

17 Application of Risk Management Principles in Strategic Governance of the Country's Social Economic

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17.1 Abstract

The article confirms the urgency to develop state policy, which is a mechanism of coordinated strategic and tactical management of the country social-economic system on the basis of the principles and methods of risk management. The purpose-strategic, social-oriented and social-cost approaches to management and methods for analyzing social-economic processes in terms of the importance of human factor and risks for the of the country's economic potential development. The described theoretical and methodological provisions were tested on the example of the social and economic system of the Perm Krai.

Keywords: strategic management, tactical planning, risk, preventive risk management, social and economic system.

17.2 Introduction

Current economic realities show that our society needs a fundamentally new paradigm of governance that will allow for effective management of opportunities, while at the same time for preventing the development of unfavorable factors and situations. It is necessary to manage not only the events and their consequences, but also the risks as probabilities of a whole range of mutually replacing events occurrence [1, 2].

The key objective of state policy is supposed to develop adequate management solutions that are likely to allow for the planning and achievement of tactical and strategic goals of the country's socio-economic system development [3]. Thus, state policy becomes a system of preventive risk management, i.e. a set of rules for making public decisions in the field of risk management arising in society, with the help of specialized economic instruments.

The phenomenon of risks and instruments of their minimization does not lose its historical relevance. There are known attempts of prophets and fortune tellers of Ancient Rome and Ancient China to develop risk management techniques on the basis of ritual procedures. In particular, on the basis of the ancient Chinese "Book of changes" strategic state decisions were made for many centuries. It is this work today to be considered the first comprehensive risk management system. It is well known that behind the scenes of the Delphic Oracle there was a large group of priests working, collecting and analyzing various world information [4].

Despite such a long history of study, so far modern science has not developed an unambiguous theory of risk management. Since there is no common understanding of the "risk" category, the article authors define it as an activity related to the decision-making process to overcome uncertainty in the country's social-economic system.

Risk management is a procedure that is methodologically close to exact sciences [5]. Any social-economic system is described by its objective characteristics (parameters), which are inherent to it at any given moment of time. Therefore, the level of uncertainty characteristic of

each parameter of this system will differ depending on the change in the external and internal environment. Thus, the strategic objective of risk management involves the fulfillment of a designated mission of the system, the achievement of its goals and objectives, the implementation of its strategic plan, and actions that assess the change in the state of the system in relation to the fulfillment of its mission. Ongoing risk management involves actions that actually ensure the implementation of mechanisms for day-to-day advancement of the system towards its goal. Thus, risk management system unites all actions that contribute to reducing the probability and magnitude of the system deviation from achieving its own strategic goal [5].

The paradigm of preventive risk management is based on the theory of integrative management, according to which the subject of management carries out navigation through risky landscapes. The movement trajectory of the object under control is a navigation strategy (ensuring stable development of the subjects of the Russian Federation and stable common economic growth, as a consequence) and navigation tactics (tasks solved to achieve a strategic goal, based on the methodical forecasting tools, allowing to preventively minimize risks). In the table (see Table 1) there are the comparative characteristics of the current dominant paradigm of risk management and the paradigm of preventive management proposed by the authors.

The results of the study made it possible to identify the functional features of the preventive risk management system, which are presented in the table (see Table 2).

Feature	Current paradigm of risk management	Paradigm of preventive risk management
Model of risk management	Each subject manages risks independently	Risk management system is centrally implemented coordinated by a governing body
Type of risk management process	Occasional	Continuous
Aim of risk management	Competitive recovery and increase in investment attractiveness of branch, region, state	Growth in population well-being
Nature of management	Post factum management	Preventive scenario forecasting
Risk management object	Primarily insured and financial risks	All risks spectrum
Market orientation	International markets priority	National markets priority
Integrated effect	Economic	Social - economic

Table 1: Comparative characteristics of risk management paradigms

Function	Contents
Axiological	definition of the working population value and their subsequent generations on the basis of economic development potential of industrial production
Limiting	restriction of industry negative impact on the life quality of the population by improving working conditions and environmental activities of industrial enterprises
Stimulating	arrangement of favourable conditions for self-realization and maximizing the well-being of the entire population

Stabilizing	ensuring sustainable progressive industrial development by minimizing negative socio-economic and environmental impacts and intensifying innovation and technological modernization as a result of human potential
Compensating	compensation for the negative impact of industrial development on the life quality of the population
Evolutional	ensuring coevolutionary development of industry and civil society or mutual development of industrialization and civilization
Harmonizing	harmonization of systemically interconnected solutions of social, ecological, innovative, technological and branch tasks of regional and national economy development, minimizing damage to each of these spheres

Table 2: Contents of functions of preventive risk management system in the social - economic system

These functional features defined the content of the management paradigm of risk management "Social-SOS" (see Fig. 1).

