Basic Characteristics of an Intensive Type of the Reproduction Process in the Regional Economy

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ABSTRACT

The announced subject of the paper proposes the consideration of such categories as "regional economy," "reproduction" and "intensive type of the reproduction process." Also, it is necessary to tell that the research material reflects regional science which is formed on the basis of classic economists' works on three vectors which they have offered: "Locational vector" which task is to find a key to the most expedient dislocation place of the future enterprise; "regional vector" aiming at finding the best sizes and the structure of economy of the studied region; "complex vector" aiming at the connection of localization and regional economic issues by the common theory.

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1. INTRODUCTION

In general, subject to indicators of the Russian Federation it is important to note that the social and economic development of regions of the Russian Federation experiences the increasing influence of three main conditions of the spatial and economic development now (Korchagin, 2011):

a. The market one means the interpenetration regional, national and world markets. For the Russian Federation and its regions the most significant are liberalization of the foreign trade and removal of protectionist restrictions as a result of coming into effect of the agreement with the European Union and possible acceptance into the World Trade Organization in the near future.

b. The competitive one means deepening of competition at all mentioned above markets (in the first point), non-price competition - competition in the field of the quality of life and innovations takes a special place. The indexes of "The quality of life" on regions of the Russian Federation were given above.

c. The production one means the gradual transition from Fordism to post Fordism as to a way of the organization of production

that means the replacement of mass production with small-scale one; the replacement of the vertical work organization with horizontal one; low individual responsibility – with partnership of the individual in production.

2. MAIN PART

Material conditions conduct from territorial differentiation and division of labor to its territorial integration, from homogeneity of the regional markets to diversified ones, and in general from the national regional policy to regional one at the level of certain regions of the Russian Federation.

Material conditions which now are favorable for enterprises placement in the Krasnodar Krai, tomorrow mean an additional potential for investment resources attraction, the increasing employment and the solution of another urgent regional problems. Thus, at the same time they become material conditions and indicators of successful social and economic development of the Krasnodar Krai in the future (Korchagin, 2011; Sadkov, 2001).

Let's notice that it is necessary to consider the influence of these changes on competitiveness and managing social and economic systems in the territory of the region, and the regions. For example, for regions it means that ones are developing as economically strong territories, are capable to mobilize their own resources and to attract additional investments. Others remain at the periphery, the third ones are developing only in certain specific spheres (the example - tourism and agriculture, characteristic for territories of the Krasnodar Krai). In this case it is necessary to designate what material conditions (or factors) have first of all to consider economic entities and what conditions have to improve spatial and economic development of the Krasnodar Krai for the increasing competitiveness.

Speaking about characteristic material conditions, we will note, as well as any economic system, for example, the Krasnodar Krai has internal and external environments which are interacting. These communications can be both of the direct and indirect influence. For the qualitative characteristic and an assessment of dynamics of the internal environment change it is enough to analyze the following groups of material conditions characterizing:
• Production and resource capacity of the region;
• The structure of the regional market;
• Personnel capacity of the region;
• The regional budget;
• The strategy of development of the region.

The development of processes of internationalization and globalization of the world economic activity has caused the emergence of a new scientific direction of regional economic science – a spatial approach. Within a spatial approach there are different points of view for consideration of the economic space: System and structural, economic and legal and geopolitical. We consider that the designated points of view in the economic space research of the region are mostly shown by characteristics of the reproduction process at the level of the region, which as the self-organizing, difficult, dynamic system is evolving during interaction with the environment.

For the further research within the present section subject to Gavrilov's (2002) conclusions, we will allocate the characteristics causing the reproduction process of the region considered separately: The amount of the population and the size of the territory (geographical location); specifics of prevailing kinds of the activity (production and functional features); a character of objects building of the production activity, housing and service (town-planning features); the norms of communication, behavior (sociological features).

