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## CONDITIONS FOR FORMATION OF MARKET INCOME OF AGRICULTURE AS AN INDICATOR OF AGRARIAN TRANSFORMATIONS

### Annotation

The necessity of taking into account the conditions for the formation of market incomes in assessing the result of state agricultural programs is justified. The analysis of the conditions for the formation of market incomes of agriculture and losses from their deterioration in Russia as a whole and for the Pskov region in particular in 2006-2013 was carried out. Proposals are made to improve agrarian policy.

### Keywords:

Interindustry exchange, the conditions for the formation of market incomes, the losses in agriculture due to disparities of interindustry exchange, regional conditions for interindustry exchange in agriculture.

In economic science, the search for ways to lead the country's agro-industrial complex away from the current economic situation has long been pursued. Since 2006, the problem of regulation of the agro-industrial complex has been given serious attention at the governmental level. In 2006-2007 the priority national project "Development of the agro-industrial complex" was carried out in Russia. It was replaced by the "State Program for the Development of Agriculture for 2008-2012". Starting in 2013, the State Program for the Development of Agriculture and Regulation of Agricultural Products, Raw Materials and Food Markets for 2013-2020 is being implemented. At the same time, the Minister of Agriculture of the Russian Federation N. Fedorov, summing up the implementation of the State Program for the Development of Agriculture and Regulation of Agricultural Products, Raw Materials and Food Markets for 2008-2012, noted that the planned volume of agricultural production was not achieved. With the planned increase in production volumes by 24.1%, the actual growth was 16.8%. Also, the Doctrine of Food Security, which refers to bringing the share of Russian food in retail trade to 70%, has not been implemented. [4, 7-14]

It should also be noted imperfection of target indicators of agrarian transformations. The results of the state program are characterized by the volume of production or the monetary value of production, the volume of loans and state support and the program does not pay enough attention to the profitability of

agriculture relative to other industries, which seriously undermines the motivation of agricultural production.

An objective assessment of agrarian transformations should include an evaluation of changes in the equivalency of interindustry exchange. We believe that the equivalence of interindustry relations for agriculture should be considered relative to their incomes and we suggest using the indicator of conditions for the formation of market incomes, calculated on the basis of the nominal and real structure of the gross regional product. [2, 18-20]

Table 2 shows the dynamics of the indicators of the formation of market incomes in Russian agriculture in 2006-2013 relative to 2005, preceding the National project "Development of the agro-industrial complex" (calculated by the author).

Table 2 - Dynamics of the indicators of the formation of market incomes of agriculture in Russia in 2006-2013.

Year	Gross regional product by the regions of the Russian Federation (GVA at current basic prices), bln. Rub.	GVA of Russia's agriculture, bln. Rub.	GRP by the regions of the Russian Federation in 2005 prices (real GRP), bln. Rub.	GVA of Russia's agriculture in 2005 prices, bln. Rub.	The share of Russia's agriculture in GRP in current prices, %.	The share of Russia's agriculture in GRP in 2005 prices, %	Conditions for the formation of market incomes of Russia's agriculture relative to 2005.
2005	18034,4	937,8	18034,4	937,8	5,2	5,2	1,000
2006	22492,1	1102,1	19531,2	975,3	4,9	5,0	0,981
2007	27964	1230,4	21152,3	1002,6	4,4	4,7	0,928
2008	33908,8	1559,8	22358	1093,8	4,6	4,9	0,940
2009	32007,2	1568,4	20658,8	1097,1	4,9	5,3	0,923
2010	37687,8	1620,6	21609,1	974,2	4,3	4,5	0,954
2011	45392,3	2133,4	22776	1211,0	4,7	5,3	0,884
2012	49926,1	2096,9	23482,1	1137,1	4,2	4,8	0,867
2013	54013,6	2268,6	23904,7	1192,8	4,2	5,0	0,842

Calculations show that during the years of reforms, the conditions for the formation of market incomes for agriculture in Russia have significantly worsened.

In 2013, compared to 2005, agriculture received only 84.2% of the generated income.

On the basis of the calculated coefficient of conditions for the formation of market incomes, it is possible to determine the size of agricultural losses as a result of deterioration in the conditions of interindustry exchange (Table 3).

Table 3 - Losses of Russian agriculture in 2006-2013 as a result of deterioration in the terms of interindustry exchange in relation to 2005.