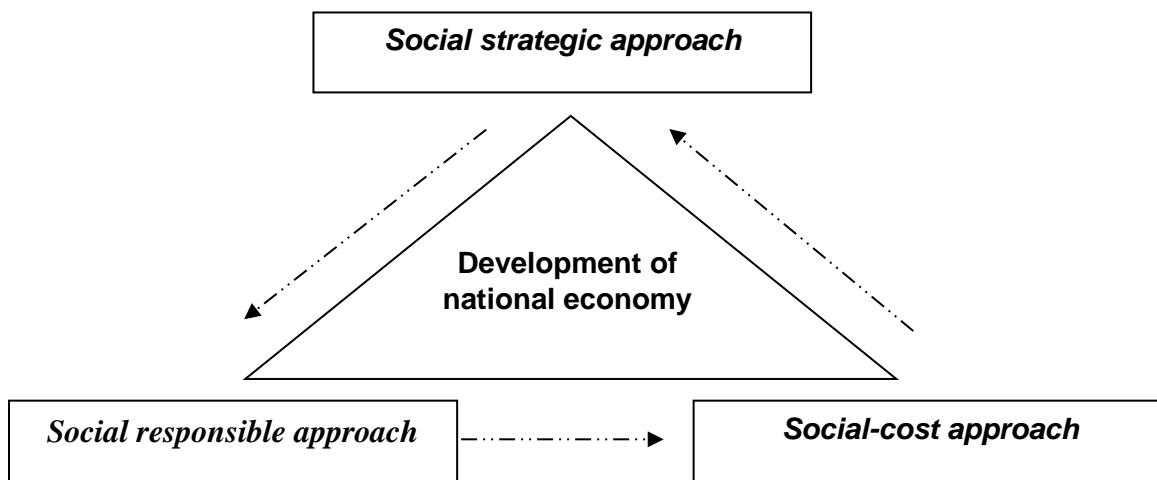


Figure 1: Management concept of "Social-SOS" in the system of preventive risk management

The proposed concept is to implement simultaneously three main approaches to the management of the social-economic system;

- social-strategic approach, consisting of priority social and environmental goals identification while designing, creating and developing the production;
- social-responsible approach, assuming the determination of a mechanism to redistribute powers and responsibilities of social-economic system management subjects according to the criterion of the significance of change dynamics regarding the decisions taken by the subjects to achieve development social goals;
- social-cost approach, which provides designing of institutional mechanisms for the system development, adapted to real situation in world markets, arising from economic objectives of modernization in the long and short term, and based on the assessment of existing experience of negative social-economic, social-ecological and ecological-economic consequences of innovation-technological reformatations in terms of money equivalent.

17.3 Methodology

17.3.1 Sample

To identify the risks affecting the social-economic system of the country, the authors' team conducted a survey in 30 subjects of the Russian Federation, the most significant from the population size point of view. In each subject, 20 people were interviewed.

The general expert group covers 600 people and consists of two subgroups, surveyed in an equal proportion:

- 1) experts whose income level exceeds the average per capita per the subject of the Russian Federation;
- 2) experts whose income level does not exceed the average per capita per the subject of the Russian Federation.

The results of the survey made it possible to identify the following risks whose manifestation was noticed in all subjects of the Russian Federation studied (see Table 3).

№	Feature
r.1.	Reduction in consumer demand
r.2.	Increase in professional morbidity
r.3.	Deterioration of conditions to found a family
r.4.	Deterioration of conditions to spend leisure time
r.5.	Increased environment pollution level

Table 3: System of risks in the social and economic system of the country

17.3.2 Material and Procedure

To implement effective policy, the authors developed risk assessment and management tools. They propose the formulation of a multi-criterion mathematical problem and the search for its optimal solution. Let there be a number of time intervals t_1^i , for each of which social risks are characteristic r_1^n . Every risk is described by a set of indicators j_1^m , quantitatively characterizing the interconnection harmony of the social and economic subsystems of the country. Thus, the state of the social-economic system at each moment of time can be recorded in the following form:

$$\{x_{ir}^j, t = 1 \dots i, r = 1 \dots n, j = 1 \dots m\}, \quad (1)$$

where x_{ir}^j – is a set of indicators that characterize the state of the social and economic system during the period t .

To solve the problem, an authors' algorithm was formed, providing a set of developed economic and mathematical mechanisms that allow to assess the degree of manifestation of each risk. These mechanisms and their application sequence are shown in the figure (see Fig. 2).

Due to the model, the impact of the population quality of life on the resulting indicators of the social-economic system is assessed. Consequently, it allows to estimate the economic damage received by the system from changes in the factors of life quality. This damage is estimated as a difference between dependent (resulting) variables of the recursive system before and after the change of any quality of life factor inside the system.

