

“Uniform Subsidy” and New Trends in Financing of Agricultural Insurance in Russian Federation

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Abstract

The relevance of the topic is explained by the incomplete content of economic models that form the basis for the distribution of state support in the regions, the discrepancy between the expected reactions and real ones, weakness of the results of the implementation of state programs to support the subjects of the agro-industrial complex (hereinafter – agribusiness) as concerns target indicators, and existing mismatch of selected factor indicators and effectiveness ones. In the article, we have proven the absence of a direct correlation between the method of estimating the number of subsidies aimed at supporting the achievement of the target indicators of regional programs and specific economic content of insurance, with the help of factorial (regression) and retrospective analysis. Therefore, the results of this study can serve as a basis for changing the existing model estimates the number of subsidies aimed at supporting the achievement of target indicators of regional programmes—at least in the insurance industry. In the future, it should allow increasing the efficiency of budget financing of activities related to agricultural insurance.

Keywords: “uniform subsidy”; agricultural insurance; regional program of support; livestock; crop production; federal budget; estimated budgetary efficiency

JEL classification: Q14, Q18

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When the concept of “uniform subsidy” was introduced it provided a change of the place and role of agricultural insurance subsidization in the concept of agricultural regulation (Burlakova, 2016) (Fig. 1).

When we talk about the role of agricultural insurance in concept of agricultural regulation in the past (in The State Program of Development in Agriculture and for Regulation of Markets of Agricultural Products, Resources, and

Food—then we say just State Program) we can notice that agricultural insurance was isolated from two activities: support of economically significant regional programs in Russia—in the field of livestock and crop production (Macht, Makenova, & Karpova, 2017).

However, these activities were realized together with activities “Risk management in sub-sectors of crop production” and “Risk management in sub-sectors of livestock” in the area of subroutines of development of subindustries

