Research of crises features in regional economic systems: trends and patterns

Investigación de crisis en sistemas económicos regionales: tendencias y patrones

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Received: 18/03/2018 • Approved: 29/04/2018

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ABSTRACT:
With the beginning of market reforms, the internal ecopolitics tension, latent period of the crisis developed into the open the deep crisis of the economy and social sphere of Russia and all former Soviet republics. The crisis was universal. To successfully overcome crisis situations are not enough for macroeconomic analysis of the crisis processes and economic policy. Success depends largely on the account of originality of crisis situations in the regions and the adequacy of the measures taken.

Keywords: economic crisis, regional economy, developing states.

RESUMEN:
Con el comienzo de las reformas de mercado, la tensión ecopolítica interna, el período latente de la crisis, se convirtió en la crisis más profunda de la economía y la esfera social de Rusia y todas las antiguas repúblicas soviéticas. La crisis fue universal. Para superar con éxito la crisis. El éxito depende en gran medida de la cuenta de la originalidad de las situaciones de crisis en las regiones.

Palabras clave: crisis económica, economía regional, estados en desarrollo

1. Introduction
To successfully overcome crisis situations, to formulate and implement appropriate and efficient measures are not enough for macroeconomic analysis of the crisis processes and economic policy focused on national average conditions. Success depends largely on the account of originality of crisis situations in the regions and the adequacy of the measures taken.

For this it is necessary to establish the nature and specific content of the crisis phenomena
in the regions, time of occurrence, duration and depth in every sector of the economy and the social sphere. A crisis situation can be caused by the destructive influence of one factor or formed under the influence of several factors, each of which may not reach the critical value.

Evaluation of crisis cannot be limited to analysis of the current situation, it should include the definition of probability of events in the long- and medium term, with the development of appropriate socio-economic development. In addition, assessment of the impact of crises on economic and national security should be carried out annually in preparation of forecast and budget (Klyuchnikov, 2011).

The implementation of the mentioned conceptual approaches leads to, first, a holistic analysis of the impact of destabilizing factors and, second, the combined analysis of regional crises for which they produce lesions at all stages of the projected perspective, which will allow you to more reasonably determine the priorities of the current anti-crisis policy. A regional crisis can have widespread, and can cover one or several regions, localized within part of the territory of the Federation or of individual cities.

Along with this, the implications of regional crises could affect neighboring areas. Crisis situations covering large areas, usually associated with the processes of macroeconomic or political nature, such as natural shifts in the structure of the economy and of regions (Hansen, 2007), occurring under the influence of the crisis processes and varying degrees of competitiveness of individual enterprises, inconsistency of economic reform, leading to the monopoly and lack of competition in the leading basic industries, and other similar macroeconomic and political factors affecting the state of the economy of the country but to varying degrees and its regions (Aghion & Howitt, 1995).

2. Literature review

Since the emergence of the crisis and to the present time, economic science is trying to identify their causes. Perspective on the causes of economic crises is highly controversial, and there are many objective reasons. There are different theories to explain fluctuations in business activity.

Keynesians believe that a factor directly determining the levels of output and employment is the level of total or aggregate expenditures. If the total cost is small, many businesses unprofitable to produce goods and services in large volumes. Hence the low level of output, employment and income. A higher level of total expenditures means that increased production is profitable, therefore, output, employment and income will increase.

Economists of the Marxist direction of the cause of cycles we see periodic updating of fixed capital.

The idea of economic cycles is formed for the first time from the French scholar Clement Juglar, representative of the theory of exchange, credit and money circulation, even in the middle of the XIX century. He first proved the unconditional frequency of industrial fluctuations in England, France and the United States.

After examining the records of English, French and the leading American banks, Juglar came to the following conclusion: without any preconceived theories or hypotheses, just observing the facts, it is possible to lay down the law, managing the crises and their periodicity. Era of recovery, prosperity and high prices always end in crises, and the crises follows a few years of depression Economics and low prices.

One of the first who tried to explain the cyclical nature of economic development in the early XIX century was J. Sismondi. The theory of the market Sismondi is also a theory of crises. The cause of the crisis is insufficient consumption, due to the poverty of the masses. Compared with the production capacity of modern industry existing market for industrial products is too narrow.

