МЕТОДИЧНИЙ ІНСТРУМЕНТАРІЙ ДІАГНОСТИКИ РЕСУРСНОГО ЗАБЕЗПЕЧЕННЯ ЕКОНОМІЧНОЇ САМОДОСТАТНОСТІ РЕГІОНУ

Актуальність. Сьогодні одним з найважливіших невирішених питань повоєнного відновлення економіки України є стратегічне управління економічним розвитком соціо-еколого-економічних систем на основі ефективного використання ресурсного забезпечення їхньої економічної самодостатності, а також питання реалізації потенціалу підприємницького сектору в просторово-секторальному вимірі, в контексті виконання підприємцями своєї інституціональної ролі - драйвера економічного зростання, використання та відтворення в суспільному виробництві капіталу, підвищення добробуту і зайнятості населення.

Мета та завдання. Метою даної наукової статті є розробка методичного інструментарію діагностики ресурсного забезпечення економічної самодостатності регіону як домінанти повоєнного відновлення та модернізації підприємництва в Україні та оцінка ефективності його застосування. Дана мета дозволила сформувати такі завдання: надати категоріальний апарат, на якому базується інструментарій ресурсного забезпечення економічної самодостатності регіону; означити принципи, яких необхідно дотримуватись при формуванні бази даних для розрахунку інтегральних індикаторів ресурсного забезпечення; розробити алгоритм розрахунку вищезазначеного індексу; розкрити економічне навантаження групових і узагальнюючих інтегральних індексів за пропонованою методикою; здійснити діагностику ресурсного забезпечення економічної самодостатності регіону та надати ілюстративний приклад використання отриманих результатів для прийняття управлінських рішень на прикладі Одеського регіону.

Матеріали та методи. Дане дослідження здійснено на основі використання методів логічного, монографічного та контент-аналізу, аналізу ієрархій, стандартизації (нормування), інтегральної та рейтингової оцінки. Інформацію для аналізу використовував автор безпосередньо, з обліку власної досвіду та досвіду інших науковців у своїй сфері.

Результати. Стаття містить методичний інструментарій діагностики ресурсного забезпечення економічної самодостатності регіону на основі застосування інтегральних індексів, які сформовано за принципом відповідності структуроутворюючим факторам регіональної економічної системи із використанням системно-просхідницького підходу. Це дозволило побудувати базу даних для визначення індикаторів рівня ресурсного забезпечення економічної самодостатності регіону, розробити методику
інтегральної оцінки даного рівня, використання якої дає можливість визначити потенційні та реальні можливості регіону в контексті ресурсного забезпечення його економічної самодостатності як домінантити повоєнного відродження та модернізації підприємництва та здійснити діагностику ресурсного забезпечення економічної самодостатності за регіонами України.

Висновки. Результати діагностики ресурсного забезпечення економічної самодостатності регіонів України, що отримані на основі застосування запропонованого у статті методичного інструментарію, можуть бути використані для практичного використання органами місцевого самоврядування, суб'єктами утворення територіальних громад (старостами), органами Державної служби статистики України, Державними обласними адміністраціями, Міністерством розвитку громад і територій України, Українським союзам промисловців і підприємців в процесі оцінки ресурсного забезпечення економічної самодостатності територій з метою подальшої розробки заходів обґрунтованого стимулювання розвитку підприємництва як інституціонального рушія повоєнного відродження країни.

Дана наукова стаття підготовлена в рамках НДР 3.1.8.82/Б «Інституціональна модернізація підприємницького сектору в умовах реформи місцевого самоврядування» (№0122У002365).

Ключові слова: ресурсне забезпечення, економічна самодостатність, регіон, інтегральні індекси, діагностика.

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METHODICAL TOOLKIT FOR DIAGNOSTIC RESOURCE PROVISION OF ECONOMIC SELF-SUFFICIENCY OF THE REGION

Topicality. Today, one of the most important unresolved issues of the post-war recovery of Ukraine’s economy is the strategic management of the economic development of socio-ecological-economic systems based on the effective use of resources to ensure their economic self-sufficiency, as well as the issue of realizing the potential of the entrepreneurial sector in a spatial and sectoral dimension, in the context of the fulfillment by entrepreneurs of their institutional roles — drivers of economic growth, use and reproduction of capital in social production, improvement of welfare and employment of the population.

Aim and tasks. The purpose of this scientific article is to develop a methodological toolkit for diagnosing the resource provision of economic self-sufficiency of the region as a dominant factor in the post-war recovery and modernization of entrepreneurship in Ukraine and to assess the effectiveness of its application.

