

INDICATION OF THE REGION ECONOMIC SECURITY IN THE CONDITIONS OF GEO-ECONOMIC
TURBULENCE (BY THE EXAMPLE OF THE ROSTOV REGION AND THE REPUBLIC OF TATARSTAN)*Irina Malganova¹, Alexandr Druzhinin², Vasilisa Gorochnaya², Mikhail Panasyuk¹*¹ Kazan Federal University² South Federal University

irigrimmm@gmail.com

Abstract. The paper reviews the main conceptual and methodological problems of determining the economic security of a region arising from the intensification of geo-economic processes, the increasing complexity and deepening of the territorial division of labor, the overall increase in the risk of external and internal environment of regional entities. The authors put forward the economic security concept as a set of adaptive properties of a regional economy, determining its ability to maintain the stability of the oscillatory mechanism of the regional reproduction cycle and progressive development in a dynamic reality, taking into account the non-linear cause-effect relationships of emerging opportunities and threats, as well as the inevitable lag effects of institutional structures. A detailed system of economic security indicators is presented. The proposed methodological approach was tested on the information and empirical basis of the two leading (by economic parameters) regions of Russia - the Republic of Tatarstan and the Rostov Region. It is shown that the economy of these regions (since 2014, experiencing significant geo-economic turbulence) shows a high potential not only for adaptation, but also for the mobilization of domestic growth resources that provide a secondary positive multiplicative effect.

Keywords: economic security, regional economy, region, geo-economic turbulence

1. INTRODUCTION

Being one of the most relevant, the problem of methodologies and systems of indicators for assessing economic security has been highlighted in numerous research studies. Thus, in the works of L. Abalkin [1], a typology of threats with their classifying to production, market, scientific and technical (de-industrialization), and also social ones (mainly considered in the mainstream of the labor market) is carried out. E. Oleinik [2] made a taxonomy of objects of economic security, as well as the classification of indicators in accordance with the significance of threats, the duration of their actions, the nature of the impact on economic processes, and the magnitude of the potential negative effect. Classical methods of V. Senchagov [3] and S. Glazyev [4] allowed along with economic indicators to include social ones related to the level and quality of life of the population. A number of developments in the field of integrated methods for assessing economic security at the regional level, as well as integral indicators and justifying their threshold value belong to the Ural school [5, 6, 7, 8, 9, 10, 11]. Modern techniques from the field of game theory, neural modeling, and econometrics have allowed significantly expanding the tools of research and evaluation of economic security, while being adapted to specific practices, as a rule.

With all the diversity and at the same time continuity of the existing methods that have found their use in regional studies, there is a close relationship between the principles of classification, the "architecture" of indicator modules, the vector of perception and understanding of the economic security category and the realities of regional and international development. The proposed paper is devoted to the conceptual understanding of the phenomenon of "economic security" as a set of adaptive properties of the regional economy; substantiation of the system of relevant indicators, their approbation to the analysis of modern trends of the two leading regions of Russia - the Republic of Tatarstan and the Rostov region.

2. METHODS

The traditional inclusion in the economic security category of an internal (related to the balance and proportionality of the development of the territorial system corresponding to its goals and interests) and external (determined by the possibility of foreign territorial impact on the internal reproduction process) component, without losing its relevance, requires addition in modern conditions, as logical-semantic antitheses "danger - security", "threat - protection" also requires. The loss of the long-term fundamentals for single-vector functioning of socio-economic systems in the conditions of intensification of production, exchange, information-technological processes, permanent uncertainty and risk makes it possible to speak only of the relative stability in the reproduction process, and of relative economic security, respectively. The lag effects of the inertia of institutional structures designed to ensure economic security through the construction of protective mechanisms, and the difficulty of long-term and medium-term forecasting reduce the effectiveness of the very model of "threat - threat awareness - protection". All this makes it possible to comprehend the category of economic security primarily as a complex of adaptive properties, self-organizing and self-regulatory mechanisms inherent in the regional system and ensuring its timely (including predicative, based on expectations) response to any external and internal changes to the extent which is sufficient for the realization of its goals and interests, maintaining continuity and progressive development. Moreover, we believe that bifurcation is not in all cases a situation of danger. It represents a threat to the

regional economy in the event that the attractor of a system is its condition associated with a serious disruption of regional development. This means that the *economic security of a territorial entity* is a stationary mode of deterministic-chaotic functioning of the socio-economic system which is characterized by a cyclic attractor of oscillatory processes of a regional reproduction cycle, or a phase portrait containing at least one cyclic attractor. In this case, the parameters of the phase space are the most priority and vital parameters for regional socio-economic development.