But the history of crises is contrary to this doctrine. If we accept this theory, the prosperity following each depression, becomes absolutely incomprehensible. Crisis and changing its stagnation is certainly not enrich a nation; they reinforce its poverty. This simple observation
proves that the theory sees the cause of industrial crises in the lack of consumption may not be true. Sismondi, as well as Lauderdale and Malthus tried to explain unemployment and depression, but did not provide any explanation of the cycle.

Prominent Ukrainian economist Mikhail Tugan-Baranovsky the world's first developed the doctrine of fundamental regularities of cyclical economic dynamics. He identified her on the basis of analysis of the periodicity of industrial crises in England, which in the XIX century was the most developed country in the world. In 1894 he published his fundamental work “Industrial crises in contemporary England, their causes and immediate effects on people's life”, which laid the foundations for the study of economic cycles and crises.

A. Spiethoff unreservedly accepts the views of Tugan-Baranovsky, reduces to the fact that the defining feature of the industrial cycle is the fluctuation of the size of the investment, as well as the concept (so radically different from the concept of many followers of the theory of under consumption), considering investments as a driving factor to which consumption growth and falling income passively adapts.

Schumpeter comes into the discussion, going from developed the concept of “innovation”. The invention can really turn a uniform pace, but the innovation (if you keep in mind the herd behavior of entrepreneurs) tend to bring back a tidal wave and then retreat. Such is the intrinsic nature of the implementation process of innovations. Thus, the economic cycle is essentially reduced to the ebb and tide of innovations and the consequences that this implies.

An important milestone in the development of the theory of interest and money was recognized the work of Gustav Cassel, “the Nature and necessity of interest”, published in 1903, Approximately ten years after the appearance of this book Cassel turned to the study of trade cycles.

Economic fluctuations and crises he sees as caused by something largely transient phenomena of economic history. He is not sure that these oscillations are “inevitable companions” modern industrial and social system. Economic fluctuations do not arise from structural features of the modern economy, but rather the progress of changes in technology and the transition from primitive to complex, industrialized economy.

A student of M.I. Tugan-Baranovsky – Nikolai Dmitrievich Kondratiev (1892-1938) went on his teacher. He justified the new form of long-term cyclical fluctuations – the large cycles of conjuncture lasting about half a century – long waves of economic dynamics (Joseph Schumpeter called them to Kondratieff cycles). Although the idea of long-term cyclical fluctuations in the economy were also expressed to Kondratieff, he is credited with the development and statistical verification of the theory of long-wavelength fluctuations. He first formulated the basic provisions of this theory in the monograph “the World economy and its conjunctures during and after the war”, which young (30 years) scientist published in 1922; it was republished in 2002 and first published in English in 2004

To call the sole cause of the cyclical development of the economy is very difficult. Therefore, many modern economists are limited to the General statement that the cause of the cyclical movement inherent in the complex and contradictory nature of the diverse forces and factors affecting the movement of the market economy (Vidyapin et al., 2005).

3. Materials and methods
The object of research is difficult-structured and spatially-localized regional socio-economic system and its changes during the market crises of the economy and the direction of reduce the negative effect of the crisis.

Subject of research are economic conditions, structural factors and proportions of socio-economic development of the region in market transformation of regional economy, models, tools and organizational-economic mechanisms of management of development of the region to improve the effectiveness of measures aimed at reducing the negative consequences of market transformation of regional economy.

Theoretical and methodological basis of the study were as follows:
• general systems theory, in which socio-economic system of the region is studied as a complex and multi-layered, poly-structural, hierarchical system consisting of a plurality of different quality components (subsystems, structures, components) that are interconnected by different types of relations and ties, as well as the effects of synergy;
• neoclassical and institutional theory in the study of driving forces of development of regions, analyzing diverse aspects of causality in a spatial economy;
• the fundamental position of the regional economy - theories and concepts of regional development, theory of location of production, the concept of “growth poles”, the theory of comparative advantage, in terms of solving the problems of economic development of regions, the territorial organization of economic activity, federalism and local self-government;
• evolutionary theory of cycles and theory of dynamic disequilibrium, in part of the study of transformation, the dynamics of integration and differentiation of regional systems in the system of developing social relations.

