

Development of the theory of adaptive management of the regional economy in the conditions of negative impacts

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Abstract. The article explains the essence of negative impacts, cause-and-effect relationships between them and the state of stability of the socio-economic system of the region, presents a method for determining the degree of dependence of the functional effectiveness of the mechanism of adaptive development on the impact of deformation factors in local-spatial formations.

Keywords: adaptation management mechanism, sanctions pressure, negative impacts, risks, damage, regional economy

Today, the nature, essence and sources of negative impacts on the regional economy have not been sufficiently studied. The tools for assessing the deformations of economic trends at the regional level have not been fully developed. The theory of the adaptive mechanism for managing the socio-economic development of the region, which is currently being formed, is focused on explaining the essence of negative impacts, identifying cause-and-effect relationships between them and the state of stability of the socio-economic system of the region, which will determine the degree of dependence of the functional effectiveness of the mechanism of adaptive development on the impact of deformation factors in local-spatial formations. In recent years, the economic trend of organizing economic activity in the Russian Federation has experienced several negative influences from the external environment at once: there has been a

tightening of political, legal, economic and other restrictions. A new economic reality has formed in the Russian economy, largely associated with the interference of two processes: the instability of the global economic system and the application of the international sanctions regime to the Russian economy by Western countries, which distorted the dynamics of economic trends in Russian regions. The functioning of the modern economic system of Russia in conditions of external pressure is faced with a number of contradictions caused by the imperfection of the institutional environment for economic development.

Within the given architectonics of the system of the national economy of Russia, these contradictions limit the institutional, organizational, economic and infrastructural conditions for economic development. All contradictions (external and internal) of the modern economic system determine the specific imperatives of the adaptive potential of the regional development mechanism and are deeply interconnected. They take the form of factors that limit the formation of an integral adaptive national economic system. The contradictions are manifested in the instability of the connections between the structural elements of the system, in the isolation of the functioning of the subjects of the scientific, technical, educational spheres, entrepreneurship, industrial enterprises and infrastructure services. A list of the main deformations in terms of their degree of significance, which exist in the regions and impede the functioning of the adaptation mechanisms of development, is presented in table 1.

These impacts are not only the result of sanctions, which limit the economic mechanism for the functioning of regions. Deformations are the result of a particularly complex trajectory of economic trends, which introduces a set of specific features into the mechanism of adaptive development of individual subregional economic entities. The latter have to constantly maintain the stability of the current state and ensure progressive and positive development in order to overcome the pressure of sanctions.

Table 1 - List of major deformations in the process of socio-economic development of regions according to their degree of significance (%)

Deformation content	Number of reviews	Specific gravity,%
Deficit of demand for business	12	48
Financial constraints (in addition to the deficit of own funds)	12	48
Restrictions on the import of a number of categories of industrial and food products from the countries of the European Union	10	40
Deterioration of the demographic structure of the population and increasing imbalances in the labor market, a decrease in the quality of human capital	10	40
Aggravation of interregional and global competition for product markets and development resources (including the market for educational services)	10	40
Weakening of business activity of local entrepreneurs in the Russian market due to sanctions	9	36
Technogenic and environmental problems of regional development	7	28
Influence of the "external" conjuncture on the economy of the region	6	24
Technological lag in some sectors of the economy	6	24
Incompleteness of the legislative system in relation to the spatial and economic development of the Russian Federation (including insufficient stimulation of development)	5	20
Disorder of interregional labor migration	5	20
Divergence of territorial unevenness (including interregional and intraregional)	4	16
Growth of tariffs for energy resources, transport tariffs	4	16
Unstable indicators of macroeconomic development (inflation, tax, credit, customs policy)	3	12
Increase in the value of investment resources	3	12
Infrastructure constraints	3	12
Low wages	3	12
Increase in freight and passenger flows on all types of transport	2	8
Falling real incomes of the population	2	8
High income differentiation of the population	2	8
Depreciation of fixed assets to a critical level	2	8
Negative trends in the development of culture	2	8
Difficult border situation around the regions of the South of Russia (including the proximity to the conflict zones in Ukraine, the Caucasus)	2	8

From the list of deformations presented in table 1, it follows that external influences are perceived by regions not unambiguously, some of them have a really pronounced danger of damage, others are characterized by a low probability of destabilization.