This goal made it possible to form the following tasks: to provide a categorical apparatus on which the toolkit for resource provision of the region’s economic self-sufficiency is based; determine the principles that must be followed when forming a database for calculating integral indicators of resource provision; develop an algorithm for calculating the above-mentioned index; to reveal the economic burden of group and generalizing integral indices according to the proposed method; carry out a diagnosis of the resource provision of economic self-sufficiency of the regions of Ukraine.
and provide an illustrative example of the use of the obtained results for making management decisions on the example of the Odesa region.

Materials and Methods. This study was carried out because of the use of methods of logical, monographic and content analysis, analysis of hierarchies, standardization (norming), integral and rating evaluation. The source of information is the data of such statistical collections of Ukraine as: "Regions of Ukraine", "Environment of Ukraine", "Statistical Yearbook of Ukraine", "Labor of Ukraine", "Activity of Entrepreneurs", Statistics of the external sector of Ukraine according to the methodology of the 6th publication of the "Management on the Balance of Payments and International Investment Position"; Public report of the Head of the State Forest Resources Agency of Ukraine for 2020.

Research results. The article contains a methodical toolkit for diagnosing the resource provision of the region's economic self-sufficiency based on the application of integral indices, which are formed according to the principle of compliance with the structural factors of the regional economic system using a systemic and praxeological approach. This made it possible to build a database for determining the indicators of the level of resource provision of the economic self-sufficiency of the region, to develop a method of integral assessment of this level, the use of which makes it possible to determine the potential and real opportunities of the region in the context of resource provision of its economic self-sufficiency as dominant factors of the post-war revival and modernization of entrepreneurship, and to carry out a diagnosis of the resource ensuring economic self-sufficiency in the regions of Ukraine.

Conclusion. The results of the diagnosis of the resource provision of economic self-sufficiency of the regions of Ukraine, obtained on the basis of the application of the methodological tools proposed in the article, can be used for practical use by local self-government bodies, subjects of the formation of territorial communities, bodies of the State Statistics Service of Ukraine, State regional administrations, the Ministry of Development of Communities and Territories of Ukraine, the Ukrainian Union of Industrialists and Entrepreneurs in the process of assessing the resource provision of economic self-sufficiency of the territories with the aim of further developing measures to substantiate the development of entrepreneurship as an institutional driver of the country's post-war recovery.

This scientific article was prepared within the framework of the National Development Program 3.1.8.82/B "Institutional modernization of the business sector in the context of local self-government reform" (№ 0122U002365).

Keywords: resource provision, economic self-sufficiency, region, integral indices, diagnostics.

Problem statement and its connection with important scientific and practical tasks. Today, one of the most important unresolved issues of the administrative-territorial reform of Ukraine is the strategic management of the economic development of socio-ecological-economic systems based on the effective use of resources to ensure their economic self-sufficiency, as well as the issue of realizing the potential of the entrepreneurial sector in the spatial and sectoral dimension, in the context of the fulfillment by entrepreneurs of their institutional role – driver of economic growth, use and reproduction of capital in social production, improvement of welfare and employment of the population. The scientific and applied principles of assessment and ensuring the effective involvement of the resource potential of economic self-sufficiency of the territory in the process of post-war recovery and modernization of entrepreneurship must correspond to the tasks set in the Recovery Plan of Ukraine (Plan Vidnovlennia Ukrainy, 2022), in the Goals of sustainable development in Ukraine for the period until 2030 (Tsili staloho rozvytku v Ukraini na period do 2030, 2017) and in the State Regional Development Strategy for 2021-2027 (Derzhava stratheiiia rehionalnogo rozvytku na 2021-2027, 2020). In order to implement state support for the development of entrepreneurship and planning business placement by sector and space, it is necessary to assess the resource potential of economic self-sufficiency of the region as a dominant factor in business development, taking into account local characteristics and with the aim of increasing global competitiveness. When developing conceptual provisions regarding the methodological bases of diagnosing the resource provision of the economic self-sufficiency of the region, taking into account its potential opportunities and peculiarities of the development of the domestic economy based on the systemic and praxeological approach, it is necessary to take into account the potential of not only "internal", but also "external" influence on the self-sufficiency of the region (Umanets & Shatalova, 2015).

