

APPLICATION OF THE SYSTEMATIC APPROACH AT THE CHOICE OF THE SET OF ESTIMATION INDEXES OF THE REGIONS SOCIO-ECONOMIC DEVELOPMENT

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The present article gives a definition of the notion "region" in way of the systematic approach. It also makes clear the characteristics of indexes which reflect the regional development. The author considers the basic problems which arise out of the formulation of indexes structure which are necessary for carrying out the research of the regional development. She also introduces the system of indexes the application of which is possible when the research of the regional socio-economic development is being carried out.

It is impossible to solve the problems of managing social and economic development of a region without the use of systematic approach. Systematic approach helps to solve various management problems and defining region as a system helps to estimate the effectiveness of its functioning from single methodological positions. Practically all the researches in regional economy are based upon systematic analysis and systematic approach¹. When this approach is used complex phenomena are divided in elements and characteristics of each element and their interrelation is studied.

V.Mau stresses the importance of systematic approach in regional studies: "The experience of regional studies justifies the necessity of adding methods which make it possible to study economic, social and political processes in total and their interrelation to the traditional analysis. Only such approach allows estimating real perspectives of a concrete region"².

When making a research of social and economic development with the use of systematic approach it is necessary to define the place and the role of the system itself. Region as a system is the main social and economic unit having physical, geographical, cultural, ecological, historical, ethnical, political, administrative and legal uniformity and is the instrument of the whole federation formation and functioning.

If we view the region as the main unit of social and economic relations and the primary element of the system we can suggest the following definition: it is administrative territorial unit playing the role of mediator between micro- and macro-economy which differs from other units by totality of natural historical, eco-

nomical and geographical peculiarities with stable and varied connections (relations). At the same time optimal interrelation of economic, social, political and national systems takes place in the region. The region as a system consists of different sub-systems – social, political, economic and cultural.

Different systems of the region taken separately or totally are developing in accordance with some objective laws and are controlled by society. So, they can be considered a variety of artificial system as they have a goal established from without. It determines the existence of three main obligatory terms for the region's functioning as a system: goal, resources and structure. Quite convincing foundation of the artificial nature of the economic system was given by V. Tsygichko: "Social and economic system belongs to the class of artificial organizational systems – organizations created and managed by people where people are the key component"³. It is the main advantage of the region as an artificially created system.

Though the region is an artificial system the number of its states by which one can judge about the changes inside the system and register them is finite. That is why we should choose only the characteristics which reflect the fulfillment of the main functions of the system as in case of considering unimportant characteristics will lead to the loss of control of the changes inside the system.

The given criteria should be expressed through the existing characteristics (ratios) of economical activity. But no characteristics of regional economic system taken separately can give estimation of its functioning efficiency.

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Neither one characteristic nor simple totality of characteristics can reflect the dynamics of social and economic processes changing; they are static and reflect the state of system only at this or that moment of time. Such view is supported by more and more economists⁴.

There should be created a clear system of characteristics of the economic activities of the region. The characteristics should correlate in a definite way. B. Lavrovskiy says that unlike development on macro-level regional development is characterized each moment by this or that correlation of regional characteristics. So the characteristics of the development of the region should be compatible and comparable with the characteristics of the state development as a whole.

Defining of characteristics characterizing the processes in the economy of the country is connected with solving of some problems. Let us point out some of them:

- ◆ lack of full and reliable statistic information about all subjects of the Russian Federation;

- ◆ use of different methods of calculating some ratios for Russia and regions the result of which is the situation when the ratio for Russia is higher than sum total for the regions;

- ◆ lack of a single set of indicators in the regional statistics and strengthening of the tendency to confidentiality of information

- ◆ misrepresentation of ratios reflecting the social conditions in the regions often for political reasons. Regional administrations understate the ratio "minimum living wage" and overstate the ratio "income of the population" in order to create good image for the federal centre;

- ◆ some characteristics very roughly reflect the real state of things. For example, the ratios of the income of the population, consumption of food, etc.;

- ◆ lack of reliable information about the level of life, real income of the population, shadow sector of the economy, the level of unemployment.

