

# Regional Model of Economic Security Management: The Case of the Kurgan Region

Vera Petrova  
*Department of Finance and economic security*  
*Kurgan State University*  
 Kurgan, Russia  
 verpetrova@yandex.ru

**Abstract**—Economic security guarantees the development of the region, determines possibilities of an independent economic policy and creates conditions for stability. Meanwhile, as studies have shown, at present the problems of formation of the system of economic security management in the region are insufficiently studied both from a theoretical and practical point of view. In the course of studies, general scientific approaches and methods were used. This article describes the author's approach to the development of the model of the economic security management system in the Kurgan region. The proposed model includes such elements as the subject and objects of management, as well as a group of indicators for assessing and monitoring the corresponding blocks of its support. The proposed model can be used by other subjects of the Russian Federation, which are similar in typology to the Kurgan region.

**Keywords**—*regional economic security, economic security indicators, economic security mechanism.*

## I. INTRODUCTION

At the present time, economic security guarantees the development of the region, determines the possibility of an independent socio-economic policy, and also creates the conditions for increasing its competitiveness. The problems of the regional economic security (hereinafter RES), both in the foreign and domestic studies were considered more than once. As a result, various approaches to the definition of objects, subjects of economic security and the mechanism for its provision have been arisen.

In some sources, the territory of the region is determined as an object of management [1]. V.V. Starostin believes that the object of the RES is considered to be the territory of the subject of the Russian Federation and everything that is located on this territory [2]. The subjects of management are the executive authorities of the constituent entities of the Russian Federation [2].

N.V. Dyuzhenkova considers the RES management system to be a complex set of elements implementing the basic principles and functions of management and objectively capable of ensuring regional economic security [3].

From the perspective of the system approach, the RES management system should be one of the subsystems of the management system for the socio-economic development of the region. According to T. Yu Feofilova, such a system should perform an information and analytical function [4]. The existence of such a system will make it possible to

identify RES external and internal threats in a timely manner and to minimize their impact. The development of such a system is currently relevant and under discussion.

The conceptual model of RES management for two types of socio-economic systems of the region is proposed in T. Yu. Feofilova's work. As a structural unit, the author [5] proposes to establish a Department that would ensure economic security in the region.

The scientific literature presents various approaches to the development of a system of regional economic security indicators. The author studied and summarized the experience of the foregoing researchers [6-9], it allowed us to develop a group of indicators of economic security of the Kurgan region.

## II. METHODOLOGY

At the first stage of the research, we considered the RES subsystem in the socio-economic system of the region, it made us choose the conceptual practical and theoretical approaches, in which functional and structural analysis was used to identify the existence of RES division in the regional management structure. The study was carried out on the basis of the official sites of the executive authorities of the regions. The regions with available information resources were selected. The general scientific method of analysis made it possible to formulate the concept of the research and to choose the underlying theory for developing the ES model of the Kurgan region.

At the second stage of the research, system-structural and system-functional analysis allowed us not only to determine the place of the RES system in the management system of the Kurgan region, but also to substantiate the mechanism of interaction between the subjects of the ES management of the Kurgan region. Complex application of heuristic methods and methods of comparison and grouping allowed us to develop a system of indicator groups for monitoring the ES level of the Kurgan region. The main database for the research was the Kurgan region regulatory legal acts of the executive authorities as well as the results of studies of various authors in this field.

## III. RESULTS

In our view, to establish the RES Department is impractical in such constituent entities of the Russian Federation as the Kurgan region (a depressed one). In order to develop the RES management system of the Kurgan region, it is necessary to establish an independent structural subdivision

in the regional Government, it can be the Economic Security Subdivision of the Department of Economic Development (hereinafter Subdivision).

The main tasks of this Subdivision should comprise the following (Figure 1).

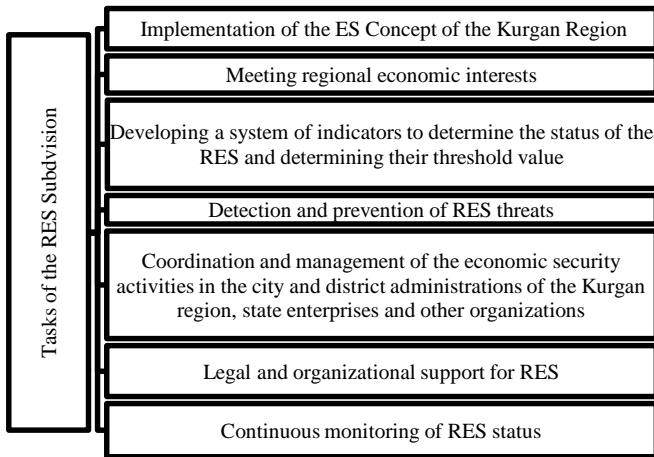


Fig. 1. Main priorities of the RES Subdivision.