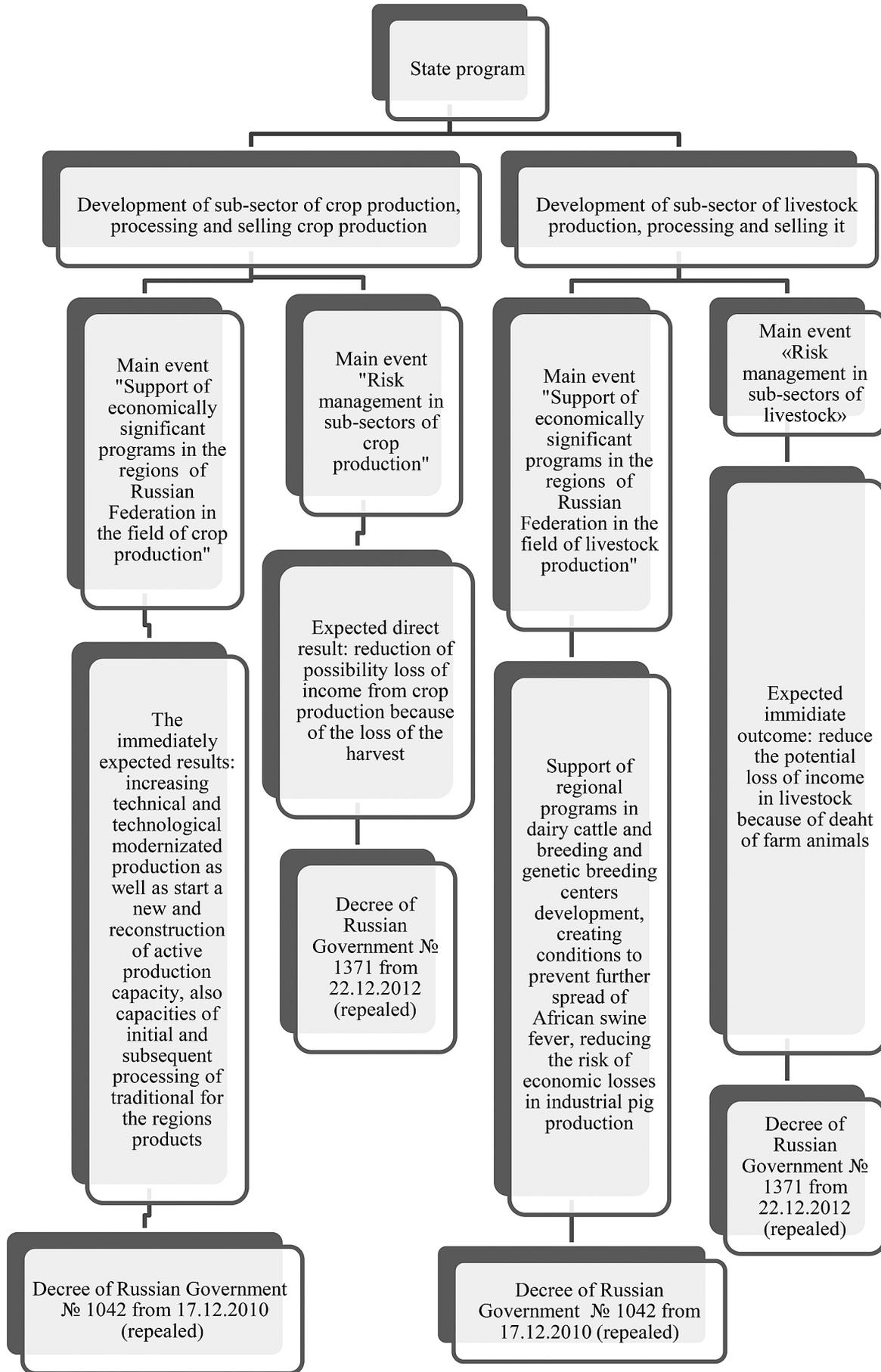


Figure 1. A retrospective look at the state support of agriculture in the field of programs aimed at the development of production of crops and livestock.

