

INSTITUTES OF STABILIZATION OF CONJUNCTURE IN THE GRAIN MARKET OF RUSSIA

Rishat Migunov

Russian State Agrarian University - Moscow Timiryazev Agricultural Academy
Faculty of Economics named after A.V. Chayanov

Russian State Agrarian University - Moscow Agricultural Academy named after
K.A. Timiryazev

127550, Timiryazevskaya st., 49

Moscow, Russian Federation

e-mail: migunovrishat@mail.ru

Abstract

The article analyses the institutional mechanisms for stabilizing the agro-food market in the grain market. The offers on the adjustment of national institutional mechanisms for commodity-purchasing interventions, price regulation, as well as the Institute of storage intervention fund.

Keywords: *institutions, agro-food conjuncture, intervention measures*

JEL classification: *E32; O13; O43*

1 Introduction

The transition of Russia's agriculture to the stage of relative saturation of demand in the agro-food market is characterized by an increase in the amplitude of short-term price fluctuations in agricultural markets. The "Law of King" manifests its effect: when the elasticity of demand decreases, there is an increase in the dependence (elasticity) of changes in market prices from changes in the volume of production and sales of products.

With inelastic demand, even small changes in production volumes cause a much greater degree of change in market prices. In connection with this, a definite regularity can be clearly observed. The development of the agrarian sector of the economy leads to an increase in the degree of saturation of food needs, which, in turn, causes a drop in the elasticity of demand for income and prices. The

drop in the elasticity of demand strengthens the volatility of market prices. An increase in the level of price fluctuations (especially in the grain economy) leads to instability in the receipt of income from agricultural producers and reduces the investment attractiveness of the industry. In such circumstances, the opportunities for long-term economic growth of the agricultural sector are lost, the market mechanism cannot independently restore the prices of effective competitive equilibrium. This allows us to conclude that to stabilize the agro-food situation, government intervention in the grain economy is necessary through the institutional mechanisms that regulate supply and demand in the market.

2 Data and Methods

Theoretical model of institutes and institutional mechanisms of stabilization of price conjuncture in the grain market. Ensuring a stable price environment without divergent amplitude of its fluctuations cannot be achieved through a market impact on supply and demand in the agro-food market. It is impossible to solve this problem by applying separate measures of state influence on the market situation. It is necessary to form a special complex system of institutions and institutional mechanisms for stabilizing the price situation in the agro-food market, in particular, in the grain market. The creation and use of such a system makes it possible to mitigate price fluctuations in the grain market, which makes it possible to form stable incomes for agricultural producers (sufficient for extended reproduction) and to invest in the industry in a “more predictable” environment.

The construction of such a system of institutions should take into account the ambiguous position of participants in the grain market relative to the main goals of stabilization operations. From the point of view of grain producers, the main goal is to raise prices to ensure the profitability of agricultural producers, sufficient for maintaining extended reproduction. The main goals of grain producers and consumers (the population, representatives of the milling industry, grain and feed milling industry) are opposite. From the position of society it is important to ensure a balance between the interests of producers and consumers, stability of prices by years. Competent study of institutes of stabilization of agro-food market allows to smooth out the specified contradictions, to reduce, or even to eliminate volatility of the prices.

The experience of the US and EU countries shows that the system of institutions and institutional mechanisms for stabilizing the price situation in the grain market includes four interrelated institutional subsystems: 1) the institutions of commodity-procurement interventions and the mechanisms for their implementation; 2) institutes and institutional mechanisms of price regulation;

3) institutions for storing an intervention fund, 4) a system for monitoring the situation in the agro-food market.

3 Results and Discussion

Institutional mechanisms of stabilization interventions and price regulation in the grain market. Commodity-purchase interventions are an institutional mechanism of state regulation aimed at selling or purchasing agricultural products from the state in order to stabilize the agro-food situation and reduce the volatility of prices and incomes of agricultural producers. The use of commodity-purchasing interventions leads to the formation of two food markets: the free market trade sector and the sector where the prices and the volume of food sales are determined by the Government.

