

# Agrarian Cycle: Special Aspcts Of Behavior And Characteristic Features

**A.S. Spertsyan,**

Volgograd state technical university  
Volgograd, Russia  
araksia01@mail.ru

**N. V. Ketko**

Volgograd state technical university  
Volgograd, Russia  
gsa-buch@list.ru

**Abstract**—The article is devoted to the questions of cyclic process development study of Russia's agro-industrial complex. Nowadays the studying of agrarian problems is the actual course among aggravation in questions of providing the whole world population with necessary products of agriculture. For revealing the nascency regularities and cyclic processes behavior in the agrarian sector it is necessary to consider the history of its development, to define repeatability and sequence of emergence of these or those events. The given article considers the classification of the long-term crisis phenomena, and also the results of long-term cyclic fluctuations research of agro-industrial sector based on the analysis of the statistical data characterizing its development.

**Keywords**—*crisis; agrarian crisis; cyclic fluctuations; long waves; agrarian cycle.*

## Introduction

Relevance. Progressive rise in births in the world puts a problem of providing the population with necessary food point-blank, and, as a result, questions of studying the agrarian sector development in particular its common factors and causes of occurrence these or those events (phenomena) and also frequency of its nascency acquire special relevance. Detailed studying of agriculture development questions in Russia will give us an opportunity to predict the emergence of periodically repeating events that in its turn creates backgrounds for increase of population supply level with necessary food, and also for their quality improvement.

Purpose. The purpose of the given research is identification of the cyclic processes proceeding in agrarian sector, definition of their characteristics, the reasons and regularities of emergence in Russia.

Tasks. For achievement of the required goal it is necessary to accomplish the following tasks:

- to carry out the evolutionary analysis of statistical information on agrarian sector development indicators;
- to identify the cyclic changes (fluctuations) in the long-term period of agriculture development indicators;

- to characterize features possible, periodically repeating events in the long-term period.

Studying the long-term, periodically appearing phenomena, so-called, long waves, originates from the middle of the last century. In 1847 the English scientist H.Klark defined the regularity of "economic accidents" emergence - the time interval between two world economic crises which burst in 1793 and 1847 makes 54 years. He is the first scientist who offered a hypothesis that the given interval isn't casual and that there are some "physical" reasons causing such "accidents".

The English scientist V. Dzhevons developed a hypothesis according to which overproduction crises naturally appear through certain intervals, a time interval of which coincides with a modern interval of spots emergence on the Sun. He tried to prove the first the hypothesis of long fluctuations existence in economy resting on statistical material and by means of the price ranks analysis which allowed revealing in them the repeating long periods of growth and falling.

Studying of cyclic fluctuations and periodically arising negative events in economic systems as the scientific direction was founded by K. Marx in the sixties of the XIX century, and at the same time negative events were designated as economic crises. Henceforth the developed theoretical base gave an impulse to the long fluctuations phenomenon study.

The Russian scientist A. I. Gelfand for the first time divided a cycle wave into the periods in 1901, having formulated that the long periods of economic expansion, recession and stagnation are immanent to a capitalist way of production. He noted that the short-term cyclic crises happening on the periods of a long wave raising are expressed more weakly and, on the contrary, during the recession periods they are deeper and more long.

Parvus continued further study of cycle wave structure and designated the reasons of system transition from one stage in another, so as the reasons which caused all-economic recovery at the beginning of the XX century, he designated the opening of the new markets, introduction of electricity and growth of gold mining. Thus, Parvus laid the foundation of development of several directions in "long waves" research, such as endogenous and exogenous mechanisms of fluctuations emergence, and the beginning of all innovative, as well as monetaristic theories.

Next the study of the cyclic fluctuations emergence reasons was continued by De Wolf who assumed that there is a fixed ratio between cyclic crises and long waves: five cyclic crises keep within in one long wave. Being endogenous by the nature, long waves are supported by external pushes, according to De Wolf (as well as Van Gelderena).

By the present moment the theory of cyclic fluctuations singles out 1380 kinds of business cycles lasting from 20 hours till 700 years.

Each type of business cycles has impact on characteristics of other types of economic fluctuations. It means that a long wave – not only the superstructure over intermediate-term cycles influencing their characteristics, but also making a long wave the character of behavior (the character of behavior) of which is defined by its intermediate-term and short cycles.

Questions of forecasting in economic systems are in the high light of economists long ago. Foreign scientists, founders of cyclic processes researches in economy are such scientists as E. Atkinson, K. Marx, J. Gelbreyt, J. M. Keynes, U. Mitchell, P. Samuelson, J. Stiglitz, E. Hansen, J. Hicks, Y. Shumpeter, M. Fridmen. However, their attention was directed at the initial stage of researches on economic system and its behavior, and with development of the financial relations on a financial system. But the economy of any country includes three basic sectors: the economic – the real sector of production and services industry; the financial and agrarian. The agrarian sector along with the economic and financial has impact on the general economic indicators of stability. That is why the study of cyclic processes is a hot topic of research. [2]

Authors investigated the main statistics of agrarian sector during more than 80 years, and on the basis of the carried-out analysis the cyclic fluctuations were revealed as well as in other financial and economic systems. And the agrarian crisis phenomena are not of identity character, they arise with different frequency and proceed with various duration. On the basis of the analysis results the conclusion was made that in the sphere of agriculture some various crisis phenomena can proceed at the same time. Due to the low-study of agrarian crises by the present moment there is no description of different crises types and their classification.