The Subdivision should be duly authorized, to implement these powers, it is necessary to develop the ES management mechanism in the Kurgan region, to do this, employees should be given appropriate rights (Figure 2).

Special attention should be paid to one of the powers of the Subdivision personnel, namely, to the monitoring of the negative impacts that affect the RES status and to the development of an indicator inventory for it. Since some of the indicators are not from Rosstat data, information on a particular criterion should be requested from the relevant divisions with which the employees of the Subdivision interact.

Another power that the Subdivision can be given to is to provide the Governor of the Kurgan region with information on the RES status and further prediction of its condition.

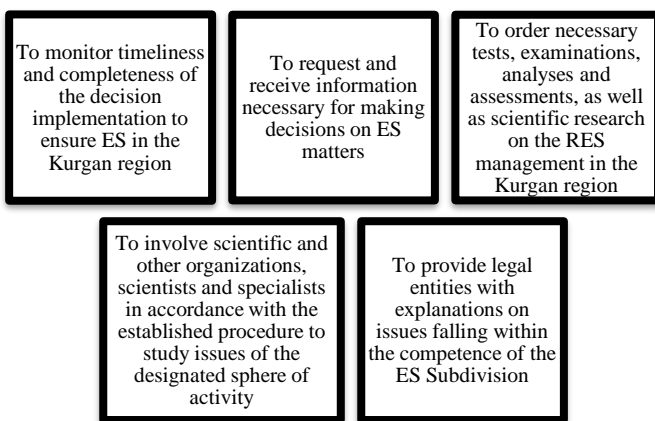


Fig. 2. Powers of the employees of the RES Subdivision in the Kurgan region.

Proceeding that it is necessary for other structural subdivisions of the Kurgan Region Government and other entities of the RES management system to implement certain powers, the employees of the Subdivision will interact with them. Since each of the employees will be assigned to its own

RES component, they will accordingly collaborate with the relevant executive authorities (Figure 3).

Based on the best practices of the foregoing researchers, the author proposes a system of RES indicators, which are presented in Tables 1-6. Besides, the sources of information are indicated there. Considerable attention in the system of indicators is paid to the group of financial and socio-demographic security. Such attention is given to it for some reason. The main ES threats in the Kurgan region are related to indicators of these groups. The displayed indicator system is not final and can be modified.

<b>Financial safety and security</b>
• Commissioner for the Rights of Entrepreneurs in the Kurgan region • Department of Industry and Transport of the Kurgan region
<b>Social and demographic safety and security</b>
• Commissioner to the Governor of the Kurgan Region for the Rights of the Child • Department of Construction, State Expert Review Panel and Housing and Utilities of the Kurgan Region • Department of Education and Science of the Kurgan Region • General Directorate of Social Protection of the Population of the Kurgan Region • Department of Health of the Kurgan Region • General Directorate for Labour and Employment of the Population of the Kurgan Region
<b>Food safety and security</b>
• Department of Agro-Industrial Complex of the Kurgan region
<b>Ecological safety and security</b>
• Department of Natural Resources and Environmental Protection of Kurgan region
<b>Energy safety and security</b>
• Department of State Regulation of Prices and Tariffs of the Kurgan region • Department of Industry and Transport of the Kurgan region
<b>Information safety and security</b>
• Department of Industry and Transport of the Kurgan region • Department of Information Technology and Digital Development of Kurgan region
Department of Natural Resources and Environmental Protection of Kurgan region

Fig. 3. Interaction of employees of the ES Subdivision of the Kurgan region with other structural subdivisions of the regional authorities.

It is expedient to collect and analyze indicators to monitor the RES level on a quarterly basis.

The employee, who will deal with a RES financial component, will monitor the following indicators (Table 1).

