

Methodical Approaches to Complex Diagnostics of Human Capital Formation at Rural Area

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Abstract—The article discusses the results of the scientific heritage of retrospective studies on various aspects of the formation and use of human capital as a factor in the sustainable socio-economic development of rural areas. An author's methodological approach to conducting a comprehensive diagnosis of rural territories according to the achieved level of human capital development and the degree of favorable conditions for its formation is proposed, the possibility and advantages of using the rank assessment method with determining the integral rank level are substantiated. The final step in diagnosing the conditions for the formation and development of human capital in rural areas is the procedure for converting private ratings by analytical areas into an integrated rating, which will make it possible to draw up a general diagnostic "picture" and to typify the studied rural areas according to a set of criteria important for human capital. This methodological approach combines rating estimates of the achieved level of conditions development and the dynamics of ongoing changes in the environment of human capital formation, which gives a comprehensive "picture". In addition, the system of indicators for diagnostics presented in the article also works in conditions of limited empirical block in the system of municipal statistics. The results obtained are analytical reinforcement in the implementation of a differentiated approach to improving the conditions for the formation of human capital in the context of rural municipal areas. Diagnostic results allow an objective and correct approach to the justification of the necessary mechanisms and tools for the regulatory and stimulating impact of the management system on the characteristics of the environment for expanded reproduction of human capital in rural areas. The methodological support proposed in the article for carrying out diagnostic procedures of the processes of human capital formation in rural areas is universal and can be used in other regions.

Keywords—*human capital; rural area; integral ranking method.*

I. INTRODUCTION

Recent decades are characterized by crisis phenomena in Russian economy development, which had negative influence on rural areas. Crisis processes had negative influence both on the characteristics of human capital itself and the conditions for its broadened production [3].

II. LITERATURE REVIEW

Formed natural-economic and historical-cultural archetype of native rural social-economic continuum organization conditions considerable differentiation of rural areas according to the level of security, quality and the conditions of human capital formation [2].

Diagnostics of human capital parameters formation and use is not a new direction of scientific study: by the moment of the research there have been accumulated a considerable amount of research works concerning this problem. However, rural areas, as the means of human capital formation and development, as the dialectics of rural continuum interaction and human capital as the separate category were not studied enough. The authors of the existing approaches define different analytical blocks and components of human capital, which include the definite indices and indicators.

Akimochkina T.A., Bazhovets A.A. offer to diagnose human capital by means of express-diagnostics, which includes absolute (monetary) and relative indices (in percentage). The received results analysis is in results comparison with the substantiated normative values [1].

Parushina N.V. and Lytneva N.A. made human capital measurement and estimation methods review. They systematized analytical approaches according to the following groups:

- 1) human capital measurement using natural indicators;
- 2) human capital reserve measurement on the basis of past efforts estimation;
- 3) human capital reserve measurement on the basis of efficiency estimation;
- 4) the approach of World bank to human capital diagnostics.

III. RESEARCH METHODOLOGY

The authors criticize all methods of estimation, as it is difficult to estimate human capital as an economic category, which can't be precisely estimated in absolute units. Expert method in general also doesn't cover all necessary procedures

and there is always some risk of having insufficient qualification in the group of experts [4].

In “Strategy of steady rural areas development in the Russian Federation for the period till 2030” “human capital” is defined as problem element of social-economic system and as a strategic direction of development, which can be considered conceptual achievement in native practice of regional strategic goal-setting [7,8].

In terms of the realized Strategy we corrected several strategic documents of the regions. In particular, in order to improve economy competitiveness in Krasnodar region one of the priority development directions becomes a “human capital”, which plays a key role in the aspects of interregional competition for social-economic aims achievement.

The strategy of social-economic development in Krasnodar region for a long-term period contains analytical block of competitiveness of the region estimation concerning independent direction “Human capital”. It includes the following sub-blocks of indicators: population, productivity, housing conditions, health, ecology, social services, education, income and employment, safety [6]. At the same time, during the strategy creation, the calculations were realized according to the region in general, without town and rural areas defining. It is obvious that this approach levels territory conditioned initial inhomogeneity and incomparability of social-economic indices, which doesn't help to estimate fully areas differentiation according to the level of conditions for human capital formation.

IV. RESULTS

The aim of rural areas diagnostics is in their ability revelation to create conditions for human capital reproduction, form its definite level owing to social-economic sub-potentials of local development realization.