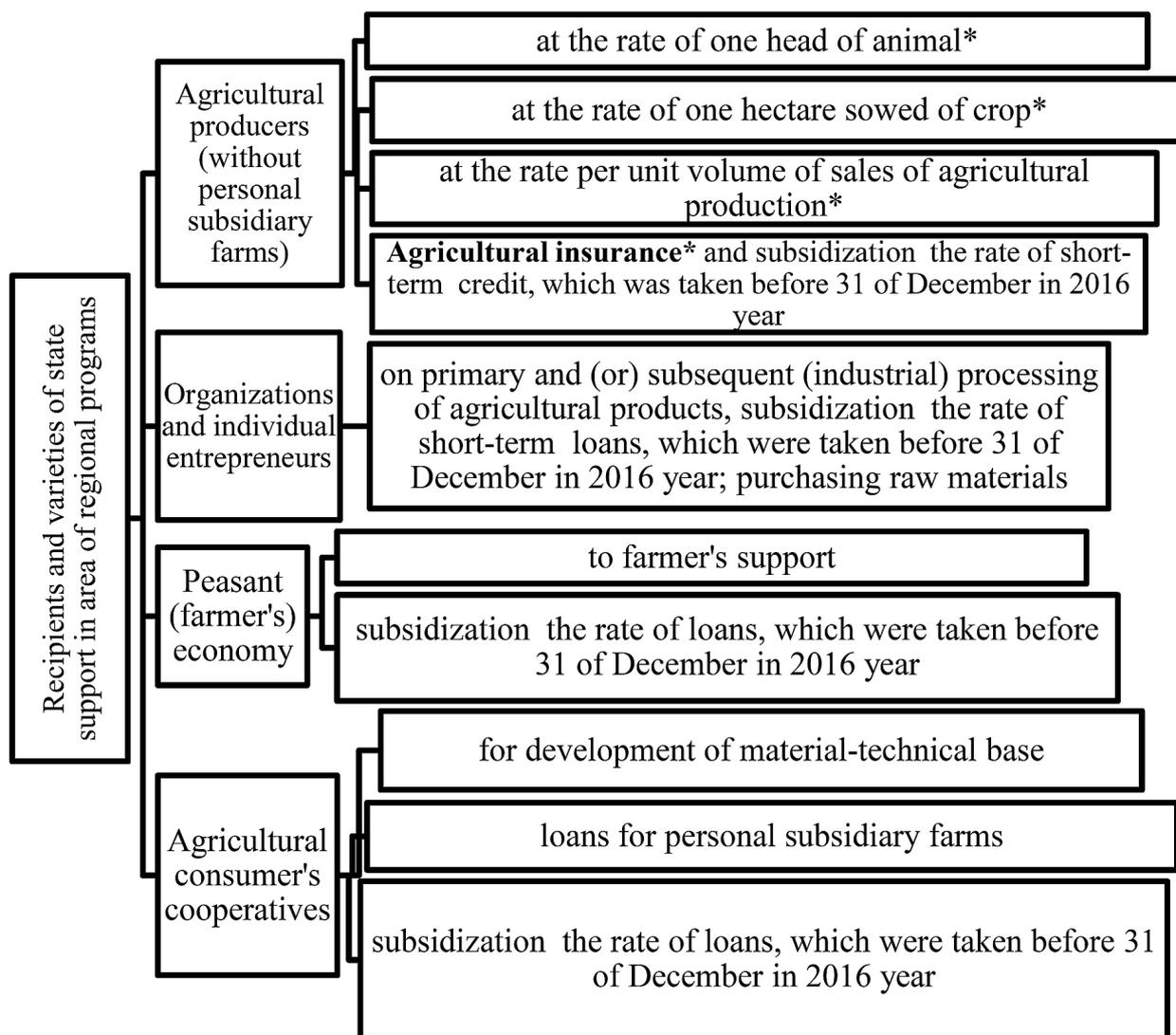


Figure 2. Recipients and types of state support in the field of "regional programs" ("uniform subsidy").*

*Adadimova L. Yu. and others point out to the unity of independent support and agro-insurance, which together belongs to so-called "yellow basket" of World Trade Organization (Adadimova & Polulyakh, 2015; Aleksandrova & Dolbilova, 2015).

in crop production and of subindustries in livestock as uniting beginning.

State support of agro-insurance as well as ensuring food security, saving in the future the traditional for the regions agricultural products, small business development became a part of activity system to achieve targets of regional programs of agriculture development (part of "uniform subsidy"). It is regulating by rules of provision and distribution of subsidies from the federal budget to regional budgets, where regions can determine the direction of spending on their own (Fig. 2 and Fig. 3).

There were two concepts of "regional" subsidies:

1) direct support of regions within such main events as support of economically significant programs in the regions of Russian Federation in crop production and livestock production (without agro-insurance). This system (Fig. 1) was valid in 2010–2014 and described in Decree of Russian Government No. 1042 of Dec. 17, 2010. There were the following guarantees of this type of support:

- a) agricultural producers— for the organization of production and processing of agricultural products;
- b) organizations engaged in the production of amino acids for animal feed;
- c) organizations engaged in the production of wines with protected geographical indica-