When identifying deformation factors, the stochastic nature of the probable negative impact - damage model is taken into account. This makes it possible to identify the specifics of the development potential through the ratio of the probability of infliction and the potential of damage with the degree of risk of negative impact through the adaptation of the Chaddock scale. The tightness of the

relationship between the probability of potential damage and the degree of risk of negative impact is shown in Table. 2.

Table 2 - The scale for identifying the degree of risk of negative impacts by the likelihood of causing and potential damage to the economic system

The likelihood of a threat from the influence of negative factors	Potential damage to the economic system from negative impacts	Identification of the degree of risk of exposure to negative factors
from 0.0 up to 0.3	not very significant	negative factor
from 0.3 up to 0.5	not significant	risk
from 0.5 up to 0.7	moderately significant	risk-forming threat
from 0.7 up to 0.9	significant	threat of damage
1.0	very significant	damage

Negative impacts on the economy of the region will be such only if they, with some degree of probability, can damage the socio-economic system in the deviations determined by the indicators within the current trends in the region.

Fig. 1 shows the order of transformation of negative impacts from the source of their occurrence to damage.

The damage estimated today is represented by the expected negative effect of international sanctions by the following components: an increase in the cost of means of providing for living needs; reduction of regional budgetary funds allocated to ensure economic security, to meet the vital needs of the population; to protect the economy from the influence of negative influences.

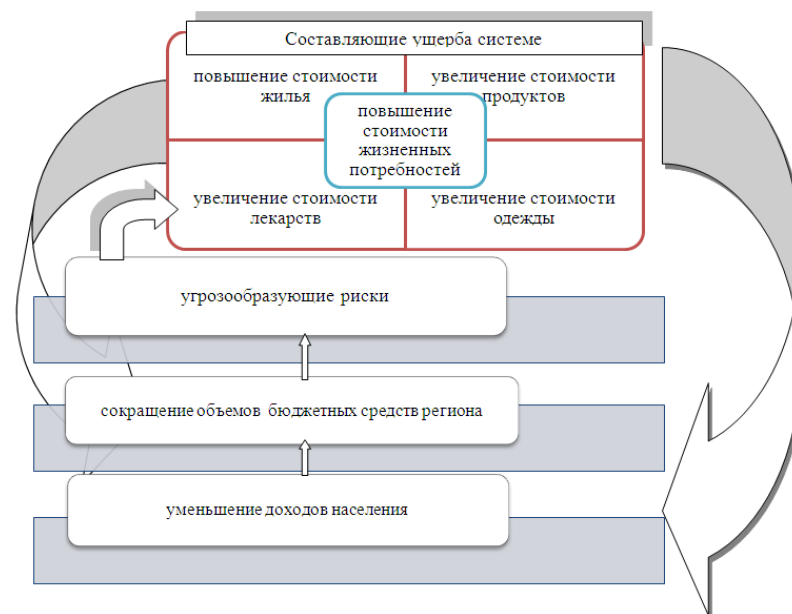


Figure 1 – Development of negative impacts and components of damage to the socio-economic system of the region

Each separately component of the damage shown in fig. 1, is not so in the absence of additional conditions. For example, an increase in the cost of living needs while increasing the region's funds allocated to meet these needs will not be an element of damage. A decrease in the region's funds allocated for ensuring sustainable growth should be considered as an element of damage only if its volume is less than the value of the total value of living needs.

Reducing the sources for the reproduction of the region's funds will become an element of damage, while reducing the volume of the region's funds allocated to meet the needs of life.

Thus, the deterioration of the values of individual indicators characterizing the socio-economic state of the region does not mean an automatic decrease in the level of economic stability. At the same time, the decline in the level of economic stability indicates a deterioration in the socio-economic situation in the region.

Summarizing the above, we can conclude that the introduction of an adaptation mechanism into the management system for the socio-economic development of regions will reduce the impact of extra-regional impacts, on the one hand, and on the other hand, minimize the reproduction of negative impacts in the region that affect sustainable development. Currently, there are no universal

tools to reduce negative impacts on the objective trends in the socio-economic development of regions. Therefore, solving individual problems for a particular region seems to be the most rational in conditions of limited resources and selective susceptibility to external factors.

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