During the development of the problems used wide epistemological tools, including methods of systemic, structural-functional and comparative analysis.

Information and the empirical base of the research was formed on the basis of official data of Federal state statistics service and its regional bodies, statistical handbooks, yearbooks, departmental handbooks, reports containing the actual materials in the southern Federal district and its member entities, the results of the development of numerous programs, the data published in periodicals and monographic studies of domestic and foreign scientists.

The main information to generate a mathematical model of socio-economic development of regions of southern Federal district was a regional empirical-factual data collected, processed and put into scientific circulation by the author.

The logic of the research is the sequential movement from the essential study of the occurrence of negative consequences of market transformation of regional economy, theoretical bases of solving problems of socio-economic development of regions through research and study the dynamics and structural proportions and features of socio-economic development, to identify and promote promising approaches to the management tools of socio-economic development of the region on enhancing the effectiveness of measures to reduce the negative consequences of market transformation of regional economy.

4. Discussion

4.1. Formation of economic security of a region in crisis
Identification and localization of local problems

We must say that the development of the economy under the influence of market mechanisms, integration of Russia into the world economic relations has identified as the most important functions of the state economic security. This is because market relations are not able to perform this function, and the economic interests of economic entities may be contrary to the national interest, because, first and foremost, pursue in its activity the maximization of income, the maximum exploitation of the natural, production and human resources.

In this case, the Federal government can only provide protection from most major threats. The population in their daily lives confronted with a much larger range of threats, many of which are locally-territorial in nature.

Identification and localization of such local problems can most effectively be carried out by local authorities as being closest to the territory and the population. At the same time to prevent and eliminate the consequences of the emerging local threats most efficiently, public authorities of subjects of Federation.

4.2. Study of economic security of regional economic systems
The objects of the economic security of the region are the territory of the Federation, the population and everything related to the economy, located in the territory, including productive assets, infrastructure, natural and other resources.

Especially given the problems of ensuring economic security of the region, it is necessary to develop a special system of parameters tailored to a specific territory. The existing system of indicators to measure economic security is focused primarily on the Federal government. However, given the importance and specific features of regional problems, it seems necessary to study the special problems of safety indicators for the regions, the objectives of which are:

- assessment of crisis situations and threats to their occurrence in the socio-economic sphere of the region (Abramov, 2002);
- assessment of the impact of local crises on national and economic security of the Federation and Russia in General;
- development and validation target program activities to ensure economic security;
- creation of an effective system of economic security management.

The main requirements to the system of socio-economic indicators of the region are as follows:

- system of socio-economic indicators of the region must be interconnected with a common framework of analysis and indicators used in the Federal and sectoral levels;
- indicators of regional security must be compatible with the current country's system of accounting, analysis, statistics and forecasting;
- system of socio-economic indicators should match the main threats to economic security of the region;
- the list of socio-economic indicators used for the analysis should be efficient and reflect the real situation (position);
- the results of the analysis should allow for simple visual checks on the consistency of the existing situation;
- socio-economic indicators should belong to the same time period describing the kind of cuts the socio-economic situation;
- indicators must allow for the possibility to conduct regular monitoring and forecasting of factors affecting the level of security threats in the region.

4.3. Analysis of the socio-economic situation in the region

Analysis of the socio-economic situation in the region should be based on a set of indicators of economic security that will allow you to identify and assess future threats and implement the necessary target program of measures to reduce the level of threats. For the timely identification of threats, it is advisable to create a list of indicators for which information needs to provide to municipalities. On the basis of information received from local authorities after verification to meet the criteria of economic security, it is possible to make informed decisions on how to minimize those threats.

In this case required a flexible approach to adjustment and implementation in accordance with the periodic rebuilding of the resource and productive capacities, the creation of new economic levers of governance structures.

