

Theoretical and Analytical Aspects of Formation of Risk-Oriented Approach to Evaluation and Ranking of the Level Region's Economic Security

Aspectos teóricos y analíticos de la Formación con Enfoque Orientado al Riesgo para la evaluación y clasificación de la Seguridad Económica Regional

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ABSTRACT:

Economic security is one of the most important directions of provision of national security of the state. The article presents a complex methodology of diagnostics of the state of Russia's regions' economic security on the basis of risk-oriented approach. Within the presented methodology, the level of economic security of the subjects of the RF is determined in view of four categories of threats: protection of economic system, competitiveness, sustainability, and economic independence of regions; also, territories' ranking is performed. Application of this methodology lies in the system of strategic managerial decisions for the purpose of overcoming the determined threats and as a tool of comparative analysis during development of territories' strategic development.

Keywords: economic security • diagnostics • threats • risk • competitiveness • sustainable development • economic independence

RESUMEN:

La seguridad económica es una de las direcciones más importantes de proporcionar seguridad nacional estatal. El artículo presenta una metodología compleja de diagnóstico del estado de la seguridad económica de las regiones de Rusia sobre la base de un enfoque orientado al riesgo. Dentro de la metodología presentada, el nivel de seguridad económica de los sujetos de la RF se determina en vista de cuatro categorías de amenazas: protección del sistema económico, competitividad, sostenibilidad e independencia económica de las regiones; también, se realiza el ranking de los territorios. La aplicación de esta metodología radica en el sistema de decisiones gerenciales estratégicas con el objetivo de superar las amenazas determinadas y como herramienta de análisis comparativo durante el desarrollo del desarrollo estratégico de los territorios.

Palabras clave: seguridad económica • diagnóstico • amenazas • riesgo • competitividad • desarrollo sostenible • independencia económica

1. Introduction

Intensification of the process of strengthening of the national sovereignty of Russia actualized the problems of provision of economic security of the state. A lot of problems are brought down to lack of the unified conceptual and categorical machine of economic security within state management and in the sphere of applied scientific research. Until 2017, the national strategy of economic security of 1996 was effective on the territory of the RF – it was oriented at implementation of economic transformations conducted within three-five years from the moment of its approval. Against the background of objective change of socio-economic relations and foreign political environment, a necessity grew for development of a new strategy (Kazantsev, 2016). The Decree of the President of the RF dated May 13, 2017 No. 208 established the Strategy of economic security of the Russian Federation until 2030, which legislatively established the main notions in this sphere; determined the challenges and threats to Russia's interests on economy; the goals, main directions, and tasks of the national policy in the sphere of provision of economic security, as well as the system of its evaluation (Strategy of economic security of the Russian Federation until 2030, 2017). Despite the fact that the Strategy regulates 40 indicators of evaluation of the state of economic security, their criterial values are absent, and application of most of them is possible only for monitoring the state of economic security at the federal level, while it should be conducted also at the level of federal districts, regions, and municipalities.

The problem of provision of economic security of Russia's federal districts is not sufficiently studied, though it is necessary to state that globalization stimulates the increase of competitive processes at the level of federal districts, as, due to objective economic laws, development of production forces is possible only with comprehensive interaction of economic subjects which conduct their activities on adjacent territories. Besides, a certain vector of economic development is set for federal districts.

Analysis of the results of scientific research in this sphere allows for the following conclusions:

- 1) there's no integrated system of threats to economic security at the level of federal districts of the RF, despite the large number of their classification on the basis of various criteria;
- 2) the results of classification of threats by various authors are similar and are based on the standard set of indicators, some of which are of the obsolete character as to the criterion of significance and as to the width of coverage of factors – threats and risks;
- 3) there are no studies in the part of formation of the relevant ranking of federal districts as to the level of economic security, technological tools of collection and analysis of classified data for qualitative ranking (Karanina, 2017).

Thus, actuality of the topic of the research is determined by the following:

- 1) impossibility for effective state management in the conditions of lack of the effective concept of economic security at the level of federal districts of Russia;
 - 2) lack of the relevant methodology of diagnostics of the level of economic security of federal districts of the RF, which is a risk factor in the conditions of increase of negative influence of external and internal risk factors;
 - 3) the necessity for development of new indicators, rankings, or landmarks of development of federal districts of the RF as effective tools of provision of their sustainable development.
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2. Materials and methods

The research is based on materials of the Federal State Statistics Service and the Ministry of Finance of the RF with the methods of complex economic analysis. The methodological basis of the research is indicators of the level of economic security within the developed proprietary express diagnostics of the level of economic security and ranking of federal districts of the RF (Karanina, 2016). The system of indicators of evaluation of the level of economic security includes four groups of threats to national interests in the economic

sphere (Table 1).