It is impossible to disregard that fact that the region (the author's note: Including its economic space) does not possess an opportunity to liquidate inefficient conditions that causes the decreasing efficiency of the economic space of the region and the emergence of the need for additional budgetary funds, first of all, funds for formation and development of objects for the improvement of the social sphere of the population of the region and its infrastructure. In this regard the directions on the increasing

efficiency of the use of all infrastructures of the region are included in the process of management of the region infrastructure the sphere of ensuring normal activity of the population of the region. It claims, for example, decisions on formation of the common property complexes capable to create a cost independently in addition possessing investment appeal (Korchagin, 2011; Shirin et al., 2014).

For the research of characteristics of an intensive type of the reproduction process in the regional economy Kerefov (2011) offers a methodology of the identification of dominating trends of regional reproduction tendencies on the basis of the production function and a comparison of the socio-economic indexes expressed in incomparable measure units.

The widely used method of values transfer of a set X in a value of an index which are on a piece from 0 to 1, which are calculated using the formula (1), allows to solve this problem:

$$I(x) = \frac{x - \min(X)}{\max(X) - \min(X)} \qquad (1)$$

Where, $I(x)$ – A value of the counted index for each value from a great number X; $\min(X)$ – The minimal level of an indicator using which the index is calculated; $\max(X)$ - The maximal level of an indicator using which the index is calculated.

Along with it, Kerefov in his research suggests (Polyakova and Simarova, 2014; Kerefov, 2011) in addition to analyze characteristics of the reproduction process in the regional economic space connected with the calculation of aggregated indicators. For this purpose the author recommends to use statistical methods, as a result of what there are the indicators and indexes reflecting not only the summary characteristic of the current level of development, for example, of the production capital or labor sources, but also considering change of a set of these indicators during any period.

As a result there are the aggregated indexes on the basis of which it is possible to make a comparison of the development level of the economic space of various territories to the development level of some reproduction factors. It has allowed determining the integrated indexes according to the joint groups of indicators, to conduct a correlation and regression analysis and to find a character of communications between reproduction factors and consequences. Thus, the most widespread way of the establishment of correlation communication between the sizes expressed in the unconditional indicators is the application of Pearson's coefficient. Nevertheless, the formula for the calculation of Pearson's coefficient assumes only a normal distributive number of the analyzed sizes that is not always convenient. Therefore, Kerefov has used the analog of this formula received by means of mathematical transformations:

$$r = \frac{n \times \sum_{i=1}^{n} (x_i \times y_i) - (\sum_{i=1}^{n} x_i \times \sum_{i=1}^{n} y_i)}{\sqrt{(n \times \sum_{i=1}^{n} x_i^2 - (\sum_{i=1}^{n} x_i)^2) \times (n \times \sum_{i=1}^{n} y_i^2 - (\sum_{i=1}^{n} y_i)^2)}} \qquad (2)$$

Dertishnikova in her research suggests (Dertishnikova, 2010) to use a variation coefficient as the tool of an assessment of the reproduction process intensity in the regional economic space (Formula 3):

$$V_i^t = \frac{1}{\overline{x_i^{-t}}} \sqrt{\frac{1}{N} \times \sum_{r=1}^{N} x_{i,r}^t - \overline{\overline{x_i^{-t}}}} \qquad (3)$$

Where, V_i^t - A variation coefficient of i figure in t year;
$\overline{x_i^{-t}}$ - An average value of i figure in the Russian Federation (or in the federal district) in t year;
$x_{i,r}^t$ - A value of i figure in r region in t year;
N – A number of regions.

A variation coefficient allows judging a degree of uniformity of the studied set of objects: Less than 17% - absolutely uniform; 17-33% - enough uniform; 35-40% - insufficiently uniform; 40-60% - considerably non-uniform set; more than 60% - absolutely non-uniform.

In the other research, the author Polyakova (2011), Kutaev (2014) specifies that it is possible to consider positive change of the population's perception of the living environment, the social and economic space quality as the result of the intensive reproduction process in the regional economic space. On the basis of the author's methodology Polyakova has conducted a poll of the population (Polyakova, 2011 and Sadkov, 2001). A methodology assumes the calculation of a complex indicator with the specifying private indexes (Table 1).