The central place in the proposed scientific and methodological toolkit is occupied by the static model of the system of indicators for the assessment of resource provision of the economic self-sufficiency of the region, which reflects it as a set of subsystems of potential opportunities, production, distribution and consumption. The theoretical justification of this model is the following arguments:

First of all, the substantial scale of the resource potential and the high level of the efficiency of its use stand out as the content of the self-sufficiency property of the region as a socio-ecological-economic system of any level; permanent self-development;

Secondly: effective use of the resource potential of the region is carried out by creating a rational
sectoral structure of the economy, constant search and implementation of means of motivation for productive work and development of the entrepreneurial environment in the region;

Thirdly, important conditions for increasing the effectiveness of the region's functioning are the definition and stimulation of the development of economic sectors and types of economic activity for which they have the most favorable conditions, the priority areas of activity of which should make up their framework, be budget-forming elements, primary objects for investment in the period of post-war revival and modernization of entrepreneurship.

**Analysis of recent publications on the problem.**

To study the problems of inclusive growth and the peculiarities of the organization of the economic system, which is provided by a new type of economic growth such foreign scientists as: D.Acemoglu and J. Robinson dedicated their works (Acemoglu, & Robinson, 2013); J. Gupta, N. Pouw, M. Ros-Ton (Gupta et al., 2015); J. Podesta (Podesta, 2013); J. Chatuway, R. Hanlin, R. Kaplinsky (Chatuway et al., 2013); R. Heeks, S. Foster, Y. Nuroho (Heeks et al., 2014); I. Ali, H. Son (Ali & Son, 2007); K. Benner, M. Pastor (Benner & Pastor, 2016), etc.. Among Ukrainian scientists, it is worth noting the works of B.Burkynskyi (Burkynskyi et al., 2021), O. Laiko (Laiko et al., 2022), I. Bobukh (Bobux & Shhgel, 2018), A. Hrytsenko (Hrytsenko, 2016), K. Kovtoniuk (Kovtoniuk, 2021), I. Mantsurov (Mantsurov et al., 2019), O. Prodius (Prodius, 2020) and others.

Problems related to the calculation of generalizing integral indicators of various socio-economic phenomena were dealt with by both foreign and domestic scientists, in particular: Walter Isard (Drennan et al., 2017); S. Vashchaev (Vashchaev, 2001), V. Horyachuk (Horyachuk & Nazarenko, 2020), Zhikhor, O. B. (Zhikhor & Kutsenko, 2011), Yerina A.M., (Yerina, & Vashchaev, 1999) I. Mantsurov (Mantsurov, 2009), T. Umanets (Umanets & Darienko, 2017). The issues of forming and strengthening the financial base of local budgets, expanding the powers of local self-government on the basis of generalizing indicators were highlighted in the scientific works of G. Peteri (Peteri, 2015), E Kuzkin (Kuzkin, 2015), I. Storonyanska (Storonyanska et al., 2020).

**Allocation of previously unsolved parts of the general problem.** Currently, there is no universally recognized methodology for assessing the resource provision of economic self-sufficiency of the regions of Ukraine. Along with this, socio-economic and political changes observed in socio-economic systems, both at the regional and national level, require a quantitative assessment of the level of resource provision of economic self-sufficiency of the territory, which will contribute to the post-war recovery and modernization of Ukrainian entrepreneurship.

**Formulation of research objectives (problem statement).** The purpose of the article is to develop a methodological toolkit for the diagnosis of resource provision of economic self-sufficiency of the region as a dominant factor in the post-war recovery and modernization of entrepreneurship in Ukraine and to evaluate the effectiveness of its application.

This goal made it possible to form the following tasks: to provide a categorical apparatus on which the toolkit for resource provision of the region's economic self-sufficiency is based; determine the principles that must be followed when forming a database for calculating integral indicators of resource provision; develop an algorithm for calculating the above-mentioned index; to reveal the economic burden of group and generalizing integral indices according to the proposed method; carry out a diagnosis of the resource provision of economic self-sufficiency of the regions of Ukraine and provide an illustrative example of the use of the obtained results for making management decisions on the example of the Odesa region.

**Materials and Methods.** The scientific and methodical toolkit of resource provision of economic self-sufficiency of the region involves the use of such methods as:

- **methods of logical, monographic and content analysis** in the process of analyzing the theoretical basis for determining classification features in the formation of a database for the calculation of integral indicators of the components of the level of resource provision of the economic self-sufficiency of the region and their purpose;

- **the method of analyzing hierarchies** for building a generalizing integral index of the level of resource provision of the region's economic self-sufficiency; statistical methods for determining the lower and upper limits in groups characterizing a certain class of the level of resource provision of economic self-sufficiency of the region on the rating scale;

- **methods of standardization (norming), integral and rating assessment** when ranking regions by the level of resource provision of economic self-sufficiency of the region and its components.