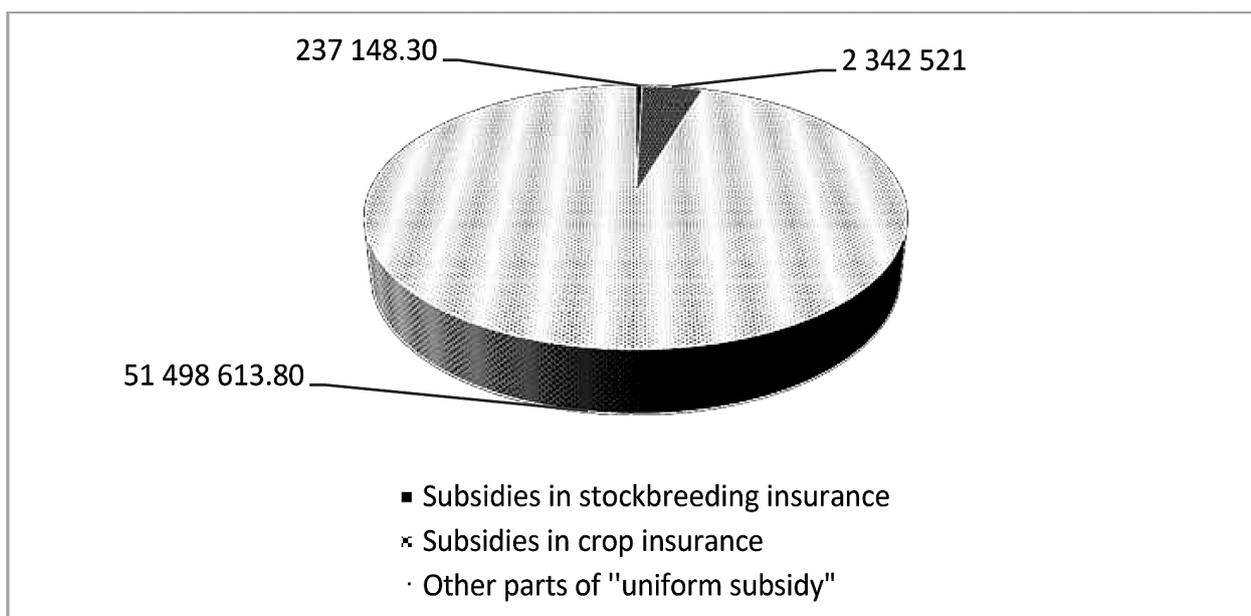


Figure 3. Amount of "uniform subsidy", thousand rubles, 2016 year.

*State support system in agricultural insurance in Russian Federation is organized like in Turkey (insurance pool Tarsim) and Spain (insurance pool Agro Seguro). There is The National Union of Agricultural Insurers in the Russian Federation (Korneev & Kapitonov, 2017).

Sources: 1. State Program – the total amount of financing of "uniform" subsidy from the Federal budget ("Help for achievement targets of realization regional programs of development in agriculture"). Retrieved Dec. 18, 2017, from <http://programs.gov.ru/Portal/programs/subActionsList?gpld=27&pgpld=E7F34F65-73A8-48D0-BE11-AA268FFE8B54>

tion and protected appellation of origin in the Republic of Crimea and Sevastopol—on a bookmark and care of vineyards, including stubbing retired from service of old vineyards.

In total, in 2016 the largest amount of the budget was accounted for funding in the sub-routine of the development of the subsectors of crop production (28%) of the overall appropriation. In 2014, for the development of livestock sub-sector, it was directed 33.87% of funds (Bogoviz et al., 2017).

2) "regional" subsidy as a part of the main program "Help for achieving the targets of realization of regional programs of development in agriculture" ("uniform subsidy"). Second, include these elements which are shown in Fig. 2, also – agricultural insurance. The third is showing actual meaning of "regional" subsidy.

2. From FSBI "Federal Agency of state support of agriculture" of Ministry of Agriculture of Russia. Retrieved Dec. 18, 2017, from http://fagps.ru/sites/default/files/merged%20%281%29_0.pdf

There are differences in targets, methods, and principles of state support and unifica-

tion and classifications of support (it becomes consolidated today (Sokolova, 2017)).

Discussion about the method

Today, for example, value of subsidies of i^{th} regional budget (W_i), for helping to achievement targets of realization regional programs of development in agriculture is calculated according to formula (1), which directly shows correlation with small business development and indirect correlation with other sides of "uniform subsidy" (agro-insurance with state support, saving a future of traditional agricultural products for the regions):

$$W_i = W \times \frac{(V_i + P_i + S_i + K_i) / EBS_i}{\sum_{i=1}^n (V_i + P_i + S_i + K_i) / EBS_i}, \quad (1)$$

where:

W – subsidies providing in federal budget for helping to achievement targets of realization regional programs of development in agriculture in a current financial year;

V_i – portion of i^{th} region in total volume of crop production and stockbreeding and food