It should be noted that one of the main question is a choice of criteria of the quality of the economic (social) space. Those, which most fully recreate spatial multidimensionality, were chosen as the main ones. As a result of the received dynamic ranks the private indexes (I_j) which are determined by each of the considered indicators as a difference of a sum of "+" (positive) and average estimates "–" (negative) estimates (the formula 4):

$$I_j = \sum_{i=1}^{1} (P - N) \qquad (4)$$

Where I_j - A private index;
j – A serial number of the answer;
n – A total number of respondents;
P - Positive and average estimates of respondents;
N - Negative estimates of respondents.

A value of a complex index *(I)* is defined with the help of the calculation of an average value of indexes of a private character. The application of this methodical approach seems to be justified because it allows providing comparability of the answers due to the use of equilibrium scales (Gurieva, 2013).

A complex index of an assessment of the quality of the social and economic space is defined the following way:

$$I = \frac{\sum_{j=1}^{k} I_j}{k} \qquad (5)$$

k - A total number of private indexes.

On the practical level the offered methodology allows to identify negative phenomena of the public opinion found in the negative sizes of indicators of the private indexes. Such representation suggests correlating visually the discharge of the public opinion to the region of approach or removal from a parity point, however it is not optimal and cannot be accepted as a reference point of the economic space development.

Neudakhina has the same point of view defining positive tendencies not only in the economic and social sphere, but also in ecological one as the characteristics of the intensive reproduction process in the regional economy. I consider globalization processes, the negative influence of transnational corporations on certain territories because it is very important in the XXI century. For a stability assessment of the socio-ecologo-economic system of the region, the author offers the system of characteristics of separate reproduction sub processes:
- The scientific and innovative development,
- The economic sphere,
- Social characteristics of society,
- The environment state.

An integrated indicator subject to the author's methodology is calculated from the system of the listed indicators considering the correlation connection between separate indicators that the formula (6) unites:

$$U_j = \sum_{j=1}^{n} \left[\frac{\left(x_{ij} - x_j^{(\text{э})} \right)}{\sigma\left(x_j \right)} \prod_{\substack{\beta=1 \\ \beta \neq j}} \left(1 - \gamma_{\beta i} \right) \right] \qquad (6)$$

Table 1: Criteria and indicators of the quality of the economic (and social) space for the creation of private indexes

Number of the private index	Indicators of the quality of the economic (and social) space of the region	Criteria of the quality of the economic (and social) space of the region
I_1	The level of an income; a possibility of accumulation; satisfaction with the level of benefits and services consumption ("attributes of the middle class")	Welfare of the population
I_2	Prospects of promotion; the level of protection of hired workers' rights; a possibility of employment; the need for overtime work	The quality of labor life
I_3	Availability of cultural and entertaining services; availability of medical services; comfort of life	The quality of the social sphere
I_4	The criminality level; threats of a technogenic character; a character of the ecological situation	Health and safety

Where: U_i - The integrated level of stability,
x_{ij} - The characteristic of j indicator of i region;
$x_j^{(\flat)}$ - The characteristic of the reference indicator;
$\gamma_{\beta i}$ - Coefficients of the pair correlation.

When determining the integrated impact of certain groups of the factors on reproduction processes in the regional economic space of the region, the given formula (6) can be presented by the formula (7):

$$U_j' = \sum_{j=1}^{n}\left[\frac{\left(x_{ij}' - \overline{x}_j\right)}{\sigma\left(x_j\right)}\left(1 - R_j\right)\right] \qquad (7)$$

Where, x_{ij} - The level of j indicator of i region,
$\overline{x}_j$ - The average level of j indicator in the general data file,
R_j - A coefficient of the pair correlation on j indicator.

The formula (7) assumes an opportunity to define controllability of processes within separate groups of the factors influencing the total value of stability of development of the socio-ecologo-economic situation of the region.