Intervention measures are government intervention in the formation and functioning of the grain market through the use of institutional mechanisms that regulate supply and demand. In the harvest year demand from the population and enterprises for grain is less than its supply. Because of the excess of grain, market prices are falling. The state in this situation can increase the demand for grain due to procurement interventions in the grain market. With the rapid implementation of this measure, with sufficient allocation of budgetary funds for the purchase of grain, the aggregate demand for grain will increase, market prices will rise.

In lean years the supply will be less than demand. Due to the lack of grain, market prices will rise, demand will fall to the level of supply. In such a situation, the state takes measures to increase the supply of grain on the market through commodity interventions from "buffer stocks" made in high-yielding years. As a result, market prices will drop.

Thus, the institutional mechanism of market stabilization makes it possible to mitigate or extinguish the amplitude of fluctuations in prices and incomes of grain producers and to stabilize them by years. This is especially important, because in the grain market, the deviation of prices from the average annual equilibrium level is much more significant than in the markets of many other goods, which is due to the action, as noted above, of King's law.

Stabilization interventions in the grain market can be carried out by the state except for the specified commodity and procurement interventions, based on the use of the institutional mechanism of collateral interventions, which were actively used in the United States. This mechanism of intervention is called the mechanism of collateral prices or the mechanism of state-supported prices.

In autumn, after harvesting, the state issues loans to agricultural producers on security of received products at security rates (at the market price or slightly

higher). In the spring, agricultural commodity producers repay the loan: with a pledged product or a cash amount from the sale of products (depending on the prevailing price situation on the market).

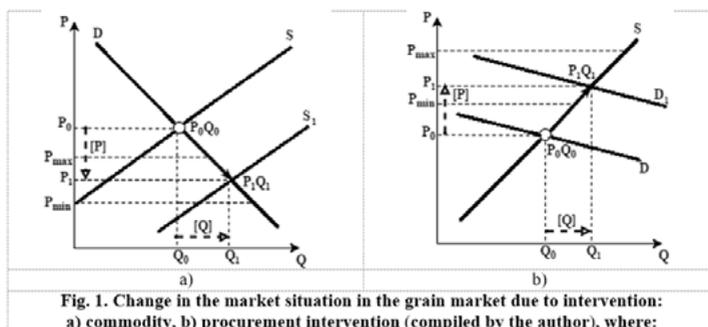
The basis for the operation of institutional mechanisms of stabilization interventions is the correct definition of threshold price values (minimum and maximum prices in the market) at which interventions begin.

Using the institutional mechanism of price regulation allows to extinguish the seasonal price volatility, which raises the profitability of agricultural producers. This aligns not only prices and revenues, but also maintains a higher and predictable price level.

The implementation of commodity-procurement interventions is preceded by a monitoring system. It is a comprehensive methodology for assessing the need for stabilization measures. To timely and efficiently conduct commodity-procurement interventions, it is necessary to develop and justify the threshold criteria for their implementation, to accurately monitor and analyze the dynamics of market conditions, to collect a database for enlarged territories and for the whole of the Russian Federation for a wide range of indispensable indicators.

Up-to-date information on the price situation in the grain market, the formed intervention stocks, the costs of their formation, budget constraints serve as a basis for determining the content and direction of institutional arrangements and the extent of stabilization operations. An outstripping rise in food prices compared to the maximum price level (exceeding the social price limit) signals the need for commodity interventions. The increasing decline in prices in the market, and the approach of market prices to the minimum, signals the need for procurement interventions.

Modeling of stabilization interventions depending on changes in the price situation. The market equilibrium point ($P_0 Q_0$) in the free trade sector varies according to the law determined by the demand function (D) and the offer (S). The overall course and the results of the stabilization operations are shown in Figure 1.