Table 1

The discrepancy between the parameters that determine the distribution of regional subsidies and indicators for assessment of effectiveness of regional budgets funds’ distribution

| Parameters determining the distribution of regional subsidies | Indicators for assessment of effectiveness of regional budgets funds’ distribution |
|--|--|
| a) preservation of regions’ traditional agricultural products | |
| a) the number of breeding stock of sheep and goats b) the number of conditional breeding stock of breeding animals, and so on | a) the breeding stock of sheep and goats in agricultural organizations; peasant (farmer) farms, including individual entrepreneurs (thousand units) b) preservation of the conditional tribal breeding stock of farm animals to the level of the previous year (%) c) the realization of breeding young cattle of dairy and beef breeds for the 100 heads of female (heads), and so on |
| b) agro-insurance with state support and ensuring food security | |
| a) the size of areas under crops, sown seeds in accordance with the list determined by the Ministry of Agriculture of the Russian Federation b) the amount of acreage under fodder crops in the territory of the Russian Federation, carried to regions of the far North and equated localities c) the size of the area of low productive arable land (pure vapor) constituting not less than 11 percent of the total arable land in the territory of the Russian Federation, carried to regions of the far North and equated localities d) the size of perennial fruit and berry plantations e) the size of the area of vineyards and grape nurseries | a) the gross yield of grain and leguminous crops in farms of all categories (thousand tons) b) the gross harvest of sugar beet in farms of all categories (thousand tons) c) the gross yield of flax fiber and pengawalan in all categories of farms (thousand tons) d) the gross harvest of potatoes in agricultural organizations, peasant (farmer) farms, including individual entrepreneurs (thousand tons) e) the production of livestock and poultry for slaughter in all categories of farms (in live weight) (thousand tones) f) the insured livestock (thousand heads) g) the area of preparing low productive arable land (pure vapor) (thousand hectares) h) the fraction of land area, sown with elite seeds total crop area (%) i) area of perennial plantations (thousand hectares) j) the grape plantations in a mature, fruit-bearing age (thousand hectares) k) the size of the insured cultivated area (thousand hectares) |
| c) small business development | |
| a) the number of private (peasant) farms and individual entrepreneurs b) the number of agricultural consumer cooperatives, etc. | a) the number of new permanent jobs created in the peasant (farm), to implement the projects of creation and development of their farms by means of government support (units) b) the growth of agricultural output produced by individual entrepreneurs and peasant (farming) enterprises, which received state funding, to the year preceding the year of grant (percent) |
| d) all sides, factors of the model (see formula (1)) | |
| a) an average volume of crop production and stockbreeding and food production b) the rest of short-term loans, which were taken before 31 of December in the 2016 year | - |

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Table 2

Grouping of the regions, which are classified in terms of the level of estimated budgetary efficiency