The source of information is the data of such

An outline of the main results and their justification. The determination of the resource provision of economic self-sufficiency of the region, taking into account endogenous factors affecting its condition and development, is based on the principles of economic synergy, and from the standpoint of strategic and operational management, today it is expedient to consider it as a dominant post-war revival and modernization of entrepreneurship of a certain administrative-territorial economic system.

The methodical toolkit of resource provision of economic self-sufficiency of the region is based on the following categorical apparatus:

- resource provision of economic self-sufficiency of the region is an integrated system of two types of resources:
  a) basic ones that exist objectively and determine the development of the region as a natural-territorial biological system;
  b) socially determined, the formation of which is due to the development of the region as a social entity;
- economic self-sufficiency of the region is a system "that in the process of its functioning ensures a sufficient level of development and satisfies current needs under the condition of effective use of its own potential, as well as creates conditions for its increase";
- economic synergy as a theory of self-organization "considers economic processes as dynamic, self-organizing (Shlafman et al. 2021) It allows identifying the sources of economic growth, firstly, in the processes of interaction of all structural levels of resource provision, which are characterized by such properties as: complexity (a large number of elements and connections) and openness (exchange of resources with the external environment), secondly, in the mechanisms of interaction of natural, industrial, scientific and technological, recreational, labor, educational, financial, informational potentials and the level of natural and technical security, as well as such blocks as the level of development of budget-forming types of economic activity, motivation for productive labor activity and the level of development of the business environment in the region;
- criterion of resource provision of economic self-sufficiency of the region is a sign or a sum of signs, on the basis of which a conclusion can be drawn about the positive or negative influence of a certain structure-forming factor of resource provision of economic self-sufficiency of the region on the state of the object of research. The purpose of this criterion is not simply to ascertain the presence of a threat, but also to assess the level of its impact;
- the level of resource provision of economic self-sufficiency of the region is a relative indicator, which is a point on a scale from 0 to 1. Its purpose is to justify decisions regarding the determination of the degree of resource provision of economic self-sufficiency of the region and its place among other regions of Ukraine; identification of weaknesses and strengths of the components of resource provision of economic self-sufficiency, as well as substantiating the expediency of a certain strategy of post-war recovery and modernization of the development of entrepreneurship in the region;
- indicators of resource provision of economic self-sufficiency of the region are indicators that can be used to assess the level of resource provision of economic self-sufficiency of the socio-ecological-economic system, tools for its quantitative measurement.

Quantitative assessment of the level of resource provision of the region's economic self-sufficiency should be based on statistical reporting data, be accessible, understandable and easy to use in planning, accounting and analysis of the region's activities. Therefore, when forming a database for calculating integral indicators of resource provision of economic self-sufficiency of the region, it is advisable to adhere to the following principles:

- Sequences: When selecting indicators, it is necessary to formulate the logic of combining them into a certain totality so that the role of each of them is visible and the impression does not arise that a certain aspect has not been covered or, on the contrary, does not fit into the proposed research scheme.
- Representativeness: the criterion should directly reflect the purpose of the research, fully correspond to it, and allow evaluating the effectiveness of solving the main problem.
- Availability of data: use of data containing statistical reports or statistical compilations.
- Systemicity: determination of the internal contradiction of a complex system as a whole.
- Complexity: combining certain research elements into one indicator to avoid unfounded recommendations and assumptions.

In order to improve the scientific and methodological support for assessing the level of resource provision of the region's economic self-sufficiency, it is advisable to use special indices to determine its level, which are based on the quantitative characteristics of various aspects of the resource potential of the region and the efficiency of its use. Based on the analysis of the existing methods of calculating integral indices in various directions of regional research, we propose the following hierarchical scheme (Fig. 1) for the assessment of resource provision of economic self-sufficiency of the regions of Ukraine:

Figure 1 – Hierarchical scheme for calculating the generalizing integral index of resource provision of economic self-sufficiency of the region

a) upper tier: generalizing integral index of resource provision of economic self-sufficiency of the region;

b) second step: group integral indices of four aspects characterizing the resource potential of the region and the efficiency of its use, namely: levels of the region's potential opportunities; development budget-forming types of economic activity in the region; motivation for productive work in the region; development of the business environment;

c) the third step: partial integral indices characterizing its certain aspects.

The algorithm for calculating the above index includes the following iterations:

Iteration 1. System analysis of the problem, its structuring and presentation in the form of a hierarchy.