Table 1
The system of criteria (indicators) for evaluation of the level of economic security of federal districts of the RF

Group of threats	Threats	Criteria (indicators)
1. Threats to protection of economic system of the district	1.1. Growth of inflation	Inflation level, %
	1.2. Non-execution of financial liabilities (growth of budget's deficit)	Surplus (deficit) of the consolidated budget per capita, RUB
	1.3. Growth of debt for taxes	Debt for taxes per capita, RUB
	1.4. Growth of the population's poverty level	Poverty level, %
	1.5. Growth of unemployment level	Unemployment level, %
	1.6. Aggravation of ecological situation	Appearance of production waste and consumption per capita, tons
2. Threats to competitiveness of the district	2.1. Reduction of labor efficiency	Index of labor efficiency, %
	2.2. Increase of the level of exhaustion of main funds	Level of exhaustion of main funds, %
	2.3. Lack of own investments	Share of own investments, %
	2.4. Bankruptcy of regions' companies	Share of non-profitable companies, %
	2.5. Domination of extensive path of economy's development	Growth of the number of highly-efficient jobs
	2.6. Reduction of industrial production	Index of industrial production, %
3. Threats to sustainability of district's development	3.1. Increase of dependence on import food	Volume of imported food per capita, USD
	3.2. Reduction of agricultural production	Volume of agricultural production per capita, RUB
	3.3. Growth of region's energy dependence	Production of water and electric energy per capita, thousand RUB
	3.4. Termination of construction	Start of exploitation of buildings per capita, sq.m.
	3.5. Migration decrease of population	Migration growth, people
	3.6. Growth of economic crime rate	Growth of the number of crimes in the sphere of economy, per 1,000 people

4. Threats to economic independence of district's development	4.1. Growth of the level of dependence on external financing (growth of subsidies for region)	Share of free revenues in the total volume of budget's sources, %
	4.2. Reduction of effectiveness of economic activities	Volume of gross regional product per capita, RUB
	4.3. Increase of demographic load	Coefficient of demographic load
	4.4. Reduction of region's labor potential	Share of work force in the total number of population, %
	4.5. Reduction of population's incomes per capita	Ratio of population's incomes per capita and the subsistence level
	4.6. Growth of population's loan debts	Population's loan debt per capita, RUB

Calculation and further ranking of territories are performed on the basis of the following methodology:

1. For each indicator of the region of the federal district, one of two variants of values is assigned – I_r : "0" – with the value of the indicator of the subject of the RF that exceeds the average Russian level; "1" – with the value of the indicator of the subject below the average Russian level;
2. The final value of the indicator for the federal district is determined according to the following formula:

$$I_{fdi} = \sum I_r / n$$

where I_{fdi} – indicator of economic protection of the federal district, I_r – indicator of economic protection of the subject of the RF, n – number of subjects of the RF that are parts of the federal district;

3. Level of economic protection of federal districts in view of each groups of threats is determined according to the following formula:

$$ES_{fdi} = \sum I_{fdi}$$

where ES_{fdi} – level of economic security of the federal district for each group of threats;

4. Final value of the level of economic security for each district is determined according to the following formula:

$$ES_{fd} = ES_{fdse} + ES_{fdc} + ES_{fdsd} + ES_{fdei}$$

where ES_{fd} – level of economic security of the federal district of the RF; ES_{fdse} – level of protection of economic system of the district; ES_{fdc} – level of protection from the threat of loss of competitiveness; ES_{fdsd} – level of protection from threats to sustainable development of the district; ES_{fdei} – level of protection against the threats to economic independence of the district's development;

- 5) ranking of federal districts of the RF as to the level of economic security is performed by ranking the districts according to decrease of indicator ES_{fd} .

3. Results

A complex approach to evaluation of economic security focuses on identification of the level of economic protection from the influence of four main categories of threats and determining the integral indicator. The research should be conducted in dynamics for the purpose of determining the sustainable tendencies for increase of the influence of certain categories of threats and development of the corresponding strategic managerial solutions.