3. RESULTS AND DISCUSSION

3.1 Indicators of economic security of a region

Indicators characterizing the state of economic security of a region, being its measures, as well as tools for forecasting and diagnosing economic danger, must meet the following requirements:

- reflect the internal variables characterizing the state of the system, as well as external factors that have a direct and indirect effect on it;
- reflect the nature and magnitude of influence of an influencing factor on the reproductive cycle;
- take into account the ratio of the impact factor and adaptive capacity of the self-regulatory response of the system;
- take into account the magnitude of the lag gap between the onset of the factor and the adaptive response of the system
- threshold and signal values of the indicators should correlate with the threshold values of the control parameters at which the change in the phase portrait of the system occurs, its transition to a different mode of operation.

Increasing global competition allows us to include a comparative perspective in the economic security category associated with the “potential difference” between territorial entities, which creates, on the one hand, natural tension, and on the other, an opportunity to effectively realize the potential of territorial distribution of labor. Imposed on the natural socio-economic processes, the system of national and regional territorial organization gives additional status, strategic and other properties of territorial entities. Accordingly, the economic security of a region has a “supra-regional” dimension, since the viability and stability of the functioning of any territorial entity is both a factor and a consequence of its metabolism with the surrounding (and especially priority for the given region) territories and inclusion into global processes of global competition, technical and technological renewal and socio-cultural development.

The mechanisms for ensuring, as well as the very criteria of economic security, differ depending on the degree of self-sufficiency of the socio-economic regional system. In turn, it is determined by:

- sectoral structure of the regional economy (in particular - the degree of predominance of key industries, their number, the development of diversification of regional production);
- the status of the region relative to the system of center-peripheral relations within the national economy;
- the status of the region in relation to the priority national strategic interests, which knowingly contribute to the predominance of certain functions of the region and the economic sectors serving them;
- the extent and nature of the region’s involvement in transboundary interaction (both with respect to the region itself, and as a contact point for the entire national economy) with the nearby territories;
- degree and nature of inclusion in the national and global trends and cycles.

Economic security of a region has several main dimensions at once, accordingly: structural, status-positional, cyclical, and competitive defined by both quantitative and qualitative indicators. Regarding the *structural dimension*, it represents, along with the correspondence of the economic structure to the priority goals and objectives of regional development and a sufficient degree of diversification, and it also incorporates into the system the ability to quickly adapt and restructure, the emergence of new structural units of the organizational and supra-organizational level (economic clusters, technology parks, innovation development centers, production associations, etc.).

The *status-positional dimension* of economic security is closely interrelated with the structural one. It consists in the need to correlate all the parameters designated above with non-economic (institutional, geopolitical, administrative, environmental, etc.) factors determining the appropriate status of a region. Thus, indicators of sectoral concentration of production will have higher values without prejudice to the economic security of regions in which mono-profile is a natural consequence of the action of such factors (in particular, with the predominant role of the military-industrial complex for territorial entities of strategic interest).

The *cyclical measurement* of economic security includes not only the stability of the intraregional reproductive cycle, but also the degree of involvement in external cycles and the ability to respond quickly to the impulses emerging and propagating in the external environment, that serve as a starting point for the emergence of new cycles (especially technological update).

Similar to the close relationship of the status and structural dimensions of economic security, its *competitive dimension* is directly interrelated with the cyclic one. In the modern world, a territorial entity continuing to exist even without obvious risks of disrupting the reproductive cycle, has potential economic danger if regional development is not focused on the rhythm of technical and technological renewal processes, life cycles of individual industries and markets in the global economy. Reproduction of the current structure does not take into account the presence of existing and potential competitors in the form of other territorial entities of a similar profile.

3.2 Economic security of the Republic of Tatarstan and the Rostov region: current trends

Structural localization and sectoral proportions of the economy of the Rostov region, given by the natural environment and the historically established profile of the agro-industrial region with the central role of the city Rostov-on-Don as a large residential and transport and logistics hub, is a balanced system that can ensure the economically stable development of the territory. The Rostov region is characterized by a model of exit from the geoturbulent situation due to enhanced profile; the region makes maximum use of its competitive advantages. Despite the shift of proportions towards the basic industries (crop production, transport), there is not only their internal diversification, but also the secondary growth of other industries. At the same time, the largest growth of investments in fixed assets, which revealed asynchronous trends in relation to the all-Russian indicators, followed by the basic industries took place in 2015 in such areas as transport and communications (by 28%), fisheries (5.3%), operations with real estate (14.2%) and education (11.1%); with the annual lag effect (in 2016), it started in the areas of the hotel industry (119.8%), financial activities (103.7%), wholesale and retail trade (37.5%), construction (26.2%), and health (20%).