TABLE I. TABLE TYPE STYLES

Indicators	Data entry sources
<b>Budget Security</b>	
Budget revenues to GRP,%	Rosstat data
Ratio of expenditure part of territorial budget to GRP, %	Rosstat data
Per capita income to the cost of living, %	Rosstat data
The ratio of the expenses of the consolidated budget of the region to GRP,%	Rosstat data
The coefficient of uniformity of budget spending throughout the year	Finance Directorate
Regional budget deficit coverage ratio	Finance Directorate
The coefficient of availability of additional funds of the regional budget	Finance Directorate
Regional budget programme expenditure ratio	Finance Directorate

<i>Credit and banking security</i>	
Ratio of funds raised by banks to GRP, %	Finance Directorate
The ratio of placed funds to GRP, %	Finance Directorate
Ratio of placed funds to raised funds, %	Finance Directorate
Savings Development Index,%;	Finance Directorate
Volume of investments in fixed assets to GRP,%	Rosstat data
The volume of investment in fixed assets to the value of fixed assets,%	Rosstat data
Fixed capital investment per capita	Rosstat data
The share of regional banking institutions in the total volume of banking institutions in the region,%	Finance Directorate
<i>Tax system security</i>	
Tax burden by region	Finance Directorate
The coefficient of tax independence of the regional budget	Finance Directorate
Tax collection rate	Finance Directorate
Tax rate	Finance Directorate
<i>Financial market security</i>	
Gross regional product (GRP) for the year, thousand rubles	Rosstat data
Gross regional product per capita, thousand rubles	Rosstat data
Industrial Production Index	Rosstat data
The volume of products produced by small enterprises to GRP,%	Finance Directorate
The level of total receivables and payables to GRP,%	Finance Directorate
The ratio of accounts payable to GRP,%	Rosstat data
The ratio of the balanced financial result of organizations to GRP,%	Rosstat data
Consumer price index	Rosstat data
Regional financial independence ratio	Finance Directorate
Regional investment activity ratio	Finance Directorate

An employee who exercises his authority in the RES socio-demographic component will use the following indicators for monitoring (Table 2).

TABLE II. INDICATORS OF THE RES SOCIO-DEMOGRAPHIC COMPONENT AND DATA ENTRY SOURCES

Indicators	Data entry sources
<i>Population reproduction group</i>	
Total fertility rate	Rosstat data
Total mortality rate	Rosstat data
Life expectancy at birth, years	Rosstat data
<i>Health group</i>	
Population health status	
Incidence per 1,000 people	Department of Health
Mortality of the working-age population, number of deaths per 100 thousand people	Department of Health
Infant mortality rate	Rosstat data
<i>Health System Status</i>	
The number of hospital beds, thousand beds	Department of Health
The number of people per hospital bed	Department of Health
The number of doctors of all specialties, thousand people	Department of Health
The number of nurses, thousand people	Department of Health
Health financing, million rubles	Department of Health
<i>Group of material well-being of the population</i>	
Cash income of the population, average per capita, rub. per month.	Rosstat data
Differentiation of income,%	Rosstat data
The level of poverty,%	Rosstat data
Provision of the population with their own cars, units per 1,000 people	Rosstat data
<i>Social Environment Quality Group</i>	
Legal order and criminal situation	
The number of recorded crimes per 100 thousand people	Rosstat data

<i>Labor market</i>	
Unemployment rate, %	General Directorate for Labor and Employment
Employment rate,%	General Directorate for Labor and Employment
<i>Migration Flow group</i>	
Migration growth rate per 10 thousand people	Rosstat data
The number of persons granted temporary asylum	Rosstat data

To conduct the food security assessment, the following indicators are needed (Table 3).

TABLE III. INDICATORS OF THE RES FOOD COMPONENT AND DATA ENTRY SOURCES

Indicators	Data entry sources
<i>Region's own food production</i>	
Level of production in the agricultural and fishing industries, million rubles	Department of Agriculture
Share of capacity utilization in agriculture,%	
Depreciation rate of fixed assets in agricultural, fishing industry and processing industry,%	Department of Agriculture
Annual investments of fixed assets in agricultural, fishery and processing industries, mln rubles	Department of Agriculture
Difference between the price index for industrial products purchased by agricultural organizations and the price index for agricultural products sold,%	Department of Agriculture
Share of unprofitable enterprises in the food sector,%	Rosstat data
<i>Food import to the region</i>	
Share of imported food in the regional market,%	Rosstat data
Share of food supplied from the region in the volume of food produced in the region,%	Rosstat data
<i>Food availability for the region's population</i>	
Ratio of the average per capita monthly income to the minimum set of food products included in the consumer basket	Rosstat data
Share of food expenses in average per capita annual income,%	Rosstat data
Per capita daily calories	Rosstat data
Share of the population with incomes below the subsistence level,%	Rosstat data

Monitoring of the RES environmental component is made by an officer of the department according to the following indicators (Table 4).