3.1. Ranking of federal districts of Russia as to the level of protection of economic system

The first category of threats is related to the problems of protection of the economic system of the districts, which is a state that excludes (fully or partially) the possibility of dealing damage to the economy of federal districts' regions, living standards of the population, sovereignty, territorial integrity, and sustainable development. The results of evaluation of the level of protection of economic system of federal districts of the RF showed that over the whole period the Volga Federal District was among the leaders, and even was ranked 1st in 2015 (Table 2). This is caused by fighting the inflation processes and threats of poverty and unemployment, as well as solving a complex of problems for reduction of tax debt and ecology in this district's regions.

Table 2
Ranking of federal districts of the RF as to the level of protection of the economic system

Indicator	2010		2013		2015	
	Score	Ranking	Score	Ranking	Score	Ranking
Central FD	3.33	2	4.22	1	3.94	2
North-Western FD	2.80	7	2.30	8	2.60	7
Southern FD	3.00	4	3.50	3	3.33	4
North Caucasus FD	3.00	5	3.14	5	2.14	9
Volga FD	3.07	3	4.07	2	4.00	1
Urals FD	3.50	1	3.25	4	3.00	5
Siberian FD	3.00	6	2.25	7	2.33	8
Far Eastern FD	2.33	8	2.44	6	2.78	6
Crimean FD	-	-	-	-	3.50	3

Also, high level of protection of the economic system is peculiar for the subjects of the Central Federal District, which is caused by high level of employment and incomes of the population. However, these tendencies are related to large growth of inflation and tax debts. The last position in the ranking is occupied by the North Caucasus Federal District, which was among outsiders as to all studied positions. The shows the necessity for conduct of a complex policy for solving the problems of social and economic character.

3.2. Ranking of the federal districts of the RF as to the level of protection against the threats of loss of competitiveness

In the conditions of increase of the process of globalization, the growth of territories' competitiveness is hindered by emerging threats (Andruseac, 2015). The district's competitiveness is reflected in high level of economic growth and the possibility to generate constantly growing incomes of the population and living standards. Thus, the territory's competitiveness integrates various directions of society's life – economic and social.

Evaluation of the level of protection of Russia's regions from the threats of loss of competitiveness shows the leading positions of the Siberian Federal District over the whole period (Table 3). This is caused by low level of exhaustion of the main funds and effective functioning of economic subjects, which are peculiar for stable growth of the number of highly-efficient jobs. These factors stimulate sustainable growth of the volume of manufacture of industrial products.

Table 3
Ranking of the federal districts of the RF as to the level of protection from threats to loss of competitiveness

Indicator	2010		2013		2015	
	Score	Ranking	Score	Ranking	Score	Ranking
Central FD	2.83	5	3.33	4	3.56	3
North-Western FD	2.80	6	2.40	7	3.80	2
Southern FD	3.00	4	3.33	3	3.33	6
North Caucasus FD	1.71	8	2.71	6	2.86	9
Volga FD	3.07	3	3.36	2	3.50	5
Urals FD	3.25	1	2.75	5	3.00	7
Siberian FD	3.17	2	3.58	1	4.25	1
Far Eastern FD	2.78	7	2.22	8	3.56	4
Crimean FD	-	-	-	-	3.00	8

Also, high level of protection of the system of competitiveness is peculiar for the Central and North-Western Federal Districts, which is caused by the fact that large centers of the federal scale with high production potential are located on these territories, as well as development of institutional & business, transport & logistical, communication, and socio-economic directions of activities of economic subjects.

The last position in the ranking belongs to the North Caucasus Federal District, which is a result of the high level of exhaustion of the main funds, which leads to low labor efficiency, and lack of own investments. This shows the necessity for conducting a complex policy for formation of a new model of economic development on the basis of development of new industrialization.

3.3. Ranking of the federal districts of the RF as to the level of protection against the threats to sustainable development

The third category of threats to economic security is related to sustainable development of the federal districts of the RF, which is a process of progressive positive changes that lead to balance of the economic, social, and legal aspects of the population's life. It should be emphasized that sustainable development of district stimulates stable economic growth, elimination of social injustice, and preservation of the geo-system of the territory (Sapozhnikova, 2017).

