

FORMATION OF METHODIC FOR SOLVING PROBLEMS OF INNOVATIVE FACTORS MANAGEMENT OF SUSTAINABLE SOCIALLY ORIENTED DEVELOPMENT OF THE NATIONAL ECONOMY

Oksana Bondar-Pidhurska*,

Poltava University of Economics and Trade, Poltava, Ukraine;

**Corresponding author: bondarpodgurskaa@gmail.com*

Abstract. *On the basis of complex, interdisciplinary, systemic and selective approaches, methods of analysis and synthesis, a methodology for solving the problems of managing innovative factors of sustainable socially oriented economic development (SSODE) has been developed. It is represented by a structural econometric model for assessing the state and forecasting of innovative factors of the SSODE, is based on the formed system of socio-economic indicators for evaluating the subsystems of the management system of innovative factors of the SSODE, meets the criteria of stability, optimality and efficiency of management of economic systems, allows to assess the level of satisfaction of the vital interests of the population and make predictions based on the Modernized Human Development Index (HDI). The developed method of assessment and forecasting of sustainable innovative socially oriented development of the national economy consists in conducting a comprehensive analysis of the economic, social, and environmental subsystems of the system of management of innovative factors of SSODE based on the index method, factor and correlation-regression analysis and on two contours of the economic system corresponding to the conditions of stability (more than 61.8% of the population whose vital interests are satisfied) and instability (less than 61.8% of the population whose vital interests are satisfied). At the same time, in the first case, GDP per capita was chosen as the objective function, and in the second case, the human development index (HDI). The developed methodology will make it possible to formulate conclusions regarding the effectiveness of management decision-making by state regulatory bodies.*

DOI: 10.24263/EDSD-2023-5-5

Introduction. The new challenges faced by modern economic policy, including those related to the current scientific and technological revolution, require a comprehensive approach to the elimination of obstacles to simultaneous and balanced provision of all vectors of economic development. Therefore, solving the problems of innovative factors managing of sustainable socially oriented development of the national economy is now becoming urgent.

Materials and Methods. Materials and Methods. The relationship between social and innovative components of economic development is highlighted in the studies of I. Buleev, M. Zgurovsky, S. Kuznets, P. Nikitenko, O. Meh, V. Solovyov, L. Fedulova, and I. Yashchyshina (Yashchyshina, I. V., 2012); the interdependence of innovative and sustainable development of the economy is presented in the works of V. Geits, B. Malyskyi, and L. Hannes (Hannes L., 2011, p. 7–12), the combination of ways to ensure sustainable and socially oriented development is presented in the works of O. Amoshi, V. Antonyuk, and O. Novikova (Novikova O.F. & others., 2012). However, there is a lack of scientific basis for the development of the "economy for man", there is no development of methodic provisions for solving practical problems of innovative factors managing of sustainable socially oriented economic development.

The purpose of the research. Formation of a methodic for solving the problems of innovative factors managing of sustainable socially oriented development of the national economy.

The following *methods* were used during the research: analysis and synthesis, comparison, observation, economic-mathematical, logical, generalization.

Results and Discussion. The national economy of any country should be oriented towards increasing the level of satisfaction of the vital interests of the population, which depends, first of all, on the level of socio-economic development of the country. The most simple and widespread indicator that allows this assessment is GDP per capita, which reflects the effectiveness of the management of the national economy as a whole, but shows only its quantitative result. Along with this, the World Bank currently uses more than 100 indicators that comprehensively characterize the standard of living of the population and the satisfaction of its vital interests, shape the further development of the state's social policy and measures for its implementation.

Since 1990, the annual reports on human development (UN Development Program (UNDP)) have been using an integral indicator in order to reflect the capabilities of a person in terms of the realization of three key tasks (to live a long and healthy life, to acquire and expand knowledge, to have a decent standard of living), which was named "Human Development Index" (HDI).

The appearance for the first time of a new Human Development Index adjusted for inequality in the UN report on human development in 2016 (Inequality-adjusted Human Development Index (IHDI), 2016) became the basis for the formation of the author's methodology for evaluating the management of innovative factors of sustainable innovative socially oriented development of the economy. It became obvious that the HDI can be adjusted for any indicator, the influence of which the author considers significant. Therefore, the year 2016 opened up new opportunities for calculating the HDI, which led to the use of this year's report.