According to most researchers, the basis for the formation of these indicators is the close relationship of the concept of security risk category. The concept of risk in the strategy of economic security includes three critical elements: risk assessment, risk minimization and risk management. Risk assessment is expert, probabilistic, and after his evaluation, as a rule, applies a complex of measures to prevent or minimize the risk. Measures can be of different nature, including administrative, regulatory, or economic, as well as their integrated use. Risk management involves the prediction of possible critical socio-economic situations, in order to prevent, reduce and mitigate their effects. Therefore, the assessment of the level of economic security involves along with analysis of risk factors using categories of loss (damage) the actual, expected, potential, compensated and uncompensated.
The risk management process is based on the monitoring of indicators, their analysis with regard to the influence on the goal, the forecast of possible changes of development conditions of the control object, evaluating alternative solutions selecting the most effective options.

4.4. Criteria, characterizing the interests of the region in the field of security

Criteria of economic safety determine the selection of specific indicators of the status of the research object that characterize its dynamics, the level of the main quantitative and qualitative parameters.

The main criteria for defining regional interests in security and acceptable to the majority of the population living conditions and development of personality, resilience, socio-economic situation include:

- expanded reproduction of economic and social infrastructure of the region;
- border critical the region's dependence on import of major products of the first necessity;
- ensuring the necessary level of service needs of the population with the aim of creating conditions for normal life support of the population of the region.
- the state of the environment and the degree of exploitation of natural resources with regard to their reproduction and replenishment.

The identification of threats to economic security of the region and forecasting their effects is via monitoring and data analysis (Heylighen, 1995).

At the disposal of the authorities of the region should always be the tools of analysis of potential and real threats to economic security, an alternative set of solutions to problems.

The most important problem, the solution of which depends the development of effective measures for the prevention of damage is the determination of the system threshold levels of decrease in economic security in response to the action of certain risk factors. For example, the level and quality of life of the General population, beyond the limits of which there is a danger of uncontrollable social, labor, ethnic and other conflicts, and threatens survival.

System parameters (thresholds) economic security of the region should be based on the fundamental provisions of the State strategy of economic security of the Russian Federation. Each of the main indicators of threats to economic security is associated with the assessment of the situation in a certain area (Bogoviz, Vukovich & Stroiteleva, 2013). Only the system of indicators allows to draw conclusions about the real extent of the threat to economic security and to get an objective assessment. For objectivity it is necessary a comparison of the security of neighboring regions, and municipalities in the same region. It is necessary not just to identify purely macroeconomic indicators, which are difficult to influence in an expeditious manner (their dynamics is quite inertial and affected by many factors, often not easily influenced), but it is advisable to use indicators that lend themselves to manipulation by the authorities as a strategic and tactical plan and identified the critical points and ways of influencing them.

The critical value of economic indicators security in a certain area does not always mean a situation of crisis or total collapse of the socio-economic sphere or its separate regions. First of all, it demonstrates the need for rapid intervention by the authorities to change and eliminate dangerous trends (Abramov, 2001).

Tracking the operation of the facilities is carried out through indicators – parameters boundaries within which the system can operate and develop.

4.5. Indicative analysis of the economic security of the region and the group of objects of analysis

For the indicative analysis of the economic security of the region should be allocated to the
following groups of objects:

- indicators of infrastructure (the dynamics of reproduction, the operability and the degree of deterioration, technical failure rate, the number of infrastructure facilities for 10,000 people, etc.);
- demographics, the level and quality of life (birth and death rates, life expectancy, incidence of disease; average and minimum wages and pensions compared to the minimum subsistence level; the difference in income levels between individual population groups; the consumption of the major food types and availability of durable goods, crime, etc.);
- employment trends, including by sex, age and social groups;
- the state fiscal and credit systems, the provision of financial and material resources is important to the regional needs, the availability of resources for carrying out certain delegated state powers;
- the effectiveness of the system of state power, mechanisms of legal and administrative regulation;
- the environment, ecology.

Consider in more detail the threshold values of indicators of level of living of the population as the most important for the regional level of management. In this area often use the following indicators:

- level of health;
- share in the population of citizens with income below the subsistence minimum, the volume of GRP per capita;
- life expectancy, sex-age composition;
- the income gap between 10% most highly remunerative and 10% of low-income populations (Mehlum, Moene & Torvik, 2003);
- fertility;
- mortality and morbidity from various causes,
- comparison of average wage and pensions in a municipality with the cost of living in neighboring municipalities;
- the level of provision of medical services;
- unemployment;
- the extent of the housing;
- the level of provision of various durable goods;
- the level of crime.