D and S - aggregate demand and supply in the grain market; D_1 - aggregate demand for grain after the procurement intervention; S_1 - aggregate supply in the grain market after the commodity intervention; P_0 and Q_0 - equilibrium indicators of prices and volumes of grain sales on the market before intervention; P_1 and Q_1 - after the intervention; P_{\max} and P_{\min} - the maximum and minimum limit of grain prices set by the state.

The establishment of market prices (P_0) at a level exceeding the social limit of the retail price in the market (P_{\max}) is a signal for carrying out commodity interventions in the grain market (Figure 1a): selling additional lots of food from intervention funds at prices slightly below the maximum limit of the retail price (P_{\max}). The stabilization operation results in a shift in the aggregate supply curve from S to S_1 . The general market situation after commodity interventions is characterized by an increase in the volume of sales of marketable grain ($Q_1 > Q_0$), due to the sale of grain from the state intervention fund at lower market equilibrium prices, which leads to the formation of a new market equilibrium point that satisfies the initial understanding of price boundaries ($P_1 < P_0$; $P_{\min} < P_1 < P_{\max}$).

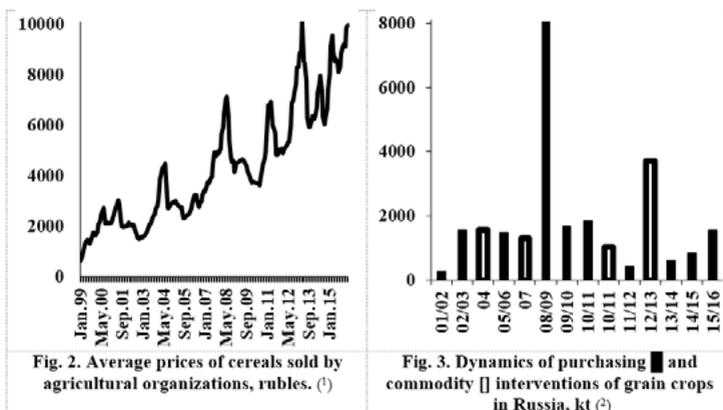
The establishment of market prices (P_0) at a level below the level of profitability of grain farms (P_{\min}) is a signal for carrying out procurement interventions in the grain market (Figure 1b): purchases of additional quantities of food on the free market in intervention funds at prices slightly above the minimum limit (P_{\min}). Stabilization operation leads to a shift in the aggregate demand curve from D to D_1 . The general situation on the market, after carrying out procurement interventions, leads to the formation of additional demand in the market ($Q_1 > Q_0$) and an increase in market equilibrium prices ($P_1 > P_0$; $P_{\min} < P_1 < P_{\max}$).

The model presented is based on the construction of an "ideal" institute for stabilizing the price situation in the agro-food market. The construction of such

an interconnected system of institutional mechanisms within the framework of a single institution allows:

- To smooth the volatility of price fluctuations by years and by seasons during the year, which leads to a sustainable income generation by agricultural producers;
- reduce the dependence of the development of the industry on the natural and climatic conditions due to the formation of interventional reserves and their consumption in lean years;
- Reduce the negative manifestations of market institutions in agriculture due to the competent construction of complementary institutions of state regulation;
- Smooth out the shock peaks of the agro-food situation to increase the forecast horizons for the development of the industry. The possibility of medium- and long-term forecasting of the agro-food situation allows increasing the inflow of investments into the industry.

Institute for Stabilization of the Price Conditions of the Grain Market in Russia. The dynamics of prices in the grain market of Russia is characterized by their instability over the years, high level of variability (Figure 2). Non-price factors, dynamics of the domestic and world agro-food market cause fluctuations in demand and supply on the Russian grain market. Changes in demand and supply cause changes in the points of market equilibrium and market equilibrium prices. So, for example, for the last seven years explosive price rise occurred three times (in 2011, 2013, 2015). The volatility of prices on the Russian grain market has expanded to price shocks under the influence of both internal and external factors of the conjuncture of the agro-food market. The divergent amplitude of price fluctuations was to be extinguished by means of institutions for stabilizing the price conjuncture.