The evolutionary analysis of theoretical base in the study of cyclic fluctuations, and also the analysis of statistical data from 1913 to 2013 made it possible for authors to reveal that the crisis phenomena arising in different cycles are mainly divided into: agrarian, economic and financial. Authors made classification of the possible crisis phenomena in agrarian sector. They are subdivided according to the following criteria which are presented in the table.

TABLE. Classification of agrarian crises

<i>No</i>	<i>Criteria</i>	<i>Types of crisis</i>
1	based on the character of behavior	The cyclic The system
2	based on the area of growth	The sectoral (branch) The non-sectoral
3	based on the cause of occurrence	The seasonal The unexpected
4	based on the character of expression	The obvious The concealed (hidden)
5	based on the heaviness of consequence	The light (easy) The deep
6	based on the length of behavior	The short-term The medium-term The long term
7	based on the territorial coverage	The local The world

Proceeding from the developed classification, authors singled out the crisis phenomena arising in agrarian sector:

1. **agrarian branch, seasonal, unexpected, hidden, easy, short-term, local** is a crisis which arises under the influence of the unforeseen factors in the sphere of agriculture, its consequences are insignificant for economic system within one country, the period of crisis behavior makes 5-10 years;
2. **agrarian branch, seasonal, unexpected, hidden, easy, short-term, world** is a crisis which arises under the influence of unforeseen factors in the sphere of agriculture, its consequences are insignificant for economic system within several countries, the period of crisis behavior makes 5-10 years;
3. **agrarian branch, unexpected, hidden, deep, medium-term, local** is a crisis which arises under the influence of unforeseen factors in the sphere of agriculture, its consequences are destructive for economic system within one country, the period of crisis behavior makes 11-16 years;
4. **agrarian branch, unexpected, hidden, deep, medium-term, world** is a crisis which arises under the influence of unforeseen factors in the sphere of agriculture, its consequences are destructive for economic system within several countries, the period of crisis behavior makes 11-16 years;
5. **agrarian branch, unexpected, hidden, deep, long-term, local** is a crisis which arises under the influence of unforeseen factors in the sphere of agriculture, its consequences are destructive for economic system within one country, the period of crisis behavior makes 60-80 years;
6. **agrarian branch, unexpected, hidden, deep, long-term, world** is a crisis which arises under the influence of unforeseen factors in the

sphere of agriculture, its consequences are destructive for economic system within several countries, the period of crisis behavior makes 60-80 years;

7. **agrarian branch, seasonal, predicted, obvious, easy, short-term, local** is a crisis which arises under the influence of certain factors in the sphere of agriculture, its consequences are insignificant for economic system within one country, the period of crisis behavior makes 5-10 years;
8. **agrarian branch, seasonal, predicted, obvious, easy, short-term, world** is a crisis which arises under the influence of certain factors in the sphere of agriculture, its consequences are insignificant for economic system within several countries, the period of crisis behavior makes 5-10 years;
9. **agrarian branch, predicted, obvious, deep, medium-term, local** is a crisis which arises under the influence of certain factors in the sphere of agriculture, its consequences are destructive for economic system within one country, the period of crisis behavior makes 11-15 years;
10. **agrarian branch, predicted, obvious, deep, medium-term, world** is a crisis which arises under the influence of certain factors in the sphere of agriculture, its consequences are destructive for economic system within several countries, the period of crisis behavior makes 11-15 years;
11. **agrarian branch, predicted, obvious, deep, long-term, local** is a crisis which arises under the influence of certain factors in the sphere of agriculture, its consequences are destructive for economic system within one country, the period of crisis behavior makes 60-80 years;
12. **agrarian branch, predicted, obvious, deep, long-term, world** is a crisis which arises under the influence of certain factors in the sphere of agriculture, its consequences are destructive for economic system within several countries, the period of crisis behavior makes 60-80 years.

Thus, the agrarian cycle can be singled out as a separate type of a long-term cycle, not coincident with economic cycle.

The developed classification will give us the opportunity not only to define what crisis phenomena arise in agrarian sector, the way they will proceed but also use the tools allowing to predict and lower crisis consequences.

## References

- [1]. Russian statistical annual. 2013, under the editorship of A. E. Surinov. M.: 2013. – 717 p
- [2]. Russian statistical annual. 2012, under the editorship of A. E. Surinov. M.: 2012. – 786 p.
- [3]. Russian statistical annual 2003, under the editorship of V. L. Sokolin. M.: 2003. – 705 p.
- [4]. Spertsyan, A.S. Agrarian cycle: special aspects of behavior and characteristic features / A.S. Spertsyan //Economy and business. - 2014. - T. 8, No. 12 (part 3). - C. 638-641.
- [5]. Spertsyan, A.S., Ketko N. V. Agrarian cycle: special aspects of behavior and characteristic features / A.S. Spertsyan, N. V. Ketko //Drukerovsky Vestnik. – 2014. – release 3. [An electronic resource] – the access Mode <http://drucker.npi-tu.ru/ru/archive/2014/vyipusk-3/n.v.-ketko-a.s.-sperczyan>
- [6]. Spertsyan, A.S., Ketko N. V. Agrarian crisis in modern conditions: reasons of emergence and possibility of modeling //XII All-Russian meeting on management problems: works of XII All-Russian meeting on management problems, June 16-19, 2014 / YIP RAHN. – Moscow, 2014. – Page 6144-6148
- [7]. Spertsyan, A.S., Ketko N. V. The cyclic phenomena in Russia's agrarian economy / A.S. Spertsyan, N. V. Ketko // International research magazine. – 2015. – No. 7(38) [An electronic resource] – the Mode of access of <http://research-journal.org/wp-content/uploads/2011/10/7-2-38.pdf>