| Border of group of regions in terms of the degree of estimated budgetary sufficiency | Region | Number of regions in the group | Among them: number of region recipients of crops and perennial plantings insurance support | Amount of subsidies, thousand rubles | Sown area, thousand hectares | The amount of subsidies per hectare of sown area, rubles |
|--|--|--------------------------------|--|--------------------------------------|------------------------------|--|
| 0.637 | 0.727 Republic of Tuva, Ivanovskaya oblast, Kostromskaya oblast, Orlovskaya oblast, Tambovskaya oblast, Republic of Karelia, Arkhangelskaya oblast, Pskovskaya oblast, Republic of Adygea, Republic of Kalmykia, Ingushetia, Kabardino-Balkaria, Karachayevo-Cherkessia, North Ossetia, Chechen Republic, Stavropol Kray, Republic of Mari' El, Chuvashia, Kirovskaya oblast, Penzenskaya oblast, Kurganskaya oblast, Republic of Altay, Republic of Buryatia, Republic of Khakassia, Altay Kray, Zabaykalsky Kray, Republic of Sakha (Yakutia), Kamchatskiy Kray, Magadanskaya oblast, and Chukotskiy autonom. district, Republic of Crimea, Sevastopol, Republic of Dagestan, Bryanskaya oblast | 34 | 11 | 782321.0 | 13734.2 | 56.96161 |
| 0.727 | 0.817 Smolenskaya oblast, Volgogradskaya oblast, Rostovskaya oblast, Republic of Bashkortostan, Republic of Mordovia, Saratovskaya, Ulyanovskaya, Kemerovskaya, Primorsky kray, Khabarovskiy kray, Jewish autonom. oblast, Ryazanskaya oblast, Vladimirska oblast, Voronezhskaya oblast, Omskaya oblast | 15 | 11 | 512350 | 23 128 | 22.15233 |
| 0.817 | 0.907 Belgorodskaya oblast, Kurskaya oblast, Tverskaya oblast, Kaliningradskaya oblast, Novgorodskaya, Astrakhanskaya oblast, Krasnodar Kray, Udmurtia, Permskiy kray, Orenburgskaya oblast, Chelyabinskaya oblast, Irkutskaya, Novosibirskaya, Tomskaya oblasts, Amurskaya oblast, Vologodskaya oblast | 16 | 9 | 845082.000 | 15693.075 | 53.85063 |
| 0.907 | 0.997 Lipetskaya, Tulsckaya oblasts, Komi Republic, Murmanskaya oblast, Nizhegorodskaya oblast, Krasnoyarskiy kray | 6 | 3 | 132205 | 3306 | 39.9879 |
| 0.997 | 1.087 Yaroslavskaya oblast, Kalugskaya oblast | 2 | - | - | - | - |
| 1.087 | 1.177 Nenetskiy autonom. district, Samarskaya oblast, Sverdlovskaya oblast | 3 | 2 | 107406 | 2902 | 37.00723 |
| 1.177 | 1.267 Moscow oblast, Tatarstan | 2 | 2 | 127625 | 3626 | 35.19892 |
| 1.267 | 1.357 Leningradskaya oblast | 1 | 1 | 4867 | 240 | 20.25562 |
| 1.357 | 1.447 Sakhalinskaya oblast | 1 | 1 | 3304 | 29 | 115.472 |
| 1.627 | 1.717 Khanty-Mansiyskiy autonom. district | 1 | - | - | - | - |
| 1.897 | 1.987 Saint Petersburg | 1 | - | - | - | - |
| 1.987 | 2.077 Tyumenskaya oblast, Yamalo-Nenetskiy autonom. district | 2 | - | - | - | - |
| TOTAL | | 84 | 40 | 2515160.0 | 62658.9 | 40.14052 |
| IHH groups of specific budgetary provision regions in terms of subsidies | | | | 2583.025 | | |
| IHH regions in terms of subsidies | | | | 916.749 | | |

Note. Herfindahl – Hirschman Index – IHH.