TABLE IV. INDICATORS OF THE RES ENVIRONMENTAL COMPONENT AND DATA ENTRY SOURCE

Indicators	Data entry sources
Air pollutant emissions from stationary sources, thousand tons	Department of Natural Resources and Environmental Protection
Discharge of polluted wastewater into surface water bodies, million cubic meters	Department of Natural Resources and Environmental Protection
Share of captured and neutralized air polluting substances in the total amount of waste polluting substances from stationary sources,%	Department of Natural Resources and Environmental Protection
Proportion of water samples that do not meet sanitary standards,%	Department of Natural Resources and Environmental Protection
Share of government spending on improving the environmental situation in the region,% of the total cost	Rosstat data
Amount of circulating and sequentially used water, million cubic meters	Department of Natural Resources and Environmental Protection

Share of investments of commercial organizations in fixed assets aimed at protecting the environment and the rational use of natural resources,% of the total investment	Rosstat data
Share of utilized and recyclable waste,%	Department of Natural Resources and Environmental Protection

The officer, for whom the RES information component is assigned to, determines its level by the following indicators (Table 5).

TABLE V. TABLE TYPE STYLES

Indicators	Data entry sources
<i>Regional consumption by organizations</i>	
Share of organizations having a website,%	Department of Information Technology and Digital Development
Number of personal computers per 100 workers, pieces	Department of Information Technology and Digital Development
Proportion of organizations using the Internet,%	Department of Information Technology and Digital Development
<i>Regional consumption by citizens</i>	
Number of households with personal computers,%	Rosstat data
Number of households with an Internet connection,%	Rosstat data

The officer of the department determines a RES energy component level based on the indicators below (Table 6).

TABLE VI. TABLE TYPE STYLES

Indicators	Data entry sources
Electricity production and distribution index,% to the previous year	Rosstat data
Amount of shipped electricity,%	Rosstat data
Profitability of services provided by organizations involved in the production and distribution of electricity,%	Department of Industry and Transport
Return on assets of organizations involved in the production and distribution of electricity,%	Department of Industry and Transport
Power of power plants, mln. KW.	Rosstat data
Share of fixed assets of the energy sector in total fixed assets,%	Department of Industry and Transport
Depreciation rate of fixed assets in energy sector,%	Rosstat data

**IV. DISCUSSION**

It is clear that the experimental nature of the study does not imply that the region selection properties are representative. It is due to the fact that the regions differ from each other in various parameters. The model of the RES management system, presented in the article, differs from that published by the other authors: by the management entity, by some elements of the RES management mechanism, and by the group of indicators for assessing economic security. In the article, the author does not substantiate the choice of monitoring indicators of the RES level in the Kurgan region. The group of indicators can be changed. The author does not claim that her opinion should be considered as determining.

**V. CONCLUSIONS**

Thus, while monitoring all the RES components, an interaction with the Kurgan Region Government’s Subdivisions takes place, during which the subdivision workers will receive all the necessary information to assess a level of RES.

Systematic monitoring will provide an opportunity to influence various negative impacts on the economic security of the region, it will minimize damage from existing threats, as well as identify and prevent potential threats.

As noted above, there are currently no subdivisions in the Kurgan region management system that would ensure RES. To create a similar system, it is necessary to implement the following measures:

- to adopt the law "On the economic security of the Kurgan region";
- to develop organizational and administrative documents: Regulations on the economic security division and the regulations of its work, methodological recommendations for RES assessment, forms for providing monitoring findings, the procedure for coordinating measures to ensure economic security;
- to assess RES in retrospect, to identify risk-generating factors;
- to create an inventory of subjects and objects of management;
- to develop measures to ensure economic security and an interaction algorithm of economic security management entities;
- to develop a strategy for ensuring economic security of the Kurgan Oblast, taking into account the strategy of socio-economic development in the region.

According to the author, the economic security management model of the Kurgan region presented in the article, consisting of subjects, objects and a group of indicators for ensuring economic security, can be used in other (typologically similar) regions of the Russian Federation.

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