The dynamics of prices on the Russian grain market is characterized by an increase in price volatility. So the price shocks of 2004 and 2008 years. Formed for 20-24 months, and a rise in prices in 2013 and 2015. occurred already in 15 months. The fluctuations in grain producer price indices (the difference between the maximum and minimum price indices by December of last year) increased: in 2015 they amounted to 16.4 pp. against 6.4 percentage points in 2014⁽⁶²⁾, p. 50). Despite the fact that explosive price increases in these years are increasing, the volume of government purchases in the course of stabilization interventions is decreasing. They amounted to 8 million tons in the 2008/2009 marketing year, 1.8 million tons in 2010/2011, and 0.8 million tons in 2014-2015 (Figure 3).

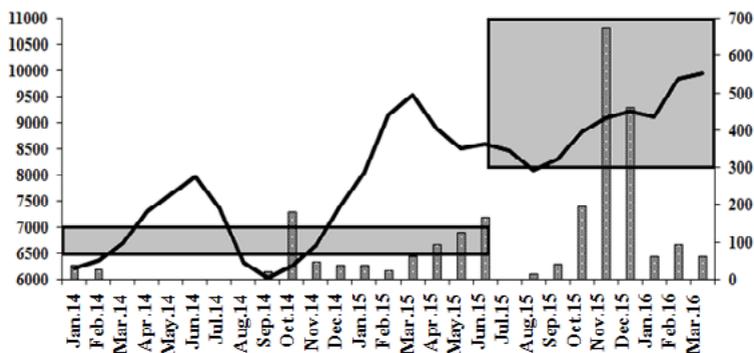
Such a reduction in stabilization operations on an increasingly volatile market poses a threat to the stable development of the grain economy, the sustainable income generation by agricultural producers and the predictability of the investment climate in the industry.

The formation of procurement interventions in recent years raises questions about the effectiveness of the institutions (rules) for which they are implemented. In the period from February to September 2014 the state did not make any stabilization operations in the market (Figure 4). However, the conjuncture of the agro-food market during this period managed to go through several stages: growth until June and a seasonal summer decline. Only with the achievement of the lowest point of 6000 rubles per ton (below the cost of production), the state began stabilization measures. Measures to purchase food in the intervention

⁶² National report "On the progress and results of the implementation in 2015 of the state program for the development of agriculture and regulation of markets for agricultural products, raw materials and food for 2013-2020." - Moscow: FGBNU Rosinformagrotekh. - 2016. - 257 p.

funds contributed to an increase in grain prices by 1.5 times by March 2015. The dampening nature of grain purchases during this period is generally justified. Further seasonal price decline by August (by 15%) began to be compensated for by purchases only in the fall of 2015. The increase in procurement interventions contributed to a rise in grain prices to 9500 rubles per ton (March 2016).

Figure 4 Dynamics of procurement interventions (pr scale, kt) and average prices for cereals (left scale, rub./t) ⁽⁶³⁾



However, the existing institution of stabilization of the price situation of the grain market in Russia does not cope with the task of ensuring the income of agricultural producers. In Figure 4 in gray color the areas of the cost price of the realized grain crops in Krasnodar territory are marked. In 2014, this is the area of 6500-7000 rubles per ton, in 2015 - 7900-10900 rubles per ton. Folding market prices are indicated by the corresponding curve on the chart. In the season of 2014, producers had the opportunity to profit from sales in the free trade sector. However, as early as 2015, grain prices are entirely in the area of production costs, which makes it possible to speak of the loss-making of most grain-producing farms during this period. At the same time, we consider the production activity of farms from the region with favorable conditions for large-scale grain production.