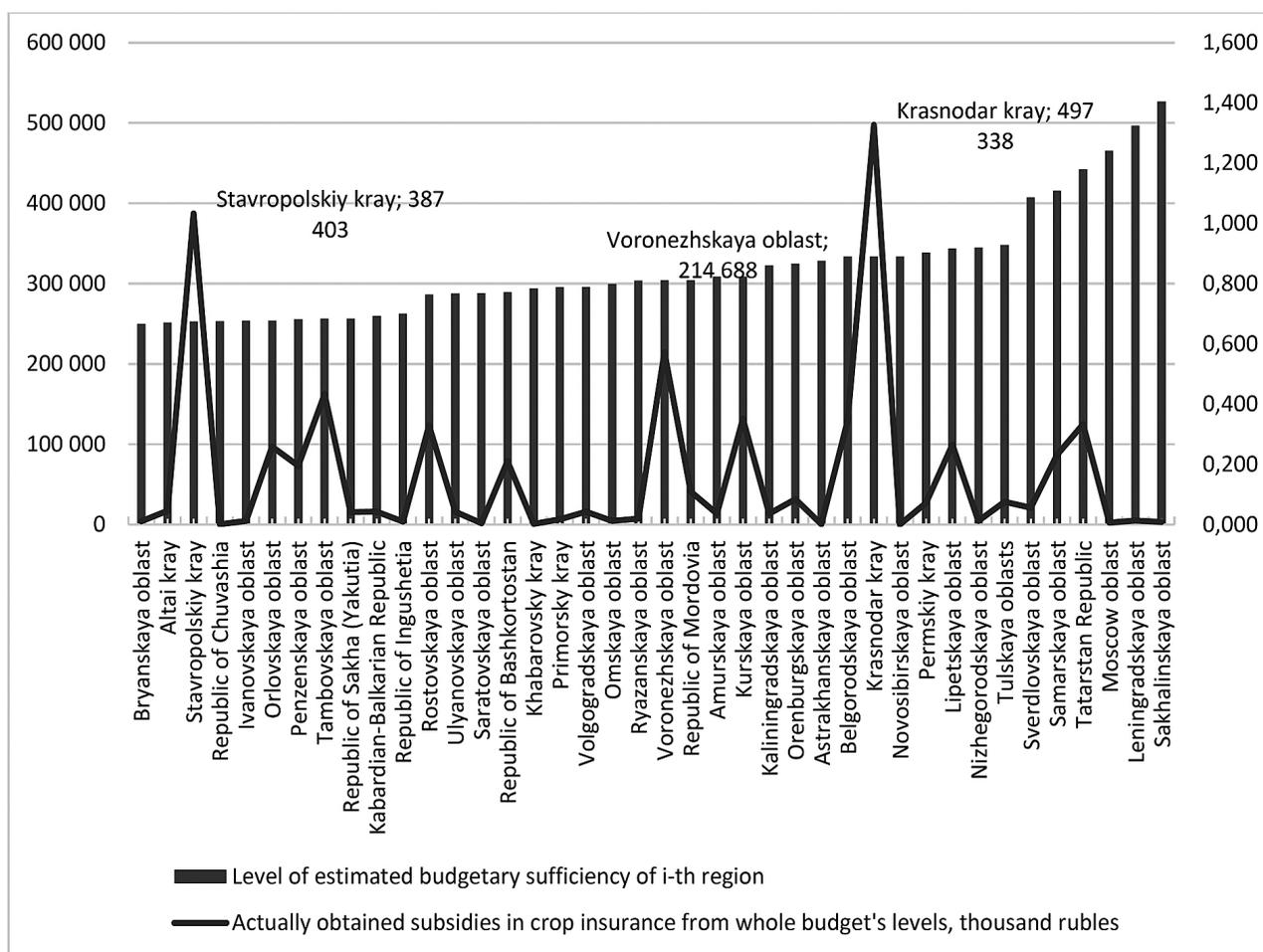


Figure 4. Characteristics of the estimated budgetary effects of subsidies for recipient's regions with crop's agro-insurance.

production and in the balance of outstanding short-term loans, which were taken before 31 of December in the 2016 year;

P_i – share of i^{th} region in the size and growth of the livestock;

S_i – share of i^{th} region in the size of crop area;

K_i – share of i^{th} region in the number of peasants (farmer's) economy, include individual entrepreneurs, and agricultural consumer's cooperatives, volume of peasant (farmer's) economy's and individual entrepreneurs production, and in the balance of outstanding loans to small business;

EBS_i – level of estimated budgetary sufficiency of i^{th} region in a current financial year;
 n – the number of the regions.

The volume of the unused financing, allocated for subsidizing of expenses on payment of insurance premiums, fully returning to the federal budget now (Belova & Sannikova, 2017).

We think that our modern system of “uniform subsidy”, as a particular case of imperfections, confirms Krugman's justice who blaming modern economists because they are too fascinated by the mathematical elegance of their models, forgetting about the content of economic processes (see <http://www.econorus.org/fmean.phtml>).

You can see immediately the discrepancy between the parameters that determine the distribution of regional subsidies and indicators for assessing the effectiveness of implementation of expenses of regional budgets (only for agro-insurance) at Table 1.

Besides the methodological issues we see problems of failure big share of insured crop area in the size of crop area (in 2016–5%, in 2015–10.9%), state planes the volume of insured crop area in the level 4067.7 thousand hectares, whole size of crop area for crop in 2017 79993.038 thousand hectares, so we can

wait share of insured crop area in 5.1%; some regions didn't receive support in 2016 in insurance but they need it, for example, Kalmyk republic, Republic of Crimea and Sevastopol, Republic of Adygea. Kalmyk republic is situated on the territory of the agricultural zone with a probability of severe droughts $\geq 50\%$ in the period from May to August.