In the conditions of complex foreign economic environment and systemic economic crisis, the issue of provision of sustainable development acquires strategic value. The offered

model of ranking showed that in 2010-2013 the Urals Federal District was among outsiders, and in 2015 it entered the leaders in the system of protection from threats to sustainable development of Russia's regions (Table 4). This is caused by a relatively low volume of imported foods on the territory of the district, large scales of work of the construction complex, and the effective work of fighting the crimes in the economic sphere. However, despite the strong positions for certain directions of development of the district's subjects, there are spheres that require serious correction. This is especially true for the problems of active migration of population and functioning of agro-industrial complex.

Table 4
Ranking of the federal districts of the RF as to the level of protection from threats to sustainable development

Indicator	2010		2013		2015	
	Score	Ranking	Score	Ranking	Score	Ranking
Central FD	2.44	7	3.06	1	3.22	2
North-Western FD	2.40	8	2.70	4	2.60	6
Southern FD	3.00	1	2.83	2	2.67	5
North Caucasus FD	3.00	2	2.29	8	2.14	9
Volga FD	2.86	3	2.79	3	3.14	3
Urals FD	2.75	6	2.50	7	3.50	1
Siberian FD	2.83	4	2.67	5	2.33	8
Far Eastern FD	2.78	5	2.67	6	2.44	7
Crimean FD	-	-	-	-	3.00	4

The last position in the ranking belongs to the North Caucasus Federal District, which was able to successfully oppose the threats of increase of import dependence and reduction of the volumes of agricultural production. At the same time, it was among the outsiders as to the level of protection from other categories of threats. This shows the necessity for developing the measures of systemic character for increase of economic potential, increase of the territory's population's living standards, and provision of sustainable and well-balanced functioning of economic systems at the level of the region and the district on the whole.

3.4. Ranking of federal districts of the RF as to the level of protection against the threats to economic independence

In the conditions of globalization and growth of competition in the world markets of goods and services, national economy integrates economic possibilities of separate subjects of the RF for increase of state sovereignty and increase of competitive advantages at the international arena. This process leads to gradual loss of regions' capabilities for independent solving of economic, ecological, social and scientific & technical problems – in other words, loss of independence in solving the tasks of the strategic and tactical character, which aggravates the threats to economic independence.

At present, increase of threats to economic independence of the region is closely connected

to social problems: development of the institutes necessary for provision of educational and healthcare services and provision of social guarantees are behind the quick development of market mechanisms. At the same time, autonomous functioning of the region is impossible. Economic independence of a federal district of Russia could be determined from the position of achievement of such level of production, effectiveness, and quality of products and social development which ensure district's regions' participation in the global trade, cooperation connections, and exchange of scientific and technical achievements.

The results of diagnostics showed that over the whole period the Far Eastern Federal District was among the leaders, and in 2015 it became the most protected district against the threats of economic independence (Table 5). This is caused by high indicators of development of regional labor markets, expressed in large per cent of economically active population and low value of the coefficient of demographic load. Development of the labor market directly influences the effectiveness of functioning of economy: the volumes of gross regional product in the Far Eastern Federal District are the highest in Russia. However, it is necessary to pay attention to several problems of the social and economic character: low level of population's incomes per capita and growth of citizens' loan debt.

Table 5
Ranking of the federal districts of the RF as to the level of protection against the threats to economic independence

Indicator	2010		2013		2015	
	Score	Ranking	Score	Ranking	Score	Ranking
Central FD	1.94	5	2.33	5	2.22	4
North-Western FD	2.90	2	2.90	1	2.50	3
Southern FD	1.50	8	1.83	6	1.33	8
North Caucasus FD	1.57	7	1.57	7	1.71	6
Volga FD	2.71	4	2.71	4	2.14	5
Urals FD	3.00	1	2.75	3	2.50	2
Siberian FD	1.58	6	1.42	8	1.50	7
Far Eastern FD	2.89	3	2.78	2	2.78	1
Crimean FD	-	-	-	-	1.00	9

The last position belongs to the Crimean Federal District, which regions are fully unprotected in five categories out of six. This shows the necessity for conduct of a complex policy of formation of a new model of economic development which includes all directions of society's life.

3.5. Ranking of federal districts of Russia as to the level of economic security

Based on determining the level of protection of federal districts of the RF from the influence of four categories of threats, the summary integral level of economic security is determined. Analysis of this indicator in dynamics allows for timely diagnostics and adequate reaction to increase of the corresponding categories of threats with flexible socio-economic policy and

corrections into the strategy of territories' development.