Along with the increasing profile characteristics, another trend is important: a decrease in the raw material component of exports. According to the data of 2010, the Rostov region still ranked 9th among the regions of the Russian Federation in terms of not only export volume, but also in terms of non-oil export volumes and 6 place in terms of non-oil energy export. The export share of minerals, energy carriers, and also metals and products of their primary processing, at the same time, significantly decreased. In the structure of exports, mechanical engineering (including science intensive) strengthened its position: an increase of 6.1% in the direction of foreign countries and 18.5% in the CIS countries.

Considering the peculiarities of the development of the regional environment in the Republic of Tatarstan at the level of individual constituent entities of the Russian Federation, it should be noted that it is formed by no more than 15-20 regions, which account for an average of three quarters of the republican goods turnover.

The incoming and outgoing interregional goods flows of the Republic of Tatarstan (RT) have a pronounced concentration within the limits of one area of prevailing import and another area of prevailing export of goods, which partially overlap each other and, complementing each other, generally form a space of principal regional volumes ties of the republic.

The research results show that in terms of turnover, in the composition of the regions there is a priority group of regions, whose share in the total volume of turnover exceeds 2%. They form the core of the regional development environment in the territory of the Republic of Tatarstan. This group of active turnover with other regions includes: Ulyanovsk, Chelyabinsk regions, Republic of Bashkortostan, Sverdlovsk and Saratov regions, Republic of Mordovia, the city of Moscow, Perm region, Nizhny Novgorod, Moscow, Orenburg and Samara regions.

The main load on the commodity flow system is given by nearby regions, such as Bashkortostan, Ulyanovsk, Chelyabinsk and Sverdlovsk regions. The commodity flow of these regions consists of petrochemical goods, building materials from cement raw materials, metal and rolled metal. Goods such as cement, petroleum products and grain make up about 50% of the total trade turnover of the Republic of Tatarstan with these regions.

Determining the development environment of the Republic of Tatarstan shows that the area of priority regions which is the core concerning the promising space of its economic interconnections, is localized in Russia; it has a fairly large area and length with an average radius of about 800-1000 km. It extends mainly in the meridional direction from north to south, from the Vologda region to the Rostov region.

A major role in shaping the configuration of the region's environment is played by major transportation routes providing the infrastructure basis for economic relations of the Republic of Tatarstan. Therefore, the space of the regional environment is partially stretched along the Trans-Siberian Railway, a narrow branch leading to the regions of Siberia. Analysis of the dynamics of economic relations shows that this space, due to the inertia of the economic relations system in the region, also has the greatest prospects in terms of the formation of the regional environment of the Republic of Tatarstan until the middle of the XXI century.

According to official statistics in recent years, the share of exports in the structure of commodity turnover averaged 90%, imports - 10% (in 2009 - 87.3% and 12.7%, respectively). This correlation is also due to the fact that almost all imports of consumer goods are carried out by wholesale suppliers conducting customs operations outside the country. Estimation of the value of imported goods and services consumption increases the share of imports by almost 3 times.

4. CONCLUSIONS

On the basis of the considered parameters and mechanisms for achieving stability in the development of the Republic of Tatarstan and the Rostov Region, it is obvious that the specificity of the impact of external factors in a complex non-linear dynamics of turbulent geoeconomic processes requires a multilateral approach to assessing their economic security. Along with the already formed approaches built on the principle of selective indicators and their threshold values, it is necessary to revise the basic safety categories themselves and its security system, taking into account the self-organization nature of the “immunity” generated by the region in relation to negative external factors and internal problems induced by them. The example of the Rostov region as a border region largely finding solutions and developing a strategy in the complicated geo-economic conditions shows that with a lagging interval of 1-3 years, not only adaptation, but also mobilization of domestic growth resources occurs, giving a secondary multiplier effect. Thus, in the absence of cardinal threats to the core industries of the region, its profile is strengthened, including by maximizing the use of its competitive advantages. Despite the fact that this effect is partially concealed due to the nationwide negative manifestations of crisis phenomena associated with a decrease in the purchasing power, level and quality of life of the population, the strengthening of regional economic positions, the search for diversification and integration opportunities for production has resistant mechanisms capable of maintaining its economic security.

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