agricultural insurance with state support later than Russia, but they have already achieved significant positive results. The need for insurance in the agrarian sector of the Russian economy is of an objective nature and is an extremely important factor in the stable development of the agro-industrial complex, moreover, this assistance does not adversely affect the performance of international trade and, therefore, is exempt from the reduction.

The study and improvement of state support for agricultural producers, the efficiency of land use, including agricultural land, was widely studied by many scientists. Among them: A.A. Askarov, E.F. Zavorotin, L.B. Vinichek, I.L. Vorotnikov, V.A. Dobrynina, I.Ya. Petrenko, K.A. Petrova, G.V. Savitskaya, A.A. Anfinogentova, I.P. Glebov, A.A. Chernyaev and others. Among the outstanding economists of the Urals region are A.N. Semin, A.L. Pustuev, V.M. Sharapov, O.D. Rubaeva, I.V. Rosorvin, A.M. Matveev, T.N. Medvedeva, N.V. Stepanykh and others. But despite a sufficient amount of scientific work, this issue requires further research.

2. Results and Discussion

Russian agriculture is not only the main sector of the economy that ensures the food security of the country, but also allows for significant export operations to supply its products abroad. At the same time, insufficient financing of farmers hinders the increase in production, which leads to a reduction in the efficiency of land use in agriculture. The government of the Russian Federation is trying to solve this problem within the framework of federal and regional targeted programs in the sphere of the regulation of the agro-industrial complex. It positively affects the land and the effectiveness of its use. Therefore, special attention is paid to the preservation of fertility and the improvement of the quality of agricultural lands.

State support is the entire list and scope of various instruments, leverage for financing organizations and branches of the agro-industrial complex. The emerging tendency to reduce state support in most federal districts, including the Urals Federal District, is due precisely to the lack of funds in regional budgets [3]. Using the example of the Kurgan Region, the influence of budget financing on the economic efficiency of agricultural land use is determined.
During the study, the authors formed two groups on the basis of funds allocated by the state per 100 hectares of agricultural land with a grouping interval equal to 101.69 thousand rubles. From the sample, which includes 50 objects, most of them (41 households) fell into the first group. But, unexpectedly, higher indicators of land use efficiency are observed in organizations of the second group, where the average amount of financial assistance is higher. Indeed, the yield of grain per 100 hectares of arable land increased by almost 17%, milk production and cattle growth per 100 hectares of farmland by 2.8 and 2.2 times, respectively, more gross output and marketable products were obtained (in value terms) on 100 hectares of farmland (2 times and by 12% respectively). The only exception is pig breeding growth. This is explained by the fact that subsidies were mainly focused on supporting dairy and beef cattle breeding, and in this group there are farms that specialize in the production of this type of product. The funds received were used to cover the costs of agricultural insurance, the financing of regional programs in plant growing and animal husbandry, and the purchase of mineral fertilizers.

The priority directions of state regulation of agriculture in Russia are stipulated by the Development Program for 2013-2020. Until 2013, the volume of payments depended, among others, on production volumes. This Program provides for “green box subsidies to agricultural producers in the field of crop production” [4]. At present in Russia, its share does not account for more than 10% of the funds of the State Program, whereas in the countries of the European Union it is 60...66% of all subsidies to farmers. In the Trans-Urals in 2018, the amount of funding for unbound support decreased compared to 2016 by 26.7%. The most significant decrease is observed in terms of the regional budget: by 45.82%, which is associated with its deficit (Table 1).

| Indicator | 2016  | 2017  | 2018  | 2018 as % in relation to 2016 |
|-----------|-------|-------|-------|-------------------------------|
| Total     | 390316| 261074| 286121| 73.30                         |
| including |       |       |       |                               |
| Federal funding | 353350| 248020| 266092| 75.31                         |
| funding by RF subject | 36966 | 13054 | 20028 | 54.18                         |

Compiled by the authors using http://dsh.kurganobl.ru – the official website of the Department of the agrofood complex of the Kurgan region

The tendency to reduce the budget financing of agriculture is observed not only for green box subsidies, but in general in all directions and programs. In 2018, the total amount of financial support received from the budget was below the 2016 level by 10%. The smallest amount of funds was provided in 2017. A positive point is the increase in funding from the Federal budget (Figure 1).