It is important to emphasize that the highest degree of safety is reached provided that all complex of indicators is within the limits of their threshold values, and threshold values of some indicators are achieved not at the expense of others (Machlup, 1962).

It should be noted that more illustrative and convenient to use is the functional analysis of level of economic security. This analysis allows to identify deficiencies and reserves implemented measures to ensure each of the functional components of economic security and security in General, and gives an opportunity to correct a functional system to ensure its economic security.

Consider the following to be the most appropriate order of analysis of economic security of the region:

- determining the structure of negative impacts on each functional component of economic security of territory and a separation of their objective and subjective;
- estimated the probability and time of occurrence of individual negative impacts, as well as alleged damage to assess the likely size of damage;
- a list of measures to assess the level of its economic security and the effects of negative impacts;
- assessment of the effectiveness of the measures taken from the standpoint of neutralizing specific negative impacts for each of the functional components of economic security;
- identify the reasons of insufficient efficiency of measures taken to eliminate existing
negative impacts and prevent and identify those responsible for the low efficiency of the implementation of the measures taken;
- recommendations to eliminate and prevent negative impacts;
- valuation of each of the proposed measures to eliminate negative impacts and identification of responsible agencies for the implementation of the proposed measures;
- definition of sources, including material, financial to eliminate or compensate the resulting damage;
- the development and adoption of normative legal documents, regulating action to eliminate and remedy the effects of damage (Gurieva et al., 2017).

An important question about the value of the specific weight of each of the safety elements in their aggregation. If any indicators are linear or nonlinear dependent on one another, in the information system contains data that distort the results of analysis, forecasting and, consequently, the planning results. Therefore, the necessary multivariate analysis of the entire set of target values for the functional part of the safety (environmental, food, financial, environmental, informational, demographic, etc.).

Modern information technologies allow to generate models of controlled systems taking into account not only the values of input historical data, but given the structure of the interaction of these data in the specific economic process. Opportunities exist for optional modeling with nonlinear relationships, the perception of distorted input data, the ability to rapid refinement of the generated models of the managed process with the addition of the necessary information.

The priorities of the regional policy directed on increase of economic security of the Federation, in our opinion, are:

- development of measures for innovative development of the economic potential of the territory;
- rising incomes and living standards of the population;
- support vital for the population of the region enterprises and infrastructure;
- progressive and balanced territorial development of the social sphere;
- creating a favorable investment climate;
- providing conditions for the normal life of the population;
- assistance to priority development of enterprises the most profitable and perspective on this period, as well as businesses with long-term economic benefits in the General system of territorial division of labor;
- the development of regional infrastructure.

The formation of economic security of the region should be carried out in the framework of socio-economic development strategy of the Federation and municipalities.

4.6. Perspective directions of socio-economic development of regions of the Russian Federation

The basis of the forecast for the level of quality you can take the standard set of scenarios – the optimistic, inertial, and pessimistic, and then to impose on every trend spatial specificity of Russia with different combinations of factors and barriers of development. But when any combination of the main trend of development will compress the habitable and economic space.

With the highest probability of Russia is implementing the inertial scenario of development, continuing the existing trends of spatial development. Its macroeconomic backdrop – a fading recovery growth after the crisis of 2008-2009 recession and the relatively slow growth of the economy in the new decade due to the stabilization of oil prices and slower growth in global demand for resources.

Against this background, spatial development is likely to have predictable trends regardless of the government's regional policy.

1. Remain exaggerated the role of Moscow and the concentration of fiscal and human resources. Moscow agglomeration will rapidly evolve and expand, covering adjacent areas of
neighboring regions. However, artificial innovation projects (Skolkovo) will not change the economic profile adjacent to the capital of the territories, they will continue to develop services, logistics, recreation, and industry focused on the huge capital market. The development of St. Petersburg will depend heavily on Federal feeding financial resources and institutional measures (transfer of headquarters of large companies – taxpayers in the Northern capital), but these measures are not enough for sustainable growth, the city prevent the total for the country institutional barriers.