It includes three components: longevity (years), level of education (0 and 100%), standard of living (PPS in US dollars per capita), which have different dimensions of absolute values. To calculate the HDI, different methods of formation are used for each of its components. Moreover, for developing countries and industrialized countries, the methods of normalizing even one index also differ. The HDI value ranges from 0 to 1, where 0 is min and 1 is max. HDI classification is based on fixed cut-off points of this index, which corresponds to the criteria for the distribution of component indicators: for a low level of human development, this HDI is less than 0.550, for an average level of human development, it is 0.550-0.699, for a high level of human development, it is 0.700-0.799, and for very high the level of human development is from 0.800 and above. Goes beyond a country's average achievements in health, education and income, and shows how these achievements are distributed among the country's inhabitants The Inequality-adjusted Human Development Index (HDI or IHDI), which contains two interrelated indicators: HDI and "decrease of IHDI" (Inequality-adjusted Human Development Index (IHDI), 2016), and is also sensitive to the distribution of the average HDI level. So, two countries with different distributions of achievements can have the same average HDI value. Under ideal equality, HDI is equal to HDI, but falls below HDI when inequality increases. The difference between HDI and IHDI is the development cost of inequality, i.e. the loss of human development due to inequality.

IHDI makes it possible to directly link inequality in dimensions, to form policies to reduce inequality, to promote a better understanding of inequality among the population and their contribution to the overall cost of human development. Moreover, a multiplicative model and index correction method are used to calculate IHDI. In order to maximally adapt the global ideas of

measuring human development to the specific conditions of Ukraine, scientists have developed a methodology for building Regional Human Development Indices (HRID), which allows determining the rating of each region both by the general level of human development and by its individual components (Human development in Ukraine: 2003, 2004, p. 194). At the same time, the basic methods of HRID calculation are the method of normalization and index convolution. Thus, on the basis of the considered list of indicators that allow assessing the level and quality of life of the population, a meaningful chain "GDP – HRID – HDI – IHDI" is built, which requires a logical conclusion.

In addition, the lack of a comprehensive approach to the problem of innovative factors SSODE management and the synthesis of the above created a basis for raising the issue of modifying the HDI (MHDI) in conditions of instability (the level of satisfaction of the vital interests of the population < 61.8% (Bondar-Pidhurska O. V., 2018, Part 2, p. 18–22) with additional indicators based on the methodology of normalization and convolution of indices. which outlined the boundaries of the second level (contour) of the analysis of the innovative factors SSODE management process. In conditions where the level of satisfaction of the vital interests of the population > 61.8% is enough to choose GDP as the objective function, the first level (contour) of management analysis is created by innovative factors of the SSODE. In this way, the main target parameters of the innovative factors SSODE management process are defined: "GDP - HDI - MHDI".

Solving the methodological problems of the innovative factors SSODE management process of Ukraine involves assessing the state and forecasting of the sustainable innovative socially oriented development (SISORE) of the national economy, which was reflected in the sequence of the following stages: 1) planning (formation of the input parameters of the components of SISORE); 2) organization and analysis (development of an assessment system for subsystems of the innovative factors SSODE management system); 3) selection of alternatives according to the criterion of reliability according to the first (GDP as an objective function) and the second contour of the HDI (MHDI) as an objective function); 4) control (determination of the initial parameters of the innovative factors SSODE management system and their compliance with the criteria of optimality, efficiency, stability).

Processing of the list of literary sources ((Bondar-Pidhurska & Solovyov, 2017, p. 122–132), (Hannes, 2011, p. 7–12), (Novikova & othre, 2012)) made it possible to develop a system of socio-economic indicators that create appropriate conditions for satisfying the vital interests of the population, which became the basis for the formation of a structural econometric model of state assessment (complex monitoring) and SISORE forecasting, which is based on a system, complex and interdisciplinary approaches, meets the criteria of stability, optimality and efficiency of management of economic systems, and allows to more accurately assess the level of satisfaction of the vital interests of the majority of the population, as well as to make forecasts based on the MHDI.

The MHDI includes indicators of the social, economic, and environmental subsystems of the innovative factors SSODE management system. So, if groups of parameters X_1 , X_2 , X_3 represent a combination of indicators characterizing task parameters for each of the management subsystems for the implementation of these tasks, then MHDI (Y) define $Y = f(X_1 \cup X_2 \cup X_3)$.