Iteration 2. Selection of indicators from statistical compilations and thematic economic reports of the State Statistics Committee of Ukraine and the Main Statistical Offices of a certain region, which characterize the main aspects of resource provision of economic self-sufficiency of the region. Determination of indicators (signs) that do not significantly affect the level of resource provision of economic self-sufficiency of the region according to using the coefficient of variation. Determination of indicators: stimulators, destimulators.

Iteration 3. Formation of information databases [X].

Iteration 4. Ranking of indicators in increasing order to determine the maximum and minimum value of the indicators and the selection of the best value for each indicator that characterizes the i-th block (aspect) in the construction of a generalizing integral index of resource provision of economic self-sufficiency of the region.

Iteration 5. Normalization of indicators, i.e. calculation of partial indices of a specific sub-block characterizing the level of a certain aspect of resource provision of economic self-sufficiency of the region.

Iteration 6. Calculation of composite partial integral indices characterizing certain aspects of resource provision of economic self-sufficiency of the region by the j-th sub-block of the i-th block of resource provision of economic self-sufficiency of the region

\[
K_{ij} = \frac{\prod_{\text{part integer}_1} \times K_{\text{part integer}_2} \times \ldots \times K_{\text{part integer}_m}}{m}
\]
**Iteration 7.** Calculation of group integral indices of the i-th block characterizing certain aspects of resource provision of economic self-sufficiency of the region according to the formula of the geometric mean of the combined partial integral indices included in the i-th block:

\[ K_i = \sqrt[n]{K_{\text{comp.part.}1} \times K_{\text{comp.part.}2} \times \ldots \times K_{\text{comp.part.}n}} \]

**Iteration 8.** Calculation of the generalizing integral index of resource provision of economic self-sufficiency of the region according to the formula of the geometric mean of four group integral indices characterizing certain aspects of the resource potential of the region and the efficiency of its use:

\[ K = 4\sqrt{K_1 \times K_2 \times K_3 \times K_4} \]

**Iteration 9.** Determination of the class of the level of resource provision of economic self-sufficiency of the region (hereinafter – RZESR) according to the generalizing integral index of this indicator according to the scale, which includes seven classes (Table 1).

<table>
<thead>
<tr>
<th>Classes of the level of resource provision of economic self-sufficiency of the region</th>
<th>The value of the generalizing integral index RPESSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Crisis</td>
<td>K ≤ 0,150</td>
</tr>
<tr>
<td>II Critical</td>
<td>0,151 ≤ K ≤ 0,30</td>
</tr>
<tr>
<td>III Low</td>
<td>0,301 ≤ K ≤ 0,450</td>
</tr>
<tr>
<td>IV Satisfactory</td>
<td>0,451 ≤ K ≤ 0,600</td>
</tr>
<tr>
<td>V Average</td>
<td>0,601 ≤ K ≤ 0,750</td>
</tr>
<tr>
<td>VI High</td>
<td>0,751 ≤ K ≤ 0,900</td>
</tr>
<tr>
<td>VII Absolute</td>
<td>0,901 ≤ K ≤ 1,000</td>
</tr>
</tbody>
</table>

Generalizing integrated index of resource provision of economic self-sufficiency of the region: gives an opportunity to determine the potential and real opportunities of the region in the context of its resource provision of economic self-sufficiency as dominant factors of the post-war revival and modernization of entrepreneurship. It is calculated because of group integral indices of four blocks:

Block 1. Group integral index of potential opportunities of the region: allows evaluating the objectively existing material and non-material resource base of the region, which is a necessary but not sufficient condition for achieving economic self-sufficiency of the region. It is calculated as the geometric mean of the product of the combined partial integral index of such potentials as: natural-resource, production, scientific-technical, recreational, labor, educational, financial, and technical security levels.

Block 2. Group integral index of the level of development of budget-forming types of economic activity in the region: allows to identify the real level of development of structure-forming types of economic activity in the region as dominants of the post-war recovery and modernization of entrepreneurship, in which gross added value is directly created, namely: industry and agriculture. It is calculated as the square root of the product of the combined partial integral indices of industrial and agricultural development.

Block 3. Group integral index of motivation for productive work in the region: contributes to substantiation of decisions regarding the determination of the level of motivation of the EAP for productive work in the region and its place among other regions of Ukraine, determination of priority directions for the development of its components, as well as a flexible mechanism for the protection of EAP in modern market conditions. It is calculated as the square root of the product of the combined partial integral indices of ensuring decent wages in the region and favorable and safe working conditions.

Block 4. Group integral index of the level of development of the business environment: allows determining the impact of the development of the business environment on the level of economic self-sufficiency of the region and provides justification for decisions regarding the improvement of state management mechanisms for the development of business in the region.