Studies show that as a result of interventions in the period from 2007 to 2014, producers received an additional income of only 1.2 billion rubles., Consumers cut their spending by 3.7 billion rubles, while net receipts to the budget amounted

⁶³ Statistical data of a single interdepartmental information and statistical system. [Electronic resource]. Access mode: www.fedstat.ru.

Statistical data of the National Commodity Exchange. [Electronic resource]. Access mode: <http://www.namex.org/ru/investment/Zakupki2015>.

Ministry of Agriculture. Intervention in the market of grain and dairy products. [Electronic resource]. Access mode: <http://www.mcx.ru/documents/document/show/25114.htm>.

to **minus 25.4 billion rubles**. (Uzun, 2016). The economic results of interventions in Russia show all the inefficiency of the current system of institutions for stabilizing the price situation in Russia. The complexity of the situation is recognized in the Government. So the director of the profile department of the Ministry of Agriculture recognizes that the country has not created a civilized system for trade in procurement and commodity interventions (the granaries of Russia, 2017, p. 45).

The impossibility of the Ministry of Agriculture to develop a system for the full regulation of the agro-food market is explained by the lack of an information and methodological base for conducting interventional operations and gaps in legislation. Such analytical work for today is not within the competence of the Ministry of Agriculture: the ministry determines the size and conducts stabilization measures, however, specific mechanisms for implementing such functions are not prescribed anywhere. All this leads to the fact that in March ⁽⁶⁴⁾ each year the Ministry determines the minimum interventional prices for cereals and carries out interventions during small lots during the year ⁽⁶⁵⁾.

The system of selection of grain storage elevators is also of low efficiency. Comparison of the levels of storage costs for grain in the intervention fund and in the state material reserve showed that the cost of storing 1 ton of grain in the structures of the Rosrezerv (agency for the creation of mobilization reserves required in the event of anthropogenic accidents, natural disasters or humanitarian aid) by 13-52% lower than in the structures of the Ministry of Agriculture. This is explained by the difference in the criteria for selecting granaries and the formation of a tariff for the services provided.

4 Conclusion

Proposals for the improvement of stabilization institutions. Despite the fact that the very fact of the state's appeal to the institution of stabilizing the price situation is positive, the specific conditions for the implementation of formal rules in Russian reality are far from perfect. Economic and mathematical modeling of the Russian grain market (Svetlov, 2016) shows that even the practice of establishing a broad price corridor under the prescribed model of the institute allows, at low

⁶⁴ Ministry of Agriculture. Order of the Ministry of Agriculture of Russia of March 31, 2015, No. 119 "On the determination of the marginal levels of the minimum prices for grain crops of 2015, when conducting government procurement interventions in 2015-2016." Access mode: http://www.mcx.ru/documents/file_document/v7_show/32152..htm.

⁶⁵ Ministry of Agriculture. On the progress of public procurement interventions of grain crops in 2015 in 2015-2016 agricultural year. Access mode: http://www.mcx.ru/documents/document/v7_show/33529..htm.

budgetary costs, to strengthen incentives for innovation and investment and reduce the volatility of prices and incomes of agricultural producers.

In order to stabilize prices and incomes of Russian agricultural producers it is necessary to implement the following measures to adjust the institution of price stabilization in Russia:

1. To form a clear model of the institute for stabilizing the price situation in Russia. Include in the institute all components: a monitoring system; institutional mechanisms for conducting commodity-procurement interventions, price regulation, storage of the intervention fund. Specify specific rules for implementing the policy as a whole for the Russian Federation, for each region or larger territorial entities by a government decree and methodological instructions of the Ministry of Agriculture.
2. Correct the rules of the institutional mechanism of commodity-procurement interventions:
 - determine the maximum amount of the intervention fund, the maximum volume of stabilization operations at minimum prices, the maximum sales at the maximum prices during the marketing year;
 - describe the rules for conducting commodity and procurement interventions in case of finding market prices outside the interval $[P_{\min}; P_{\max}]$;
 - to realize the pledge mechanism of purchases (establish the level of collateral prices, the level of storage costs, the mechanism for the return of grain to agricultural producers, the mechanism of post payment under the commodity loan);
 - to pursue a policy of point-by-point implementation of stabilization operations in the territories and seasons of the year in accordance with a differentiated approach to determining the prices of procurement interventions for individual large territories.
3. Correct the rules of the institutional mechanism of price regulation:
 - to develop a methodology for determining price thresholds in specific food markets, to prescribe a specific methodology for their determination. In the case of a minimum price threshold, it is necessary to develop an information and statistical system for determining the cost of production of food in each region and to determine the minimum price at a level ensuring extended reproduction of agricultural producers. In the case of the maximum price threshold, it is necessary to formulate a policy in the field of providing socially acceptable prices or protecting the domestic market.

- to establish clear terms for the effect of minimum and maximum prices. Determine that their adjustment is possible only in exceptional cases (significant changes in the world market, natural disasters).
4. Correct the rules of the institutional mechanism for the storage of the intervention fund:
- to coordinate the actions of the Ministry of Agriculture and Rosrezerv in the field of procurement to the state's intervention funds;
 - to change the system of formation of a fee for storage of grain during interventions on the basis of the positive experience of Rosrezerv: the formation of tariffs for each specific elevator and 10% of the rate of return;
 - to conduct a grant development (development work) to find modern technological solutions that allow increasing the efficiency of grain storage taking into account their climate location.
5. Reduce transaction costs of agricultural producers:
- prescribe the conditions for introducing non-market restrictions on the grain market: under what conditions is it possible to introduce an export duty, when and how can a ban on the export of grain outside the country be introduced;
 - reduce the bureaucratic burden on participating in exchange trades (for 2016: contract for the organization of trades - 16 documents, bidding - 13 more documents);
 - establish responsibility of the Ministry of Agriculture of the Russian Federation, the state agent for interventions (JSC UGK) for the retention of grain prices within the price range;
 - Develop a system for monitoring and forecasting the situation on the grain market in the subjects of the Russian Federation with simultaneous information to agricultural producers on the following changes in market conditions: the volume of production, use, transportation of certain types of products; emerging prices in the free food market.

Construction of a theoretical model and comparison of theory with practice allow us to say that the institute for stabilizing the price conjuncture shows its effectiveness in reducing the volatility of prices and incomes of agricultural producers in a clearly defined model, which leads to the possibility of sustainable economic growth in the industry. Claims from manufacturers that it is necessary to primarily support exports, rather than interventions, should be cushioned by the development of other institutions of state regulation (change of forms of support, improvement of the quality of stabilization operations). Claims from consumers in relation to price increases in certain years should be mitigated by the

development of demand-side management systems (taking measures to increase demand from low-income citizens, expanding demand for domestic food from budget organizations).

References

1. GAYSIN, R. S. (2016). *Agrarian cycles: Monograph*. Moscow: Publisher RSAU-MTAA.
2. GAYSIN, R. S. (2015, № 12). Institutional mechanisms for stabilizing prices and incomes in agriculture. *The Economy of Agriculture*. p. 49-54.
3. NAZARENKO, V. I. (2007, № 3, 4, 5). Forms and directions of state support of agriculture to the West. *Economics of agricultural and processing enterprises*. p. 10-18.
4. SVETLOV, N. M. (2016, № 21). Simulation modeling of wheat market regulation. *Nikon readings*. p. 168-171.
5. The granaries of Russia (2017, № 3). How to preserve the harvested grain yield. *Mixed feed*. p. 44-56.
6. UZUN, V. Y. (2016, № 10). Evaluation of the effectiveness of procurement and commodity interventions in the grain market in Russia. *Economics of agricultural and processing enterprises*. p. 7-17.
7. ZELDNER, A. (1997, № 6). State regulation of the agro-industrial sector of the economy. *Issues of economics*. p. 83-90.