The methodology for solving innovative factors SSODE management problems of Ukraine is presented in the form of a structural econometric model of state assessment and SISORE forecasting, the main stages of which are detailed as follows:

I) Justification of input parameters for each innovative factors SSODE management subsystem (tasks, forecasts, internal and external threats):

1) the economic subsystem ($X_{1ij}...X_{nm}$) provides for setting the task of innovative development (X_1) - compliance with the new technological system, etc. Resources: fixed assets, % of GDP for R&D. Justification of the content of the original information database (indicators) for diagnosis and monitoring of measures of the effectiveness of the economic subsystem of the innovative factors SSODE management system according to the types of economy (information economy, knowledge economy, innovation): 1.1) level of Internet use, % of the population; 1.2) unemployment rate, %; 1.3) labor productivity, million dollars USA per thousand Employed persons; 1.4) rate of depreciation of fixed assets, %; 1.5) % of GDP on R&D; 1.6) inflation, %; 1.7) indicator of import coverage, %; 1.8) consideration of state external debt (% of GDP); 1.9) the level of the shadow economy in % of the volume of official GDP.

2) the ecological subsystem ($X_{2ij}...X_{nm}$) involves setting the task of sustainable development (X_2), i.e. ecologically clean production, etc. Resources: availability of fuel and energy and other resources in the country. The substantiation of the content of the initial indicators (information database) for the diagnosis and monitoring of measures of the effectiveness of the ecological subsystem of the innovative factors SSODE management system was carried out in the context of the analysis of the rationality of management of the economy and the energy efficiency of production processes: 2.1) energy intensity of GDP according to PPP 2011. (a ton of oil/\$1,000); 2.2) indicators of the state of the surrounding environment taking into account global climate warming (CO_2 , kg/person); 2.3) generation of waste per 1 person, thousand tons; 2.4) consumption of fresh water per person m^2 , million m^3 ;

3) the social subsystem ($X_{3ij}...X_{nm}$) involves setting the task of socially oriented development (X_3) - the optimal structure of population stratification, etc. At the same time, the resources are intellectual and social capital, human potential, and the presence of a national idea.

Justification of the content of the initial indicators for diagnosis and monitoring of measures of effectiveness of the social subsystem of the innovative factors SSORE management system: 3.1. Life expectancy (at birth), years; 3.2. Average duration of education, years; 3.3. Gross national income per capita, USD USA by PKS, current prices; 3.4. Fertility coefficient (total fertility rate), ‰, i.e. ppm; 3.5. The number of suicides per 100,000 people (mortality from intentional self-harm); 3.6. Population of the country, thousands of people; 3.7. Level of satisfaction of the population, points; 3.8. Presence (1) or absence (0) of a national idea that unites all strata of the population; 3.9. Living conditions on average per inhabitant, m^3 ; 3.10. Social security indicators (the ratio of the average amount of the monthly pension assigned to pensioners who are registered with the Pension Fund bodies (UAH) to the subsistence minimum at the end of the year (UAH)); 3.11. Indicator of inequality in the distribution of available resources (Gini index).

II) Visualization of the evaluation system of subsystems of management of the innovative factors SSORE:

1) *Solving the methodological problems of the social management subsystem* innovative factors SSODE ($X_{3ij}...X_{nm}$) involves the study of the characteristics of the stratification of the country's population, as a result of the different level of satisfaction of the vital interests of the population, which is connected with the definition of "inequality" and the concept of "social stratification", which used to describe it. Thus, in the modern scientific tradition, there are two main approaches to the study of social stratification: class (European) and status (American). Currently,

post-Soviet countries are characterized by European rather than American models of social stratification, focused on the measurement of "objective" indicators, i.e. income level, property size, amount of power, and others. Moreover, economic indicators are the main ones for social stratification.

It is obvious that the state is socially stable if the society is managed by the owners, i.e. the middle class, the phenomenon of which is that it is simultaneously the basis of economic growth, an indicator of the effectiveness of reforms, a criterion of the dynamic stability of the economic system, and material, educational and qualification, psychological criteria. Along with the existing three population groups that have historically formed in every civilized society: the poor, the middle class and the very rich (oligarchs), the ruling elite (the national establishment) has been identified as the one that determines the future fate of the country in the direction of the development of the national idea.