In accordance with the hierarchical scheme of calculating the generalizing integral index of the resource provision of the economic self-sufficiency of the region (Fig. 1) and statistical information in the regional aspect, the assessment of the resource provision of the economic self-sufficiency of the...
regions of Ukraine as dominants of the post-war recovery and modernization of entrepreneurship was carried out, based on four group integral indices, namely, the potential opportunities of the region (K1), the level of development of budget-generating types of economic activity (K2), motivation for productive work in the region (K3) and the development of the business environment (K4) (Fig. 2).

Dnipropetrovsk, Kharkiv, Lviv, Kyiv and Odesa regions are the leading regions according to the generalizing integral index of resource provision of economic self-sufficiency of the region (K).

According to this criterion, the "Outsiders" group includes the Rivne, Kherson, Chernivtsi, Zakarpattia and Luhansk regions (information is provided in descending order of rating).

According to the obtained data, all regions of Ukraine were divided into seven classes according to the rating scale (Table 1), but this indicator was divided into only three classes:
- class 2: Critical level of resource provision of economic self-sufficiency of the region: Ternopil (18), Volyn (19), Rivne (20), Kherson (21), Chernivtsi (22), Zakarpattia (23), Luhansk (24) (29.2% of the total);
- class 3: Low level of resource provision of economic self-sufficiency of the region: Odesa (5), Poltava (6), Zaporizhia (7), Mykolayivska (8), Sumy (9), Cherkasy (10), Vinnytsia (11), Donetsk (12), Ivano-Frankivsk (13), Khmelnytskyi (14), Chernihiv (15), Kirovohrad (16), Zhytomyr (17) (54.2% of the total).
- class 4: Satisfactory level of resource provision of economic self-sufficiency of the region: Dnipropetrovsk (1), Kharkiv (2), Lviv (3), Kyiv (4) (16.6% of the total).

The assessment of the potential opportunities of the region (K1) was carried out on the basis of integral indices in accordance with the database of combined partial integral indices of natural resources (K1.1), production (K1.2), scientific and technological (K1.3), recreational (K1.4), labor (K1.5), educational (K1.6) and financial (K1.7) potentials (Fig. 3).

Dnipropetrovsk, Kharkiv, Lviv, Kyiv and Poltava regions are the leading regions according to the group integral index of the region's potential opportunities. According to this criterion, the "Outsiders" group included the Khmelnytskyi, Zhytomyr, Volyn, Luhansk, and Kirovohrad regions (the information is provided in descending order of rating). According to the received data of the group integral index of potential opportunities, all regions of Ukraine were divided into seven classes according to the rating scale (see Table 1), but this indicator was distributed only in four classes:
- class 1: regions with a crisis level of potential opportunities: Volyn (22); Zhytomyr (21); Kirovohrad (24), Luhansk (23) (16.7% of the...
- class 2: regions with a critical level of potential opportunities: Vinnytsia (15), Donetsk (16), Zakarpattia (13), Ivano-Frankivsk (11), Mykolaiv (10), Odesa (7), Rivne (19), Sumy (8), Ternopil (18), Kherson (17), Khmelnytskyi (20), Cherkasy (9), Chernivtsi (14), Chernihiv (12) (58.3% of the total number of regions);

- class 3: regions with a low level of potential opportunities: Zaporizhzhia (6), Kyiv (4), Lviv (3), Kharkiv (2) (16.7% of the total number of regions);

- class 4: regions with a satisfactory level of potential: Dnipropetrovsk (1), Poltava (5) (8.3% of the total number).

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Figure 3 – Ranking of the regions of Ukraine in 2020 according to the group integral index of potential opportunities of the region (K1)

The assessment of the level of budget-forming types of economic activity (K2) was carried out because of the combined partial integral indices of the development of industry (K2.1.) and agriculture (K2.2.) (Fig. 4).

Kharkiv, Dnipropetrovsk, Poltava, Cherkasy and Khmelnytskyi regions are the leading regions according to the group integral index of the level of budget-generating types of economic activity. According to this criterion, the "Outsiders" group includes the Rivne, Kherson, Chernivtsi, Luhansk and Zakarpattia regions (information is provided in descending order of rating).