Strengthening in modern economic science of the use of a category "innovation" has allowed some researchers to apply these categories in the researches of an assessment of "innovation of the social development" and "innovation of the economy" as characteristics of an intensive type of the reproduction process in the regional economic space. Let's point out that "innovation of the social development" and "innovation of the economy," undoubtedly, are the characteristic of an intensive type of the reproduction process in the regional economic space.

However, the authors skillfully differentiate a conception "innovation of the social development" saying that it is broader than a conception "innovation of the economy" which includes innovation of the economy development; the social sphere development; the ecological sphere development that is similar to Neudakhina's point of view.

As a cumulative criterion of an assessment of the level of the social development innovation (LSDI) it is offered to use a ratio on the formula (8):

$$LSDI = \left[\left(risd(T-1)/risd(T)\right) - 1\right]*100\% \qquad (8)$$

Where, LSDI - the level of the social development innovation;
$risd(T-1) = \dfrac{RISD(T-1)}{IHDC(T-1)}$ - resource intensity of the social development (consumption of resources on a unit of the index of the harmonious development of civilization (IHDC) in the basic period;
$risd(T) = \dfrac{RISD(T)}{IHDC(T)}$ - resource intensity of the social development in the analyzed period.

In general, an offered approach can become the basis for the improvement of statistics and planning of the innovative activity

as characteristics of the reproduction process as a result of the economic space development of the region.

Altynbayeva expresses her interesting opinion. Speaking about the fact that the growth of any enterprise market value (capitalization) is a result of its activity, Altynbayeva also extrapolates the similar purpose on the economic space of the region as quasicorporation. A possibility of the similar statement is defined by the globalization activization as a result of which the economic space of regions and their production trade enterprises become subjects of the reproduction process and the international (interregional) division of labor. Such actions intensify ensuring mobility of assets and their profitability in the system of global operations exchanges that is a necessary circumstance of the formation of growth points in the polarized economic space, the increasing competitiveness of the economic space of regions and ensuring steady formation and development of regional entities. Actions of regional authorities have to be directed on the solution of questions concerning the increasing cost of assets of the economic space of regions, and also the increasing social and investment appeal of the territory. Capitalization of assets of the economic space of regions is understood as a cost of material and intangible assets of commercial enterprises which can be profitable and based in scales of the territorial localized system. Capitalization of assets is defined as a sum of predicted cash flows of the economic space of the region discounted to the current period of time subject to revealed risks of functioning. When determining annual cash flows of the economic space of the region the indicators of a balanced financial result of the activity of production trade enterprises of the region, depreciation charges, dynamics of current assets and debt obligations, the amount of investments into fixed assets are considered.

A set of added values created by production trade enterprises in scales of the territorial localized system will create the gross regional product (GRP) which reproduces overall effectiveness of the economic space of the region. To determine the level of capitalization of assets of the territory as the sum of the future GRP during the unlimited period of time led to the present moment is offered by the formula (9):

$$K^r = \sum_{j=1}^{n}\frac{GRPi_j}{\left(1+r\right)^j} \qquad (9)$$

Where, K_r - The size of capitalization of assets of the region;
GRP_i - The predicted and planned GRP in i future period;
$1/(1+r)$ – A discounting coefficient.

The sustainable spatial and economic development of the region is treated as a type of forward dynamics of organizational (Neudahina, 2011; Altynbaev, 2012), economic and social characteristics of the regional territory state which is defined by the quality synchronous increase of a financial and labor innovative, production and technological, investment potential of the territory and capitalization of its assets that is a kind of a priority condition of the intensive spatial and economic development of the region.

Analyzing directions of Altynbayev's work it is possible to say that the identical research foreshortening of Shchetinina's (2006)

work. Now there were conducted many researches in the field of productions placement which form a course of the applied use of theory of the spatial economy.

However, a difference of metric (formulating features of the relation of spatial elements, the sequence and quantitative regularities of these relations) and topological (multilevelness, coherence, etc.) qualities of the economic space is possible.