Therefore, the assessment of the social subsystem of the innovative factors SODE management system ($X_{3ij}...X_{3nm}$) involves the study of the stratification of the country's population for a certain period and the following measurements: 1.1) assessment by the country's respondents of their own socio-economic status in society; 1.2) dynamics of the general distribution of households based on self-assessment of the level of sufficiency of their incomes to meet the vital interests of the population, %; 1.3) assessments and results of the level of satisfaction of vital interests of the population using various methods (UN indicators on the perception of well-being); 1.4) dynamics of the index of satisfaction with vital interests of the country's population; 1.5) analysis of forecast dynamics of the middle class by world region until 2030; 1.6) the results of the calculation of the index of the social management subsystem of the innovative factors SODE of the country; 1.7) conducting a factor analysis of the social subsystem of the country's innovative factors SODE management; 1.8) the results of the generalization of the regression and factor analysis of the development of the social subsystem of the country's innovative factors SODE management; 1.9) construction of an econometric model of the social management subsystem of the country's innovative factors SODE. Methods of evaluating the social subsystem of the innovative factors SODE management system: expert, statistical methods, trend analysis method, system analysis, index method, factor and correlation-regression analysis, and others.

2) *Solving the methodological problems of the country's innovative factors SODE environmental management subsystem ($X_{2ij}... X_{2nm}$)* will be facilitated by the analysis of prospective directions for the development of the country's PEC and the energy efficiency policy, which, aiming at the formation of a qualitative state of the national economy, goes far beyond the limits of energy saving (energy saving policy) and provides not only the realization of the potential of energy saving at all levels, but also the fulfillment of a number of tasks in economic, environmental, and energy policy, which allows to evolve in the context of the paradigm of sustainable development. Thus, the methodological basis for its implementation in the country is an assessment of the country's potential, taking into account the presence of primary PES in the direction of methodical provision of energy efficiency assessment of the country's GDP on the basis of the cost approach, as well as a practical consideration of energy efficiency as an indicator of product competitiveness, a guarantee of energy security and a qualitative criterion for the innovative development of the economy .

Therefore, the assessment of the environmental component (subsystem) of the country's innovative factors SODE management system ($X_{2ij}... X_{2nm}$) involves the study and implementation of the following actions: 2.1) calculation of the country's innovative factors SODE

environmental management subsystem indicator using the additive model and maximum and threshold values, built on the basis of correlation-regression analysis of the econometric model; 2.2) comparison of the dynamics of the energy intensity of the country's GDP with individual EU countries, kg n. e. / \$ PKS of 2015; 2.3) characteristics of the environmental management subsystem of innovative factors SSORE by analyzing two groups of indicators regarding the rationality of management of the economy and the energy efficiency of production processes; 2.4) analysis of exceeding the intensity of energy use in the country compared to world standards, times; 2.5) analysis of the technological complexity of the country's economy and the structure of energy consumption, %. Methods of assessing the environmental component of the country's innovative factors SSODE management system: trend analysis method, cause-and-effect and system analysis, index method.

3) *The assessment of the economic component (subsystem) of the country's innovative factors SSODE management system (X1ij...X1nm)* involves the study, characterization and measurement of:

3.1) the main trends in the development of the economic component of the management system of innovative factors of a sustainable socially oriented vector of its development, in particular: 3.1.1) the dynamics are being built indicators of the country's innovative factors SSODE economic management subsystem; 3.1.2) an assessment of the population's attitude to privatization in the country is carried out; c) the sovereign index of the economic subsystem (IEP) of the country's innovative factors SSODE management is calculated; 3.1.3) an econometric model is formed based on the results of the correlation-regression analysis of the indicators of the country's innovative factors SSODE economic management subsystem, 3.1.4) the isolation of the group dynamics of the factors of the country's innovative factors SSORE economic management subsystem based on the results of the factor analysis and their interrelationships.

Therefore, the assessment of the economic subsystem of the innovative factors SSODE management system "vertically" involves the analysis of indicators of the development of the noosphere, information, innovation and knowledge economy. Thus, the result of the functioning of the innovative economy is the calculation and dynamics of the index of innovative development, the knowledge economy is the characteristic of the results of patent and licensing activities, the information economy is the trend of the percentage of the population using the Internet, and the noosphere economy is the dynamics of HDI. The result of solving the methodological problems of the economic subsystem of the innovative factors SSODE management system is the analysis of the trend of changes in the economic subsystem based on the calculation of the sovereign integral index containing the input parameters listed above.