Taking into account this condition, we chose analytical method, which helps to diagnose human capita state on rural areas. We formed the following principles: complex character and specificity; validity and relevance (statistical value) of results; necessary sufficiency and representativeness of sampling; availability, perspicuity, information comparability.

As the main analytical instrument of conditions diagnostics for human capital development and formation at rural areas we offer to use ranking method with the integral rank level determination.

Integral index is defined in four stages:

- 1) ranks giving according to the results of the current year – static mark;
- 2) ranks giving according to the results of the calculated changes (current and previous period) – dynamic mark;
- 3) mean values of ranks calculation according to all indices;
- 4) the final integral rank giving [5].

Integral rating marks are calculated according to 6 analytic blocks (table 1).

TABLE I. THE CONTENT OF ANALYTICAL BLOCKS AND DIAGNOSTICS INDICES OF HUMAN CAPITAL STATE AND CONDITIONS OF HUMAN CAPITAL FORMATION AT RURAL AREAS

№	Name of the index and unit of measure	The source of information sampling
1. Population reproduction		
1.	Population size, human beings (I)	Database of municipal institutions, collections of regional statistics
2.	Birthrate, promille (I)	
3.	Mortality rate, promille (D)	
4.	Migration gain, human beings (I)	
2. Labor capital and income level of population		
5.	Medial-list amount of workers, human beings (I)	Database of municipal institutions, complex estimation of town districts and municipal parts of the region according to the main average per capita indices of social-economic state and prospective development
6.	Amount of employable population, human beings (I)	
7.	Level of traumatism at work, human beings (D)	
8.	Unemployment rate,% (D)	
9.	The average salary, rubles (I)	
10.	The part of population with the income below subsistence line, % (D)	
11.	Purchasing power of population,% (I)	
3. Social capital		
12.	Provision of population with ambulatory-polyclinic institutions (visits per shift for 10thousand of population), visits (I)	Database of municipal institutions, the results of complex estimation of town districts and municipal parts of the region according to the main average per capita indices of social-economic state and prospective development, analytical data of executive authority sites of the region, central statistical database, the bank of a ready document
13.	Provision of population with hospital beds (beds for 10 thousand of population), units (I)	
14.	The amount of children per 100 places at kindergartens, human beings (I)	
15.	The amount of pupils at general education institutions, human beings (I)	
16.	Provision of population with accommodation at the end of the year (square meters of housing square for one person), m ² (I)	
17.	The number of cultural-leisure type establishments , units (I)	
18.	The number of sports establishments, units (I)	
4. Economic conditions		
19.	The volume of industrial production, rubles per person (I)	Complex estimation of town districts and municipal parts of the region according to the main average per capita indices of social-economic state and prospective development
20.	The volume of agricultural production, rubles per person (I)	
21.	The volume of production according to foreign economic activity (FEA) “Building”, rubles per person (I)	
22.	The volume of production according to foreign economic activity (FEA) “Transport and storage”, rubles per person (I)	
23.	The part of small and average enterprises,% (I)	
5. Investment potential		
24.	Terminal value of the main funds of commercial organizations, thousands of rubles (I)	Data of investing portals of municipal institutions of the region, database of municipal institutions, data of regional statistics
25.	Terminal value of the main funds of non-commercial organizations, thousands of rubles (I)	
26.	The cost of realized investing projects, million rubles (I)	
27.	The cost of the offered investing projects, million rubles (I)	
28.	The level of investing activity, rubles per person (I)	
6. Ecology		

29.	Atmospheric emissions, thousands of tons (D)	Database of municipal institutions
30.	Current expenditures on environment protection, , thousands of rubles (I)	

This approach helps to combine statistical and dynamic marks for the studied processes estimation and economic interpretation. Owing to the chosen methodology the results of the current year and positive or negative changes during the considered period will be taken into account. At the same time, ranking methodology is available and informative during the indices comparison according to the areas of one type, the greatest rank is given to the best one (not always arithmetically bigger index). Table 1 shows the indices, according to which rank is put increasing (I) or decreasing (D). The average value of ranking is summarized according to all indices of the separate analytical blocks and for the received mean ranks the final ranking mark is formed: the lower the average rank is, the higher is the position of the areas [5].

V. CONCLUSION

The result of this approach is receiving transitional results according to analytical blocks, which can help to see problem components of social-economic environment of rural areas, which prevent human capital formation. The final values are formed in a form of an integral index of human capital development, which is calculated as the average accumulative value of all studied blocks. Method of ranking gives an opportunity to compare different indices, which is always difficult during the objects ranking.

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