When creating the system of characteristics of the development of the region on the basis of systematic approach it is necessary to follow several rules:

- ◆ the system should not include the ratios derivative from the other ratios of the system because the state of the system should be described by minimum of information. Excess information makes the model too complicated and makes the process of revealing the main laws of its functioning more difficult;

- ◆ the system should not include the ratios which do not allow to estimate the change of the system's characteristics or its interrelation with the environment in dynamics. The reason is dynamical nature of economic processes;

- ◆ the system should not include the ratios reflecting the ties of the system out of the limits of the researched subject or not influencing the solution of the task. It will help to avoid excess of information and decrease the influence of different mistakes and accessory factors;

- ◆ the system should include only ratios, the methods of calculation of which did not change within a long time. It is necessary to compare the changes of a ratio during the whole period of research.

The existing approaches to the formation of the system of characteristics reflecting social and economic development of the region are not numerous and are aimed at solving two questions: composition of characteristics and the structure of the system of characteristics. The answer to the first question has variations. Some authors think that the level of the regional development can be describes with the help of a small number of macro-economic characteristics⁶. But such approach can be effective if the regional development characteristics are comparable. The regions should be comparable not only in the level of social and economic development but also in their territory. This aspect is very important.

For the system of characteristics building there often used a flow chart with the boxes: industrial, social, financial⁷. Such system is the best for building the model of regional development as it allows defining the reasons of not enough effective development of the region from system position. In most cases functional principal is used. The system of five groups of characteristics is suggested which was developed with the use of target principle of S.A. Suspitzin and other specialists of the Russian Academy of Science ⁸.

1. The level of living: income, employment, housing, consumption structure.

2. Industrial and financial development of the region: ratios of industrial development, sum of capital investments, collection of taxes in the region.

3. Agricultural potential of the region.

4. Social welfare level: the quality of communications system, health care, housing fund and other non-industrial funds, services.

5. Ecology in the region: anthropogenic pollution of all nature spheres: water, air, soil.

6. To form the system of characteristics for these groups the scientists from Novosibirsk suggest 25 indicators of the regional development (table 1)⁹.

The structure given in the table 1 asks for creation and accumulation of much statistical information and special methods of gathering this information. The Russian Federation has lost the sys-

tural production index and the volume of investments in the fixed capital;

The box with social characteristics consisting of cost of the fixed foodstuff cost of minimum foodstuff, sum of real income, the level of change of the average nominal month salary and the level of consumer prices index.

The use of systematic approach in studying social and economic development of the region and defining characteristics for estimation in-

Table 1

The characteristics for the estimation of social and economic development of regions suggested by the scientists from Novosibirsk

№	Characteristics (ratios)	unit
1	Employment level	%
2	Income per capita	thousand rubles / a man
3	Average salary	thousand rubles / a man
4	The level of non-poverty	%
5	Housing per capita	? ² / a man
6	The number of students of the state specialized secondary education institutions	people for 1000 inhabitants
7	The number of students of the state institutions of higher education	people for 1000 inhabitants
8	The number of doctors	people for 10000 inhabitants
9	The number of medical personnel	people for 10000 inhabitants
10	The number of beds in hospitals	people ?? 10000 ???????
11	Clinics output	people ?? 10000 ???????
12	Security index	
13	Domestic regional product per capita	thousand rubles / a man
14	Gross labour productivity	thousand rubles / a man
15	Livestock product	thousand rubles
16	Plant growing product/ 100 hectares	thousand rubles
17	Livestock product / 100 hectares of land	thousand rubles
18	Plant growing product per capita	thousand rubles
19	Livestock product per capita	thousand rubles
20	Provision of the city population with phones	phone/ 100 families
21	Provision of village population with phones	phone / 100 families
22	Retail trade turnover per one man	thousand rubles
23	Specific paid services	thousand rubles / a man
24	Investment for one ruble of VRP	kopecks
25	Budget security	thousand rubles / a man
26	Deductions to the federal budget	%

tem of collection of initial and reliable statistical information from enterprises with different types of ownership. It can lead to distortion of data. The government of the Russian Federation suggested the system of statistical characteristics for the estimation of the regional development (table 2).