According to the obtained data of the group integral index of the level of budget-forming types of economic activity, all regions of Ukraine were divided into seven classes according to the rating scale (see Table 1), but this indicator was divided into only four classes:

- class 1: regions with a crisis level of potential opportunities: Kherson (21), Chernivtsi (22), Luhansk (23), Zakarpattia (24), (16.7% of the total);

- class 2: regions with a critical level of budget-forming types of economic activity: Donetsk (19), Rivne (20), (8.3% of the total number of regions);

- class 3: regions with a low level of budget-generating types of economic activity: Vinnytsia (10), Odessa (11), Ternopil (12), Ivano-Frankivsk (13), Chernihiv (14), Volyn (15), Zhytomyr (16), Mykolaiv (17), Zaporizhzhia (18), (37.5% of the total number of regions);
Figure 4 – Ranking of the regions of Ukraine in 2020 according to the group integral index of the level of budget-generating types of economic activity (K2)

- class 4: regions with a satisfactory level of budget-generating types of economic activity: Kharkiv (1), Dnipropetrovsk (2), Poltava (3), Cherkasy (4), Khmelnytskyi (5), Lviv (6), Kyiv (7), Kirovohrad (8), Sumy (9), (37.5% of the total number).

The assessment of the level of motivation for productive work in the region (K5) was carried out based on the combined partial integral indices of ensuring decent wages in the region (K3.1.) and favorable and safe working conditions (K3.2.) (Fig. 5).

Figure 5 – Ranking of the regions of Ukraine in 2020 according to the group integral index of the level of motivation for productive work in the region (K3)

Sumy, Mykolaiv, Kherson, Kirovohrad, and Donetsk regions are the leading regions according to the group integral index of motivation for productive work. According to this criterion, the "Outsiders" group includes Khmelnytskyi, Cherkasy, Ivano-Frankivsk, Chernivtsi and Ternopil regions (information is provided in descending order of rating).

According to the obtained data of the group integral index of motivation for productive work in the region, all regions of Ukraine were divided into seven classes according to the rating scale (see Table 1), but this indicator was divided into only two classes:
Let us consider how the factors that form the level of motivation for productive labor in the region affected the rating of the regions according to the combined group integral index of ensuring decent wages (K3.1) and favorable and safe working conditions (K3.2) in the region.

The assessment of the level of development of the entrepreneurial environment in the region (K4) was carried out because of partial integral indices characterizing this block (K4) (Fig. 6).

- class 4: regions with a satisfactory level of motivation for productive work: Kirovohrad (4), Donetsk (5), Zhytomyr (6), Dnipropetrovsk (7), Zakarpattia (8), Odesa (9), Chernihiv (10), Kharkiv (11), Poltava (12), Kyiv (13), Vinnitsia (18), Zaporizhzhya (19), Khmelnytsky (20), Cherkasy (21), Mykolaiv (2), Kherson (3) (12.5% of the total);
- class 5: regions with an average level of motivation for productive work: Sumy (1), Mykolaiv (2), Kherson (3) (12.5% of the total).

In 2020, Odesa region ranked 8th among 24 regions of Ukraine according to the generalizing integral index of resource provision of economic self-sufficiency of the region and according to the rating scale falls into class 3 "Low level of provision". Being in the top ten, it has a very versatile rating characteristic according to group and combined partial integral indices (Table 2).
Table 2
Rating characteristics according to general (K) and group integral indices (K1-K4) of the resource provision of economic self-sufficiency of the Odesa region in 2020

<table>
<thead>
<tr>
<th>The name of the group integral index</th>
<th>Place by rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1 – Potential opportunities of the region</td>
<td>7</td>
</tr>
<tr>
<td>K2 – The level of development of budget-forming types of economic activity</td>
<td>19</td>
</tr>
<tr>
<td>K3 – Motivations for productive work</td>
<td>9</td>
</tr>
<tr>
<td>K4 – Development of entrepreneurship</td>
<td>2</td>
</tr>
<tr>
<td>K – The level of resource provision of economic self-sufficiency of the region</td>
<td>8</td>
</tr>
</tbody>
</table>

According to the assessment scale of resource provision of economic self-sufficiency, Odesa region according to group integral indices of potential opportunities and the level of budget-forming types of economic activity in 2020 falls into class 2. "Critical level"; according to the group integral indices of motivation for productive labor activity and according to the level of entrepreneurship development - up to class 4. "Satisfactory level".

Let's consider how Odesa looks like on aggregated partial indices forming blocks 1-4, relative to other regions of Ukraine:

A) Potential opportunities of the region
The components of the potential opportunities of the region are natural resources (K1.1), production (K1.2), scientific and technological (K1.3), recreation (K1.4), labor (K1.5), educational (K1.6) and financial (K1.7) potentials (Table 3).

