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**FOOD SECURITY MANAGEMENT MODELS: GLOBAL AND
NATIONAL EXPERIENCE**

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Abstract

Food security should be considered on a global scale from the point of view of the possibility of providing the population with food in accordance with physiologically grounded norms. At present, with the emergence of new threats to food security, there is an exacerbation of the traditional factors of the population's vital activity, which form negative conditions in the economic and social sphere of a number of countries. In this regard, the presence of food security problems in Russia should be viewed from the standpoint of economic security. The article provides a number of characteristics of the main food safety management models. The features of ensuring food security in the world integration community are revealed. Particular attention is paid to the assessment of food safety management systems, taking into account international experience and a number of problems of the Russian national market. The study carried out by the authors indicates that a detailed and qualitative revision of food security management models at the national level of the Russian Federation is necessary, taking into account the amendments to world experience in order to increase the efficiency of the country's agro-industrial sector. The methodology proposed by the author of crossing the experience of national and world management will strengthen the position of the Russian Federation in the world food market.

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1. Introduction

Food security, both at the national and global levels, is a vector of economic security of an individual state in particular and the world community as a whole. This fact is due to a number of causal relationships, for example, food potential is a basic product that is vital for the existence and reproduction of the population of any country. The food availability with quantitative and qualitative characteristics is the fundamental course of development for any country. The study of the problem of food independence as a part of the general economic security is becoming increasingly important, as it concentrates in itself the directions of improving the economic and legal support for the formation and development of industrial and agricultural complexes of the country. "The guarantee of sufficient food supply is one of the problems of international and national economic security, which occupies a leading place in the policy of states" (Khomenko et al., 2017, p. 26). Improving the efficiency of the functioning of models and systems of food security management should be ensured by applying an integrated approach, taking into account regional reserves and factors of a macroeconomic nature inside.

2. Problem Statement

Ensuring food security is one of the most important priorities of the state. To solve this problem, it is necessary to create an effective economic mechanism in the agro-industrial sphere and the conditions for entrepreneurial activity of commodity producers on the basis of state support. Ensuring food security of the country cannot be associated only with the threats and risks of the functioning of the country's agricultural and industrial sectors. This is a problem of the national economy, associated with the efficiency of social reproduction, which has a significant impact on the level of income and purchasing power of the population. Ensuring food security of the country requires modern management systems based on the use of effective financial, credit, tax, price and customs policies by the state.

3. Research Questions

The development of food security management models is relevant for each country, as it is a policy priority of any state. In this regard, the following issues were posed in the research:

- the formulation of a general concept of food security based on its interpretations in developed countries;
- characteristics of approaches to ensuring food security, taking into account the level of development of the country's agricultural potential;
- assessment of the results of Russia's accession to the World Trade Organization (WTO) and the application of foreign sanctions.

4. Purpose of the Study

The purpose of the research was formulated as follows: to study the experience of managing and ensuring food security in the national economy of a number of countries in the world economy system.

5. Research Methods

The research methodology was based on the principles of the systematic analysis of the conditions for ensuring food security in the national economy in the context of the problems of the world economy globalization. The analysis used the tools of statistical, trend analysis, as well as the comparison method. The theoretical foundations of the study were consistent with “fundamental provisions on the role of the country's regional economy in addressing food security problems” (Vartanova, 2016, p. 4). Mixed models of different countries are being popularized in the framework of increasing the of food independence indicator. These models help focus on specific areas and “pressure points” of food security. “The threshold level of food independence”, determined at 20-30% is the main criterion for food security, according to Western experts. “These values can be considered as threshold values for assessing food security risks” (Prasolov, 2016, p. 64). When studying approaches to ensuring food security, attention should be paid to the interpretation of the concept of food security, which are formulated in the system of international legal acts and Russian regulatory legal acts. So, in Kurdyumov (2012) a list of international legal acts is presented, ranging from the declaration of human rights and ending with the reports of FAO and the Declaration of the World Summit on food security. These documents outlined the evolution of the concept under study. So, the FAO report states that food security is such a state of the country's agro-industrial complex, “when all people have physical and economic and socially equal access to safe and nutritious food in an amount sufficient to meet their needs and references, in amounts necessary for an active and healthy life (The State of Food Insecurity in the World, 2001). At the same time, in the wording of the declaration of the World Summit on food security specifies the four fundamentals of the food security: availability, access, usage, and stability (Declaration of the World Summit on Food Security, 2009).