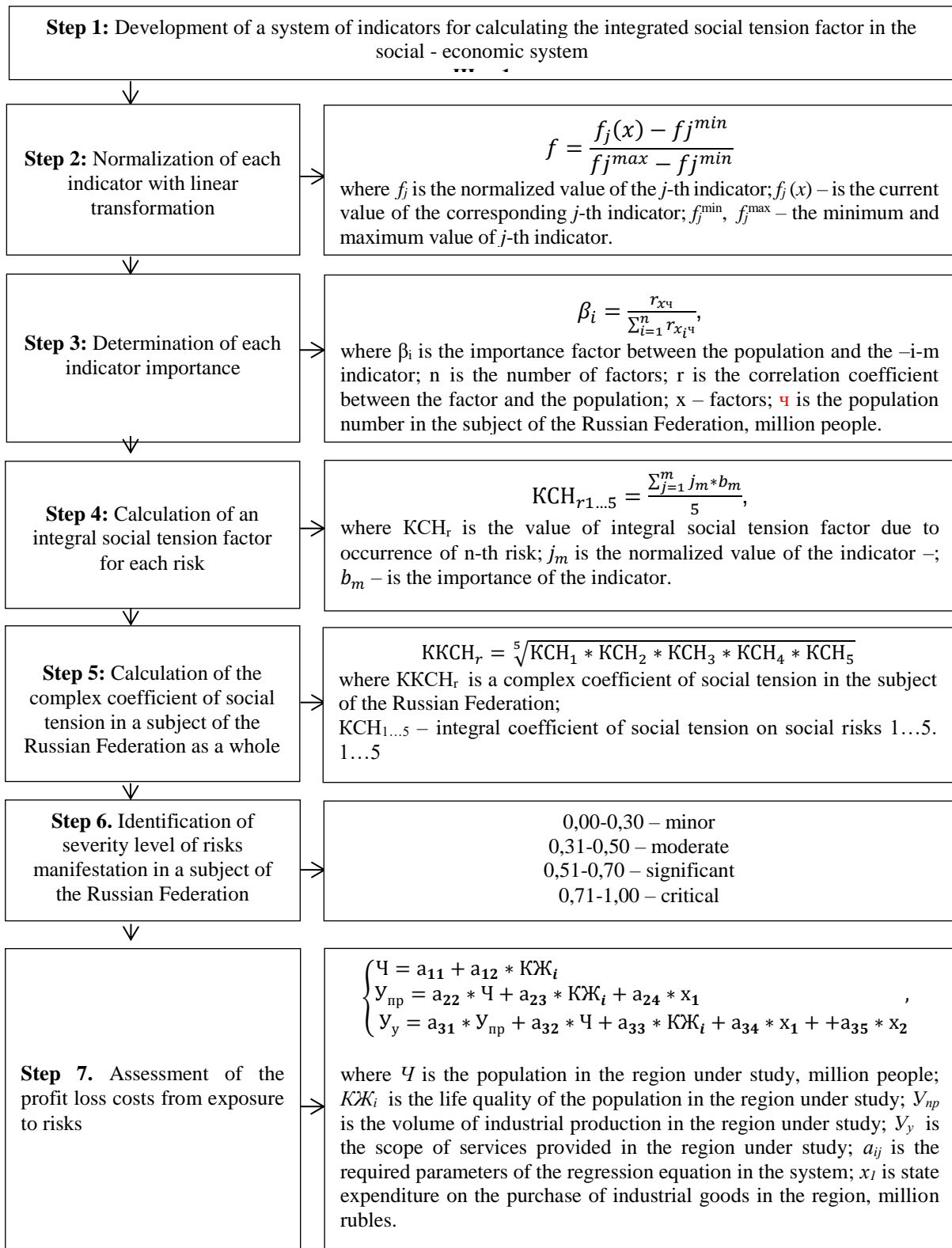


Figure 2: Algorithm of carrying out assessment of risks appearing in the social -economic system of the country

17.4 Results and Discussion

The authors' proposed method was tested on the example of Perm Krai. The econometric model obtained for this subject of the Russian Federation has the form:

$$\begin{cases} \Psi = 5,627 * K\mathcal{K}_1 \\ y_{np} = -69,8984 * \Psi + 499093,8 * K\mathcal{K}_i + 5,262104 * x_1 \\ y_y = -0,54416 * \Psi + 0,1102 * y_{np} - 235,86 * K\mathcal{K}_i - 0,0442 * x_1 + 1,35563 * x_2 \end{cases} .$$

The results of the approbation calculation of the KCH and KKCH in 2016 in Perm Krai, made according to the authors' model, are presented in table 4.

KCH ₁	KCH ₂	KCH ₃	KCH ₄	KCH ₅	KKCH
0,024	0,021	0,014	0,042	0,001	0,012

Table 4: Degree of risk manifestation in Perm Krai in 2016.

As can be seen, this subject of the Federation is characterized by a small degree of risk, i.e. it can be concluded that the social - economic policy pursued in the region is effective. Nevertheless, the authors recommend the implementation of a set of measures aimed at minimizing the probability of increasing the risk level in Perm Krai, which ensures the reduction of lost profit costs by transforming it into an additional source of development of the social-economic system of the Russian Federation subject.

17.5 References

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