Shchetinina's (2006) research specifies that the main characteristics of the economic space development are the following:
- Coherence (conditions of mobility of goods [services]) production, the capital and labor formation, intensity of economic relations between parts and elements of the economic space established by the development of communication and transport networks);
- Density (the GRP volume, a number of the population, the fixed capital, concentration of natural resources, etc. on a territory unit);
- Placement (indicators of distribution of the population and the economic activity, differentiation, uniformity, concentration, including the existence of territories of the certain region developed and undeveloped by a man).

Subject to the aim of Shchetinina's work and from the position of an analysis of the region in two-unity of its status, as a spatial localized way of the organization of meso-level elements of the national economy and as an "entering" part of the common economic space of the Russian Federation (Lavrovskii, 1999), the author suggests to use the system of indicators based on the groups of indicators which Figure 1 presents (Shchetinina, 2006; Lavrovskii, 1999). It is possible to receive the general indicators of consequences of the reproduction process in the regional economic space as a result of the development and realization of an interindustry balance.

GRP is the major economic indicator characterizing the results of goods and services production in a certain territory according to the system of national accounts.

In the process of the growing spatial and economic development of territories of the region the last result mostly depends on links of the whole system and also interindustry, intra-branch and regional communications and the use of material conditions of the region. The questions of management of the spatial and economic development of territories of the region in the turned-out market conditions of the Russian Federation gain great importance. It is connected with prospects of the growth of production scales, the formation and development of its specializations, cooperation and concentration against uncountable and not always successful

Figure 1: The system of economic indicators characterizing dynamics in the regional economy
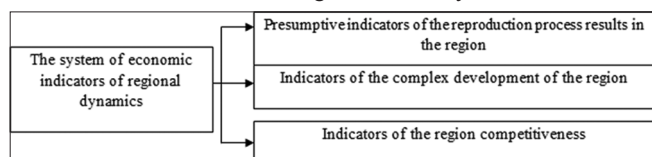
efforts of overcoming of the results of long crisis in the spatial and economic development of the Russian Federation. The solution for the formed circumstance is possible when moving the control center of adoption of concrete economic decisions at the regional level that will allow forming and developing purposefully new elements and connections in the structure of the spatial and economic development of territories of the region, most effectively to use its material conditions. The use of material conditions of the spatial and economic development of the region is necessary for the development of innovative branches, new equipment with the increasing labor productivity and the growth of a standard of living of the population of the region.

3. CONCLUDING REMARKS

Summing up the research results it should be noted that in modern economic science, it is possible to say, that researchers' opinions are various in understanding of this category. However, in the complex of the researches Alayev, Nekrasov, Dobrynin and others claim that the region is the localized, large territory of the country, and at the same time the subject of the Russian Federation which is characterized by the unity of the high-quality and quantitative reproduction process. Foreign authors James and Martin, Harskhorn and others surely add to a definition of "region" the characteristic of the political system, the administrative regulation and uniformity of the social and economic structure of the chosen territory.

Classical understanding of the factors of production is: Labor, ground, capital. It is possible to note that the classics underwent insignificant changes, mostly transformations. Modern scientists allocate economic, social, institutional, innovative, globalization factors of the spatial and economic development that is important, the economic space possesses properties fractality, heterogeneity, self-organization. Density, placement and coherence of elements of the space are the main characteristics of the economic space.

In modern conditions of managing "competitiveness of the region" in competition for investment resources has significant importance possessing the most attractive, social and economic characteristics and an image of the safe territory, the administration of this or that region can count on investors' special attention and the money inflow for the further spatial and economic development of territories.

Native researchers suggest to estimate the level of the innovative activity of the spatial and economic development of regions (and their economies) using various indicators and indexes of the spatial and economic development. However, there is no common accepted way for a definition of the spatial and economic development and like the reproduction process in the regional economic space. This circumstance adds a scientific interest in the studied problem, specifically, in finding of the optimal structure of an assessment of the spatial and economic development of certain territories.

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