Year	GVA of agriculture in 2005 prices by structure in current prices, bln. Rub (income received in comparable prices).	Income received as % of the income created in relation to year 2005.	Losses in the agricultural income received in relation to year 2005, %.	GVA of agriculture in current prices by GRP structure in 2005 prices (generated revenue in current prices), bln. Rub.	Losses in the GVA of agriculture in current prices relative to the conditions of 2005, bln. Rub.	Comparative efficiency of households	The share of household production in the gross output of agriculture, %	Adjustment factor for GVA of agriculture of Russia	Losses in agriculture, taking into account the adjustment of the GVA of the "households" sector, bln. Rub.
2005	937,8	100,0	0,0	937,8	0,0	1,840	43,0	1,361	0,0
2006	957,0	98,1	1,9	1123,2	21,0	1,855	41,5	1,355	15,5
2007	930,7	92,8	7,2	1325,5	95,1	1,686	39,0	1,267	75,0
2008	1028,5	94,0	6,0	1659,0	99,2	1,685	38,8	1,266	78,3
2009	1012,3	92,3	7,7	1699,8	131,5	1,858	42,4	1,364	96,4
2010	929,2	95,4	4,6	1699,2	78,6	1,944	48,1	1,454	54,1
2011	1070,5	88,4	11,6	2413,5	280,1	1,718	46,4	1,333	210,1
2012	986,2	86,7	13,3	2417,7	320,8	1,723	45,1	1,326	241,9
2013	1004,0	84,2	15,8	2695,3	426,7	1,722	45,7	1,330	320,8

While determining the absolute size of losses, we took into account the existing distortion in calculating the gross value added in agriculture, because about half of the country's agricultural output is produced by households. For the objectivity of assessing the size of agricultural losses, we proposed an adjustment coefficient for value added, which is based on the methodological principle of equal effectiveness of organizations and households. [3, 92-94]

$$k = 1 + \mathcal{Y}_{\text{ДХ}} \times (k_{\text{О}} - 1)$$

where  $k_{\text{О}}$  is a coefficient that shows how many times the efficiency of households according to the system of national accounts is higher than that of non-financial corporations. This coefficient simultaneously shows how many times the efficiency of the household sector is overestimated according to the system of national accounts;

- the efficiency factor of non-financial corporations;

$$\mathcal{O}_{\text{НК}} = \text{ВДС}_{\text{НК}} / \text{ВВ}_{\text{НК}} ;$$

- the efficiency factor of households;

$$\mathcal{O}_{\text{ДХ}} = \text{ВДС}_{\text{ДХ}} / \text{ВВ}_{\text{ДХ}} ;$$

- the share of households in the gross output of agriculture.

The developed methodology for measuring the conditions for the formation of market incomes of agriculture can be used not only at the national level, but also at the regional level. [1, 26-32] Dynamics of the conditions for the formation of market incomes of agriculture in the Pskov region in 2006-2013 is presented in Table 4.

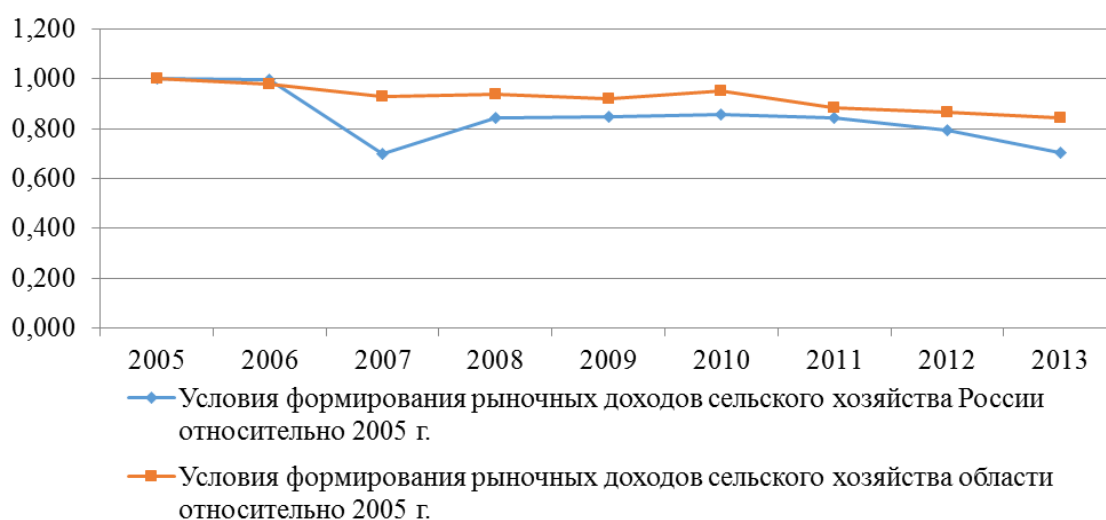
Table 4 - Dynamics of the conditions for the formation of market incomes of agriculture in the Pskov region in 2006-2013.