The specification of the information given in international acts is specified and edited in the legislation of individual countries, taking into account the specifics of the state and development of their food markets. For example, in the Food Security Doctrine of the Russian Federation it is defined as the state of the country's economy, in which the country's food independence is ensured, guarantees of the availability of food for each person in the amounts necessary for an active and healthy standard of living (Food security doctrine of the Russian Federation, 2010).

Within the framework of approaches to ensuring food security, it is customary to distinguish three main ones, depending on the state and level of development of agricultural potential: protectionist, export-oriented and intermediate. For the analysis, Japan is most often used in the framework of the protectionist approach. The United States is considered the best representative of the export-oriented approach. In most EU countries, “seeking more to ensure food security within the members of the Union, rather than leadership in world exports” (Akhmetshina & Porvadov, 2017, p. 237-238), an intermediate approach is applied using the instruments of the first two approaches.

The listed approaches to ensuring food security in the global economy use common indicators: agricultural potential, direct payments to farmers, import duties, price regulation, producer support assessment (PSE), preferential taxation, preferential lending, support of the poorest people in the access to food. The protectionist approach differs from the export-oriented one by the high level of the share of state support of agricultural production. The second difference of the protectionist approach is that it does not

use export subsidies.

We will characterize the specific instruments used in each of the three approaches in Table 1. From the point of view of the purpose of this study, let us turn our attention to the PSE indicator, which reflects the volume of transfers to agriculture in the form of budget support and market price support. So, the protectionist approach is used by countries with a low level of agrarian potential. An intermediate approach for managing the level of food security is typical for about 80% of EU countries with an average level of development of agricultural potential. The export-oriented approach is typical for countries with a high level of development of agricultural potential.

Table 1. Instruments of the state regulation and support of agriculture in the framework of approaches to the food security (Akhmetshina & Porvadov, 2017)

Name of the approach	Import duties on food	Price regulation	Export subsidies
Protectionist approach	Tariff and non-tariff measures to establish import barriers	Minimum guaranteed purchase prices. 78% in the PSE structure	None
Intermediate approach	Import licenses. Compensation fees for food types	Target, intervention, threshold prices 13% in PSE structure	Export tax Export licenses
Export-oriented approach	Reduction of import protection	Target and collateral prices, differential payments 22% in PSE structure	Food aid to countries in need

Assessing the trends in agricultural financing within the framework of the approaches under consideration, a number of conclusions can be formulated. Firstly, all countries recognize the need for financial support for the development of sectors of the agro-industrial complex. Secondly, the volume of transfers to agriculture in the form of budgetary support and market price support in the PSE structure allocated in developed countries corresponds to the type of approach chosen to ensure food security: export-oriented in the US and intermediate in EU countries. Thirdly, solving the problem of food supply in Russia requires significant investments from government sources, both from the point of view of solving the problems of the organizational structure of the agro-industrial complex, and taking into account the formation of the effective impact of its subjects (Molchan et al., 2017).

Considering the world experience in ensuring food security, it is also necessary to be based on Russian practice. Thus, the Russian Federation possesses unique natural resources, as well as significant production, scientific and human potential, but at the same time has a negative foreign trade balance in trade of agricultural products, raw materials and food, as it is the largest importer of them. It should be noted that due to the growth of agricultural production and economic sanctions, there is a noticeable decrease in the share of imports in the structure of foreign trade (Klimova, 2013). Altukhov (2014) indicates that “measures taken at the state level to ensure the country's economic security regulate about 50 percent of imports of agricultural products and food. This situation has a negative impact on the country's economy and the state of the food market” (p. 23). In theory, this should lead to the development of the country's agricultural and industrial sectors. We have to admit that the model of ensuring food security in the Russian Federation is undergoing its own difficulties, the main ones of which are associated with the need to

increase the competitiveness of its economy, which in turn will allow to increase the production and export of agricultural products and food.

It should be noted that the Russian Federation's accession to the WTO in 2012 does not lose its relevance. A significant part of the population and politicians spoke positively about this phenomenon. But, like any process, there are also negative forecasts of experts, which include:

- reduction in the level of state support of the industry from \$ 9 billion in 2012 to \$ 4.4 billion in 2018;
- a 30% reduction in the rate of import duties on all food products that are produced in Russia;
- the abolition of subsidies for the purchase of domestic agricultural machinery;
- weakening of state support and protection of agriculture and a number of others (Altukhov, 2014; Antonova & Kozlov, 2018).