In 2016 there are 40 regions, which was subsidized (Fig. 4). By the level of estimated budgetary sufficiency big groups of regions are relatively homogeneous (Table 2). In those groups also we see compliance with a number of regions in each group of the level of estimated budgetary sufficiency and numbers of regions in a group of regions-recipients of subsidies.

But the dependence is not revealed between "the actually obtained subsidies in crop insurance from whole budget's levels" (y) and "the level of estimated budgetary sufficiency of i^{th} region" (x):

$$y = -489333x + 104579 \quad (R^2 = 0.0074);$$

or

$$y = -40940 \ln(x) + 55529 \quad (R^2 = 0.0058);$$

or

$$y = -236480x^2 + 415623x - 111853 \quad (R^2 = 0.0159), \text{ or other models.}$$

IHH consolidated groups of the regions of a specific budgetary provision in the volume of subsidies are very high, which serves as an indicator of state preferences in the financing of regions with a certain level of fiscal capacity, which in turn has a negative impact on the agricultural insurance system. Even in terms of the need to save the acreage of fodder crops in agricultural organizations, peasant (farmer's) farms, including individual entrepreneurs, in the far North and equivalent areas, the situation when one enterprise in Sakhalinskaya oblast in 2016, receives support amounting to

3304 thousand rubles, and in the 11 regions with budget sufficiency from 0.727 to 0.817, to get 22 rubles per 1 ha of sown area cannot be considered as normal.

Conclusions

In closing, let's make four important points:

- it is necessary to change approaches to the formation of methods of determining funding of the "uniform subsidies", or absolutely reject the concept of a "uniform subsidy" in favor of financing of food security, of small business, of priority of traditional industries and agricultural insurance;

- it is necessary to establish a system of indicators for the distribution of grants between budgets of the regions of Russian Federation in agro-insurance ("the parameters determining the distribution of regional subsidies" for insurance in table 1 in this article), follows directly from indicators of the use of subsidies in agro-insurance (column 2 of table 1 in this article);

- it is necessary to complement the performance indicators of the use of subsidies in agro-insurance, basing at network by All-Russian Research Institute of agricultural meteorology observations of air temperature on the territory of Russia, anomalies of average air temperature during the vegetation period of spring cereals from date of germination to date of harvest and others parameters, for example, results of monitoring of agro-climatic conditions of yield formation of crops;

- it is necessary to base the calculation of the W_i from formula (1) not so much on the budget provision, when agricultural insurance is object of analyses, there are many other indicators of the variability of agro-climatic growing conditions of crops (Trubilin et al., 2016); or rental conditions (Klishina & Uglickih, 2017), or climate indices indicative for the insurance case — the lack of rainfall in the area for a certain number of days, that is a kind of "futures" on the weather conditions (Vanyushina, 2014), that can replace or add to an estimated budgetary sufficiency.

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«Единая субсидия» и новые веяния в субсидировании агрострахования в Российской Федерации

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Актуальность темы объясняется неполнотой содержания экономических моделей, составляющих основу распределения государственной поддержки в регионах, несоответствием ожидаемых реакций, результатов реализации государственных программ поддержки субъектов агропромышленного комплекса (далее – АПК) целевым ориентирам этих моделей и стимулам, направленным на объект регулирования (рассогласованностью избранных факторных показателей и результативных).

В статье обосновывается отсутствие прямой взаимосвязи метода оценки объема субсидий, направленных на поддержку достижения целевых показателей региональных программ, с содержательной экономической спецификой страхования, доказанное факторным (регрессионным) анализом, ретроспективным анализом. Методы, используемые в статье: обобщение, абстрагирование, конкретизация, мысленный эксперимент, а также графический метод.

Результаты настоящего исследования могут послужить основой для изменения существующей модели оценки объема субсидий, направленных на поддержку достижения целевых показателей региональных программ – по крайней мере, в сфере страхования, что в перспективе может способствовать увеличению бюджетной эффективности финансирования мероприятий, связанных с сельскохозяйственным страхованием.

Ключевые слова: «единая субсидия»; агрострахование; региональная программа поддержки; животноводство; растениеводство; федеральный бюджет; расчетная бюджетная эффективность

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