Year	Gross regional product by regions of the Russian Federation (GVA at current basic prices), bln. Rub.	GVA of agriculture of the region, million Rub.	GRP for regions of the Russian Federation in 2005 prices (real GRP), bln. Rub.	GVA of agriculture in the Pskov region in 2005 prices, million rubles.	The share of agriculture in GRP of Pskov region in current prices, %.	The share of agriculture in GRP of Pskov region in 2005 prices, %.	Conditions for the formation of market incomes of the region's agriculture relative to 2005.
2005	18034,4	4342,4	18034,4	4342,4	0,02408	0,02408	1,000
2006	22492,1	4683,3	19531,2	4077,5	0,02082	0,02088	0,997
2007	27964,0	3632,2	21152,3	3918,5	0,01299	0,01852	0,701
2008	33908,8	4983,3	22358	3895,0	0,01470	0,01742	0,844

2009	32007,2	5001,4	20658,8	3801,5	0,01563	0,0184	0,849
2010	37687,8	5833,4	21609,1	3900,3	0,01548	0,01805	0,858
2011	45392,3	6934,4	22776	4134,3	0,01528	0,01815	0,842
2012	49926,1	6775,5	23482,1	4018,6	0,01357	0,01711	0,793
2013	54013,6	6626,3	23904,7	4159,2	0,01227	0,01740	0,705

In 2013, compared to 2005, the indicator of the conditions for the formation of market incomes of agriculture in the Pskov region was 0.705. If in 2006 exchange conditions for the region's agriculture remained practically at the level of 2005, there was a sharp deterioration later. In 2007, the amount of losses was 29.9%. In the period of 2008-2011, they slightly decreased and stabilized at the level of 14-16%. In 2012-2013 again there was an increase in losses up to 29.5%. Calculations show that the conditions for the formation of market incomes for agriculture in the Pskov region are worse than in Russia as a whole (Figure 1).

Figure 1 - Dynamics of the conditions for the formation of market incomes of agriculture relative to 2005 in the Pskov region and in Russia as a whole.



Conditions for the formation of market incomes of agriculture relative to 2005 in the country.

Conditions for the formation of market incomes of agriculture relative to 2005 in the Pskov region.

According to our calculations, taking into account the adjustment of the gross value added, the losses in the incomes of agriculture in the Pskov Region from the deterioration of the terms of interindustry exchange amounted to 1108.5 million rubles in 2007, 684.7 million rubles in 2008, 633.1 million rubles in 2009, 670.4 million rubles in 2010, 998.5 million rubles in 2011, 1362.6 million rubles in 2012 and 2179.5 million rubles in 2013. The total amount of agricultural losses in the Pskov region in 8 years amounted to 7.6 billion rubles. (Table 5)

In the years of 2006-2013 most of the state support flew from agriculture to other sectors due to the deterioration of interindustry exchange, which indicates the imperfection of Russia's agrarian policy. In our opinion, it is necessary to reorient state support from subsidizing interest rates to price policy not related to the dynamics of production, while ensuring a certain level of profitability of agricultural production. To combat the monopoly of processing companies, centralized purchases of agricultural products are required, or purchase of contracts for their supply, and then their sale to processors, which will allow fight their monopoly.

Table 5 - Calculation of the relative losses of agriculture in the Pskov region from the nonequivalence of interindustry exchange according to the regional accounts in 2006-2013 relative to year 2005.

Year	GVA of agriculture in 2005 prices by structure in current prices, million Rub (income received in comparable prices).	Obtained revenues as % of those created in year 2005.	Losses in income received by agriculture relative to 2005 conditions, %	GVA of agriculture in current prices by GVP structure in 2005 prices (income created in current prices), million rubles.	Losses in the GVA of agriculture in current prices relative to the conditions of 2005, million rubles.	Comparative efficiency of households (Data on average for Russia).	Share of households in the GVA of agriculture,% (Data of the Pskov Statistical Yearbook)	GVA adjustment coefficient of agriculture in the Pskov region	Agricultural losses, taking into account the adjustment of the GVA of the household sector of the economy, million rubles.
2005	4342,4	100,0	0,0	4342,4	0,0	1,840	64,5	1,542	0,0
2006	4066,8	99,7	0,3	4695,6	12,3	1,855	61,2	1,523	8,1
2007	2747,4	70,1	29,9	5180,3	1548,2	1,686	57,8	1,397	1108,5
2008	3285,8	84,4	15,6	5907,2	923,9	1,685	51,0	1,349	684,7
2009	3228,1	84,9	15,1	5889,7	888,3	1,858	47,0	1,403	633,1
2010	3344,7	85,8	14,2	6802,4	969,0	1,944	47,2	1,445	670,4
2011	3479,4	84,2	15,8	8239,7	1305,3	1,718	42,8	1,307	998,5
2012	3186,8	79,3	20,7	8544,0	1768,5	1,723	41,2	1,298	1362,6
2013	2932,6	70,5	29,5	9397,9	2771,6	1,722	37,6	1,272	2179,5

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