6. Findings

Studying the experience and problems of developing food security management models on a global scale, one cannot but touch upon the issues of Russia's accession to WTO, which have not lost their relevance to this day. We will consider the dynamics of state support for agriculture after Russia's accession to WTO in the period from 2013 to 2020 in Table 2, referring to the data presented in the work (Antonova & Kozlov, 2018) and comment on them.

Table 2. The size of state support of agriculture in Russia after accession to WTO4 (Antonova & Kozlov, 2018)

Basket	Year							
	2013	2014	2015	2016	2017	2018	2019	2020
Green	3.8	5.7	6.1	6.1	6.5	6.7	7.1	7.3
Yellow	5.7	6.1	6.5	6.2	6.6	7.1	7.7	8.4
Total	9.5	11.8	12.6	12.3	13.1	13.8	14.8	15.7
Permitted size of the yellow basket	9.0	8.1	7.2	6,3	5.4	4.4	4.4	4.4

After accession to WTO, regulation of the volume of state support of agricultural production can be carried out within the framework of the so-called "yellow" or "green" baskets. They differ in whether or not government support measures have a direct impact on the increase in agricultural production, taking into account the limitation or growth of international trade. According to the WTO rules, the total amount of state support is also regulated within the framework of the "yellow basket". Green box measures in accordance with WTO requirements and norms are excluded from reduction commitments. The work (Antonova & Kozlov, 2018) provides data characterizing the trends in the volume of state support for agriculture after the entry of the Russian Federation into the WTO. An examination of these data indicates that starting in 2017, the amount of support under the yellow box ceases to correspond to its agreed amount, as stipulated by WTO regulations. And the solution to this problem is one of the most important, which must be resolved within the framework of the food security management model in Russia.

In this regard, the functioning and improvement of food security management models must necessarily take into account the "concepts of public finance management", since "the priorities for solving emerging problems can shift in one direction or another" (Efremova et al., 2018, p. 236).

One more key issue should be noted within the framework of the formation and development of national models of food security management, concerning the monitoring of its indicators and criteria. Monitoring of food security in Russia is provided for in clause 21 of the Food Security Doctrine. The works (Kapustina, 2016; Molchan et al., 2020) indicate that the functioning of the food security system at the federal and regional levels is impossible without creation and development of an integrated monitoring and forecasting system of food security.

7. Conclusion

A brief overview of the problems of comparative analysis of food security management models allows us to conclude that it is appropriate and possible to use the world experience with modifications into Russian economy. Russia's accession to WTO creates certain problems for agricultural enterprises, but should become an instrument aimed at creating civilized conditions for their development at the expense of state funding sources, strengthening the competitiveness of commodity producers and protecting consumer rights.

Food independence of any state is seen as an important component not only of its food security, but also of the country's economic sovereignty. In connection with this fact the need to improve the overall food security management system appears, namely, to ensure such a state of the national market, in which the satisfaction of the needs of the population of the country in quality products and in their quantity necessary for life support is organized. At the present stage of development of the Russian food market, this factor is directly related to the country's import dependence. This problem can be resolved not only by resolving the issues of lifting economic sanctions, but also, first of all, by pursuing a reformed agrarian policy, taking into account world experience and using numerous intra-national reserves to ensure sustainable development of the national economy as a whole. "Import substitution in the agro-industrial complex is the most important condition for the country's food security" (Lukyanova, 2014, p. 58).

The material of this article reflects the reflections and the position of its authors on the comparative assessment of management models and food security on a national scale of individual countries in the context of ensuring freedom of entrepreneurship in their agricultural sector in the current stage of globalization of the world economy. Government documents and scientific literature emphasize food security issues and indicate the need to improve food quality and to reduce the cost of quality food. However, the development of food security management systems and their goals should be based on the presence of conditions for increasing the efficiency of the national economy functioning, improving the economic and legal mechanism of the country as a whole, and not only the agro-industrial sector. It is also important because the food market should be based on high effective demand of the population.

The current stage of the functioning and development of the food market of the Russian Federation should be aimed at realizing the broad possibilities of its agrarian potential in order to ensure the national food security of the country.

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