These data are generally accessible¹⁰. There is the list of characteristics and the boxes with characteristics or the system of characteristics for certain kind of research can be formed in accordance with the research goals. The characteristics can be grouped like this:

The box with economic characteristics consisting of industrial production index, agricul-

cludes solving a number of methodological tasks which depend upon the goals of the research and the presence of certain statistical information and need further methodological studying.

¹ O.A. Biyakov The theory of economic space: methodological and regional aspects. Tomsk, 2000. p. 45.

² V. Mau, V. Stupin Essays on political economy of Russian regions // Economic Issues, 1995. № 10. p. 30.

³ V.N. Tsygichko To the manager – about decision-making. M., 1991. p. 9.

⁴ O.A. Biyakov The theory of economic space: methodological and regional aspects. Tomsk, 2000. p. 40

⁵ B. Lavrovskiy Measuring regional asymmetry at the example of Russia // Economic Issues 1999. № 3.

The system of statistical characteristics suggested by the government of the RF

№	Characteristics (ratios)	Calculation order
1	Index of industrial production	Relative ratio characterizing the change of production scales in the compared periods
2	Index of physical volume of agricultural production	Relative ratio characterizing the change of volume of livestock product and plant growing product in compared periods
3	The sum of investments in fixed capital	The sum of costs aimed at the reproduction of the main funds (new construction, reconstruction and modernization of objects, acquisition of machines, equipment, vehicles, planting, etc.)
4	The sum of foreign investments	Capital investments made by foreign investors and overseas branches of the Russian companies on the territory of Russia aimed at making profit. These can be direct investments, portfolio investments, etc.
5	Retail trade turnover	Cost of consumer products. Factual proceeds from selling goods to the population including the goods which were bought at the expense of social security bodies.
6	The volume of paid services	Reflects the volume of paid services provided by the residents of the Russian economy to the population. It includes export of services but does not include import of services. Statistically this ratio is calculated by the sum of money paid by the consumer for the service
7	The cost of fixed number of consumer products and services	For interregional comparison of purchasing power of the population of the RF in general and some regions in particular it is calculated on the basis of the same volumes of consumption and the average prices in Russia and regions
8	The cost of minimal foodstuff	Is defined on the basis of some fixed foodstuff for a man able to work. It reflects interregional differentiation of consumer prices levels and is not an element of the value of living wage for the subjects of the RF
9	Index of consumer prices	Characterizes the changes in the general price level and tariffs for goods and services. Measures the ratio of a fixed set of goods and services in the current period to its cost in the current period
10	Average nominal month salary	From the salary fund by way of division on the listed number of employees. The salary fund includes sums for work, leave time, stimulating bonuses, compensations, etc.
11	Delayed payment of salaries	Salaries which were not paid during the time period stipulated by collective agreement or the agreement with the bank. The delay is calculated starting from the second day after the end of this period
12	Number of unemployed	Persons who corresponded to the following criteria in the researched period: did not have any job, were looking for a job and applied to the state Employment Agency or published an announcement in mass media or applied to the employer or tried to organize their own business
13	The need of a company in workers (the vacancies in the State Employment Agency)	The number of vacancies in the State Employment Agency
14	Coefficient of natural increase(+)/decrease (-) of population	Difference of the coefficients of birth and death rates

⁶ The same⁷ I.M. Syroezhin System analysis of economic information. L., 1978.⁸ V.L. Coopershtoh., V.M. Sokolov., S.A. Suspitsin Methodological basis for revealing depressive and retarded regions // The Region: Economy and Sociology. 1996. ч 2.⁹ The same¹⁰ Re.: S. Kolesnikov Where it is good to live in Russia где в России жить хорошо. Summing up social and economic situation in the regions. // Russian newspaper. 2004. ч 46; 2005. ч 64; 2006. ч 60.