The results of calculations of integral indicator of economic security in view of federal districts of the RF showed: in the studied period the subjects of the Central Federal Districts were able to fight the threats to sustainable development, related to growth of economic crime rate, migration decrease of population, and termination of construction (Table 6). At present, there's a sustainable tendency for preservation of leadership positions of the district's regions as to most of the indicators of economic security. The district's territory has a quarter of the main funds of Russia's economy and produces a third of the Russian GDP.

Table 6
Ranking of the federal districts of the RF
as to the level of economic security

Indicator	2010		2013		2015	
	Score	Ranking	Score	Ranking	Score	Ranking
Central FD	10.56	6	12.94	1	12.94	1
North-Western FD	10.90	3	10.30	5	11.50	5
Southern FD	10.50	7	11.50	3	10.67	6
North Caucasus FD	9.29	8	9.71	8	8.86	9
Volga FD	11.71	2	12.93	2	12.79	2
Urals FD	12.50	1	11.25	4	12.00	3
Siberian FD	10.58	5	9.92	7	10.42	8
Far Eastern FD	10.78	4	10.11	6	11.56	4
Crimean FD	-	-	-	-	10.50	7

Over the whole period of diagnostics of the state of economic security, the last positions were occupied by the North Caucasus Federal District, which chronic underrun of subjects' development is a result of lack of the national policy of territorial placement of production forces and orientation of the investment policy at exploitation of easily accessible natural resources, not development and usage of human capital. In view of the determined categories of threats, it is recommended to correct and actualize the strategy of socio-economic development of the North Caucasus Federal District by 2025 and the long-term strategy of its subjects, re-orient the regional economic and investment policy of the state for well-balanced territorial placement of production forces, increase of population's living standards, and formation and effective use of human capital (Akhmeduev, 2015).

4. Discussion

Analysis of the results of the performed diagnostics allows for the following conclusions:

Economic security is one of the most important directions of provision of the national security of the state. Financial instability and deepening of the systemic economic crisis actualized the necessity for monitoring the state of economic security as an objective condition of economic sovereignty of Russia;

The existing approach to evaluation of economic security, established within the Strategy of economic security of the RF until 2030, requires serious correction in part of development of

criteria values of the indicators and the methodology of assessment at the level of federal districts, regions, and municipalities. At the same time, approaches to determining the state of economic security, offered in the works of various authors, differ as to the level of included indicators and as to the algorithm of assessment;

The developed methodology of diagnostics of the state of economic security is based on using the actual data of socio-economic statistics; it includes the full specter of indicators in view of four categories of threats: protection of economic system, competitiveness, sustainability, and economic independence of regions' development; it supposes creation of a ranking model. Application of this methodology is necessary in the system of strategic managerial decisions for the purpose of fighting the determined threats and as a tool of comparative analysis during preparation of the strategies of territories' development.

Analysis of the state of economic security in view of federal districts of the RF showed that most subjects of the RF cannot preserve leading positions for all groups of indicators. At that, disproportions of development are seen not only in comparison of the territories with each other but inside each district. However, the most well-balanced districts in the context of analyzed indicators are the Central and the Volga Federal Districts, most of regions of which occupied the leading positions over the whole viewed period.

The critical position was in the regions of the North Caucasus Federal District: within the developed methodology of diagnostics of the state of economic security of the territories in 2010-2015 the district occupied the last positions. This shows the necessity for corrections into the strategy of socio-economic development of the North Caucasus Federal District until 2025 and long-term strategies of its regions.

5. Conclusions

In the conditions of active development of the global economic complex of trade, production, and financial relations, reliable provision of economic security of the RF is a necessary condition for preservation of integrity and strengthening of sovereignty. This actualizes the issue of monitoring of the state of economic security, which requires a complex approach, and the issue of its application at the federal level, as well as at the levels of districts, regions, and municipalities.

The offered methodology of evaluation of economic security of regions, based on usage of the risk-oriented approach, allows for timely identification of the full specter of threats. The results of the ranking evaluation are a significant factor for public authorities in managerial decisions in part of increase of awareness of specific problems and determining the relatively strong and weak positions of the region in the system of economic security, conduct of monitoring, and comparison of the tendencies of other regions which could be landmarks for prioritization of the socio-economic policy.

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