Table 3
Rating characteristics of the Odesa region according to the consolidated partial integral indices of block 1 – "Potential opportunities of the region"

<table>
<thead>
<tr>
<th>The name of the partial integral index</th>
<th>Place by rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1.1. – Natural resource potential</td>
<td>20</td>
</tr>
<tr>
<td>K1.2. – Production potential</td>
<td>8</td>
</tr>
<tr>
<td>K1.3. – Scientific and technological potential</td>
<td>6</td>
</tr>
<tr>
<td>K1.4. – Recreational potential</td>
<td>8</td>
</tr>
<tr>
<td>K1.5. – Labor potential</td>
<td>2</td>
</tr>
<tr>
<td>K1.6. – Educational potential</td>
<td>5</td>
</tr>
<tr>
<td>K1.7. – Financial potential</td>
<td>3</td>
</tr>
</tbody>
</table>

According to the evaluation scale of the potential opportunities of the region, Odesa Oblast entered class 1 "Crisis level" according to the combined partial integral index of natural resource potential (K1.1), and class 2 according to the combined partial integral index of scientific and technological potential (K1.3) "Crisis level", according to the combined partial integral indices of production (K1.2) and recreational potential (K1.4) – to class 3 "Low level", according to the combined partial integral indices of educational (K1.6) and financial potential (K1.7) – to class 5 "Medium level", and according to the combined partial index of labor potential (K1.5) – to class 6 "High level"

B) Budget-forming types of economic activity
The components of the budget-forming economic activities of the region are the level of development of industry (K2.1) and agriculture (K2.2) (Table 4). According to the rating scale of budget-forming types of economic activity in the region, Odesa Oblast entered class 2 "Critical level" based on the combined partial integral indices of industrial (K2.1) and agricultural potential (K2.2).

Table 4
Rating characteristics of the Odesa region by combined partial integral indices block 2 – "Budget-generating types of economic activity"

<table>
<thead>
<tr>
<th>The name of the partial integral index</th>
<th>Place by rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>K2.1. – Industrial potential</td>
<td>4</td>
</tr>
<tr>
<td>K2.2. – Agricultural potential</td>
<td>19</td>
</tr>
</tbody>
</table>
C) Motivation for productive work

The components of motivation for productive labor activity in the region are the level of ensuring decent wages (K3.1) and favorable and safe working conditions (K3.2) (Table 5).

Table 5

<table>
<thead>
<tr>
<th>The name of the partial integral index</th>
<th>Place by rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>K3.1. – Decent salary</td>
<td>18</td>
</tr>
<tr>
<td>K3.2. – Favorable and safe working conditions</td>
<td>6</td>
</tr>
</tbody>
</table>

According to the assessment scale of motivation for productive work in the region, Odesa Oblast entered class 5 "Medium level" according to the composite partial integral index of decent wages (K3.1) and according to the composite partial integral index of favorable and safe working conditions (K3.2) – to class 3 "Low level".

Therefore, when developing a strategy for the modernization of entrepreneurship in the Odesa region for the future, it is necessary to pay attention to motivational measures for the development of budget-generating types of economic activity in the region and motivation for productive labor activity of entrepreneurs in the region.

Conclusions and perspectives of further research. Methodological assessment of the level of resource provision of the economic self-sufficiency of the region based on the application of integral indices, which were formed according to the principle of compliance with the structural factors of the regional economic system using a systemic and praxeological approach, made it possible to build a database for determining the indicators of the level of resource provision of the economic self-sufficiency of the region, the methodology of the integral assessment of this level, the use of which, unlike the existing ones, makes it possible to determine the potential and real opportunities of the region in the context of its resource provision of economic self-sufficiency as the dominant post-war revival and modernization of entrepreneurship. This made it possible to carry out a diagnosis of the resource provision of economic self-sufficiency of the regions of Ukraine and to identify the strengths and weaknesses of the blocks that form the level of the above-mentioned indicator and to identify the main directions for increasing its level. The results of the diagnosis of the resource provision of economic self-sufficiency of the regions of Ukraine can be used for practical use by local self-government bodies, subjects of formation of territorial communities, bodies of the State Statistics Service of Ukraine, State Regional Administrations, the Ministry of Development of Communities and Territories of Ukraine, the Ukrainian Union of Industrialists and Entrepreneurs in the process of assessing the resource provision of the economic self-sufficiency of the territories in order to further develop measures for the justified stimulation of the development of entrepreneurship as an institutional driver of the country's post-war recovery.

REFERENCES


State Statistics Service of Ukraine URL: https://www.ukrstat.gov.ua/