3.2) diagnosis of the main problems of innovative development of the economy and activation of its potential in conditions of instability and changes: 3.2.1) calculation and construction of the dynamics of the index of innovative development of the country in additive form; 3.2.2) based on the results of the correlation-regression analysis of the country's innovative development index (IID), the formation of its econometric model; 3.2.3) by the method of cause and effect analysis, the root cause and "bottlenecks" are singled out. Consideration of innovative activity as the main factor of economic growth will contribute to solving the methodological problems of the economic subsystem of the innovative factors SSORE management system. Conditioned by knowledge and investments, it together with them forms a triangle of competitiveness of the national economy (innovations, investments, knowledge), the results of the characteristics of which are a diagnosis of economic development. At the same time, during the evaluation of innovative development, the % of GDP for

R&D was used, and during the forecasting of the MHDI, the total investments of the base year are included in the dynamic model.

3.3) the functioning of the anti-crisis mechanism of the state regulation of life activities of Ukraine as a component of the management system of innovative factors of the sustainable development of a socially oriented economy: 3.3.1) the characteristics of the effectiveness of the functioning of the legislative and regulatory framework, the management of the production system or the activation of industry, financial regulation, redistribution of income (social regulation) by constructing the dynamics of the level of the shadow economy, public external debt (% of GDP), the share of middle class representatives, the share of implemented innovative products, as well as the index of satisfaction of the vital interests of the population, as markers for evaluating the effectiveness of the anti-crisis mechanism of the country's vital activities; 3.3.2) the dynamics of the main indicators of the development of industry in the country's economy and the production of the main types of industrial products; 3.3.3) analysis of innovative activity of industry as a tool for economic renewal and development: anti-crisis management system; 3.3.4) characteristics of the main indicators that determine the quality of life in the country in comparison with other countries of the world in the period of geopolitical stability;

3.4) assessment of the effectiveness of the management system of innovative factors of sustainable development of the national economy from the standpoint of meeting the vital interests of the country's population: 3.4.1) calculation of the MHDI based on 23 indicators, the method of principal components, sliding matrix and additive convolution, construction of its dynamics. The MHDI includes indicators of the social, economic, and environmental subsystems of the innovative factors SSODE management system on the basis of autonomy; 3.4.2) identification of the most significant problems on the way of its development, 3.4.3) identification of groups of factors that affect the level of satisfaction of vital interests of the population thanks to factor analysis; 3.4.4) substantiation of basic innovative factors of socio-economic development of Ukraine; 3.4.5) construction of an econometric model of the management system of innovative factors of sustainable development of the national economy from the standpoint of satisfying the vital interests of the population; 3.4.6) formation of conclusions regarding the effectiveness of management decision-making by state regulatory bodies. Methods of evaluating the economic subsystem of the country's innovative factors SSODE management system: observation, expert, system analysis, synthesis, cause and effect, index, method of principal components, sliding matrix and others.

III) Obtaining the initial parameters of the assessment and forecasting of the innovative factors SSODE management system:

1) substantiation of the initial parameters regarding the evaluation of the innovative factors SSODE management system involves: 1.1. Formation of innovative factors SSODE management system assessment markers: a) comparison of integral indices of social, environmental, ecological as sovereign (independent) subsystems of the IFSSODE management system; b) calculation of the index of satisfaction of vital interests of the population on the basis of UN welfare indicators; c) calculation of the innovative development index based on the competitiveness triangle of the national economy (investments, innovations, knowledge); e) calculation of MHDI based on input parameters. Construction and analysis of their dynamics, formation of conclusions. 1.2. Carrying out on the basis of autonomous integrated indices of the social, economic, environmental subsystems of the innovative factors SSODE management system as components of the MHDI, a comparative two-level (two-level) analysis (on the three target indicators of GDP per capita, HDI, MHDI): in conditions of

stability, apply the first level of analysis, where the objective function will be GDP per capita in the country, and in conditions of instability - the second level where the objective function is HDI (or MHDI, when inequality in society increases and the middle class disappears).

Evaluation methods: correlation-regression analysis, causal analysis, system analysis and synthesis, method of principal components and sliding matrix.