New Rules for the provision and distribution of subsidies from the federal budget to regions of the Russian Federation for the provision of green box subsidies, which entered into force on January 1, 2013, are considering recommendations for the provision of inter-budgetary transfers [5].

The implementation of this course of activities is aimed at compensating the share of costs that are associated with holding agrotechnological measures, increasing the level of environmental safety, improving the state and fertility of the soil. The amount of funds allocated in the state budget depends on the value of the minimum appropriation rate per 1 hectare of sowing, occupied sown area, the level of its use intensity and the indicator of soil fertility.
The current system of distribution of budgetary powers does not prevent the emergence of significant differences in the amount of support that is associated with the budgetary security of the region and the attitude of regional authorities to the agricultural sector. Depending on these factors, in the subjects of Russia in some years the amount of subsidies may vary in a wide range. Federal support may be denied if a constituent entity of the Russian Federation for any reason is unable to provide co-financing, the level of which cannot be higher than 95% and lower than 70% of its expenditure obligation. According to the established norms, the targeted provision of the amounts of funds allocated and the fixing of rates per 1 ha of the sown area has been entrusted to the authorities of the representative offices in the regions. Allocations provided from the budget as green box subsidies to farmers in various areas and districts have specificities. This is reflected in the applied indicators for measuring the amount of allocations and their distribution by agricultural producers, as well as in the calculation of the regional part of financing. But most of the methods used did not take into account the efficiency of the use of agricultural land [5].

Based on the above, it seems necessary at the regional level to establish the priority of supporting agricultural farms, based on the level of efficiency in the use of land resources. This concept of per-hectare payments (in terms of financing at the expense of the budget of the subject) can be realized on the basis of the ratio of revenue received from the sale of crop products and the cost of production of products for 1 point of soil fertility (equation 1):

$$S_c = S_1 \cdot C_{exp} + S_{add}$$  \hspace{1cm} (1)

where $S_c$ is the calculated subsidy for determining the allocations for the regional budget, RUB/ha; $S_1$ is the subsidy rate to calculate the amount of support from the regional budget in base year, RUB/ha; $C_{exp}$ is the coefficient of expenses compensation; $S_{add}$ is a sum payable from the regional budget, RUB/ha.

To smooth the range of the calculated value of the rate and the full use of the allocated funds, it is advisable to make additional payments. Their sizes are defined as the difference between the amount of subsidies planned in the budget for a certain number of recipients and the amount distributed.

In turn, the cost recovery ratio is calculated by eq. (2):

$$C_{exp} = K_1/K_2$$  \hspace{1cm} (2)

where $K_1$ is total cash income from sales of crop production per 1 point of soil fertility; $K_2$ is the actual amount of costs in crop production per 1 point of soil fertility.

Based on this methodology, the total amount of budget payments to an agricultural producer financed from the regional budget of the region can be calculated as (equation 3):

$$S_{bud} = S \cdot S_c$$  \hspace{1cm} (3)

where $S$ is acreage used to calculate the amount of the subsidy, ha [2].
3. Conclusion

Thus, the method proposed by the authors allows excluding the distribution of budget funds in direct proportion to the yield of agricultural crops. This was a stumbling block for many households. First, prosperous enterprises and organizations with sufficient financial resources could afford to purchase fertilizers, plant protection products, better seed material and carry out a full range of agricultural work. At the same time, we must not forget about the natural fertility of land. All this will help to increase the yield of products. In those farms where there was not enough funding, it was difficult to achieve such a result. In this case, they a priori could not rely on the same amount of budget aid. Second, the recommended method is based on the cost recovery ratio per point of soil appraising score. It is designed to stimulate revenue growth. It would be erroneous to assume that business entities would be interested in increasing production costs, since any enterprise, first of all, is focused on making a profit. And the state does not aim to stimulate “parasitism”. Households must work, produce products and earn money. Only then can we expect that their activities will be successful, productive, and they will "survive" in this difficult economic situation. In addition, the more significant the difference between sales revenue and production costs, the higher the coefficient calculated by the author's method and, accordingly, the amount of the subsidy received.

Therefore, on the one hand, such a distribution of funds is a factor in improving the efficiency of the use of allocated budgetary funds, and on the other hand, an increase in profits will indicate an increase in the efficiency of land resource use. Thus, the use of this methodology in practice contributes to a more effective implementation of the distribution of subsidies in the framework of the program to provide untied support to crop production.

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