2. Leading regions TEK will maintain its position as the group leader while maintaining the volume of production (before 2020 this issue is not urgent). But they will be aging population, declining natural increase and will increase out-migration of young people, as in the regions of TEK created a few new jobs (an economy based on mining resources, not labor). Left already replaced by the migration influx of unskilled workers from republics of the North Caucasus and Central Asia, which will inevitably intensify social tensions, problems of drug addiction and increase the load on the system of social protection of the population.

3. A considerable part of regions of the group leaders of the second echelon could slide down in the “middle” group. For the leading metallurgical regions is a consequence of the decline in global competitiveness due to aging Soviet industrial assets, increased costs due to increase in fuel and raw materials. “Down” has already started to move and some developed multi-functional industrial regions, primarily the Samara region (reducing the competitiveness of the automotive industry) and Perm region (the depletion of mineral resources and the absence of major new investments).

4. Provided relative political stability in the Caucasus will continue faster growth of large Russian regions of the South through sustainable advantages – a more developed infrastructure, presence of sea ports, resource advantage the best soil and agro-climatic conditions. The Olympics is likely to prevent sustainable growth of the South due to the excessive concentration of investment at one point and the inevitable problems of loss of sports and other facilities after the completion of the Putin project.

5. Will increase the depopulation of the non-black earth region and other peripheral areas of European Russia due to high attrition; will continue the concentration of population in regional centers and other larger cities, but primarily in the areas of Federal cities. The problem of degrading the periphery cannot be resolved due to the low mobility of the population and barriers to housing markets in the cities.

6. Will remain a large group of “middle” in terms of development regions, with a small rotation up (multiple regions with advantageous coastal location and southern industrial and agricultural) or down (predepression regions engineering and textile specialization).

7. Despite ambitious Federal programs will continue not only compression of the inhabited space (which is good for the economy), but degradation of the entire system of settlement of the Russian Far East and the Baikal region (which is bad), with the exception of the largest regional centers of Vladivostok, Khabarovsk and maybe Yuzhno-Sakhalinsk and Ulan-Ude. The economy of the Eastern regions will be even more polarized along with the growth centers (the capital regions leading port cities and the mining areas of export of raw materials) the rest of the infrastructure will deteriorate and lose population. With the growth of the Federal budget revenues possible resumption of costly infrastructure projects in the East and North, but they are waiting for economic inglorious end.

8. The republics of the North Caucasus will remain “black hole” of funding, but they will increase the labor migration of youth to other regions of Russia that at the beginning of the process of fertility decline (with the exception of the period of stimulation in 2007-2009) will slightly soften the problem of unemployment. For the underdeveloped republics Siberia (Tuva, Altai) this valve did not start to work because of the remoteness and more extreme cultural barriers. Chechnya will remain favorite funding from the Federal budget, but, depending on the political situation, can be added Ingushetia and Dagestan.

5. Conclusions
The existence of socio-economic systems is a cyclical process, which is characterized by a
pattern of onset and resolution of crises. Socio-economic system under which we can understand civil society, the business entity (enterprise), integrated business structure, has two main trends exist: the functioning and development. The functioning is the maintenance of life, preservation of functions that determine the integrity of the system and its essential characteristics. Development is the acquisition of the new qualities necessary for a progressive change, adapt to new environmental conditions, which describes changes in objects, tools, labor and in man.

The economy is never at rest. Prosperity not seldom gives way to a collapse in national income, employment, growth, production, and prices and profits fall. In the end, achieved a low point, and again begins recovery. On a higher turn of the spiral unwinding of the story, more progressive in comparison with the previous stage, crises occur with different degree of severity and their possible manifestations.

If we understand the crisis that we must recognize that the danger of a crisis is constant, and the task of competent management is that it in him to predict and thus to minimize its effects.

Thus, for a correct assessment of a possible crisis play a huge role not only the analysis of its causes, and predictions about its possible consequences (closure of the organization, improvement or emergence of a new crisis).

It should be borne in mind that the crisis does not always mean your organization is moving to a qualitatively new coil of its development. This possibility depends on the following factors: its causes and the possibility to control the crisis.

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