2) substantiation of the compliance of the initial parameters of the innovative factors SODE subsystem evaluation system as inputs for forecasting (MHDI, investments, stability reserve) to the basic criteria: a) efficiency (K_{eff}) – achievement of the planned level of MHDI (Y), where investments min; b) optimality (K_{opt}): $\{t_{min}, \text{deviation of MHDI from the specified } (A_m)_{min}\}$; c) stability is $K_{stability} > 61.8\%$ of the population, whose vital interests are satisfied, as well as stability margin (SM_{max}); and defining the group of developing countries (very high, high, medium, low) to which the national economy belongs with the corresponding value of MHDI as the main controlled parameter of the IFSSODE management system. MHDI must simultaneously meet the criteria of stability, optimality (speed of obtaining the desired results), efficiency of management of the economic system. At the same time, the negative value of the stability margin indicates that the country is entering an active phase of financial and economic crisis, a prolonged stay in which will lead to a revolutionary situation, because the basic vital interests of the population are not satisfied.

Forecasting methods: simulation modeling based on the use of the adaptive dynamic model of the innovative factors SODE control system.

Thus, the tasks of the system, along with the list of input indicators of the social, economic and environmental subsystems of the innovative factors SODE management system, should be considered compliance with the new technological system (X_1), ecologically clean production (X_2), the optimal structure of population stratification in the country (X_3).

Conclusions. On the basis of complex, interdisciplinary, systemic and selective approaches, methods of analysis and synthesis, the methodic for solving innovative factors SODE management problems has been developed, which is represented by a structural econometric model for assessing the condition and forecasting of innovative factors SODE, based on the formed system of socio-economic indicators for evaluating the subsystems of the innovative factors SODE management system, which meets the criteria of sustainability, optimality, efficiency of management of economic systems, allows to assess the level of satisfaction of the vital interests of the population and to make forecasts based on the MHDI.

It provides a comprehensive analysis of the economic, social, environmental subsystems of the innovative factors SODE management system based on the index method, factor and correlation-regression analysis on two contours of the economic system that meet the conditions of stability (% of the population vital interests that are satisfied $> 61.8\%$ satisfied) and instability (% of the population of vital interests that are satisfied $< 61.8\%$). At the same time, in the first case, GDP per capita is chosen as the objective function, and in the second it is HDI. Successive implementation of the four stages of the developed innovative factors SODE management problem-solving methodology will allow to single out existing MHDI trends and draw conclusions about the effectiveness of management decision-making by management entities.

References:

1. Bondar-Pidhurska, O. V., & Solovyov, V. P. (2017). The strategy of sustainable innovative society-oriented development of Ukrainian economy (by the example of mineral resource industry). *Scientific bulletin of National mining university*, 4 (160), 122-123.

2. Bondar-Pidhurska, O. V. (2018). Elements of visualization of the dynamic model of the management system of innovative factors of sustainable socially oriented development of the economy. *Actual problems of socio-economic systems in the conditions of the transformation economy*: coll. of science works IV All-Ukrainian science and practice conf. (Dnipro, April 12–13, 2018). Dnipro: NmetAU [In Ukrainian].
3. Hannes, L. (2011). Innovative models of sustainable growth. *Challenges and opportunities in the conditions of economic globalization. Innovation policy: European experience and recommendations for Ukraine*. [Results of the project "Improving strategies, policies and innovation regulation in Ukraine"]. EuropeAid/127694/C/SER/UA; under the editorship Gudron Rumpf, George Strogilopoulos, Igor Egorov: T. 1, Chap. 2, Phoenix.
4. Human development in Ukraine: 2003. (2004). *Annual scientific and analytical report* / edited by E. M. Libanova. Kyiv: Institute of Demography and Social Research of the National Academy of Sciences of Ukraine, Derzhkomstat of Ukraine [In Ukrainian].
5. Inequality-adjusted Human Development Index (IHDI) (2016). Human Development Reports 2016. Retrieved from: <http://hdr.undp.org/en/statistics/ihdi/>.
6. Novikova, O., Amosha, O., Antoniuk, V., & others (2012). *Sustainable development of the industrial region: social aspects*. Donetsk: IEP of the National Academy of Sciences of Ukraine [In Ukrainian].
7. Yashchyshena, I. V. (2012). *Social direction of innovative economy: experience of the trend, consequences: monograph*. Kamianets-Podilskyi: Ya. I. Sysyn [In Ukrainian].