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**Tymchyshyn Yuliya**

*PhD in Economics, Doctoral of the  
Dolishniy Institute of Regional Research of NAS of Ukraine;  
Associate Professor of Accounting and Finance Department  
Lviv Institute of Economics and Tourism*

**Тимчишин Юлія Василівна**

*кандидат економічних наук, докторант  
ДУ «Інститут регіональних досліджень імені М.І. Долишнього НАН України»;  
доцент кафедри обліку і фінансів  
Львівський інститут економіки і туризму*

## **FEATURES OF APPROACHES TO ASSESSING ECONOMIC SECURITY OF REGIONS**

## **ОСОБЛИВОСТІ ПІДХОДІВ ДО ОЦІНЮВАННЯ ЕКОНОМІЧНОЇ БЕЗПЕКИ РЕГІОНІВ**

**Summary.** *Approaches to assessing the economic security of the region used in a particular interweaving are analyzed, in which the basis is often a functional (or complex) approach, which involves the allocation of functional areas (components or aspects) of economic security, each of which reflects a particular aspect of the region's economic system. The basic rules of formation of the set of primary indicators for assessing the economic security of the region are considered: limited number of primary indicators of the model, quantitative (or quasi-quantitative) nature of indicators, information capacity of the indicator, determining the value of the indicator by direct measurement or direct algorithms. An indicator*

approach is highlighted, through which the economic security of the region is assessed by comparing (absolute or relative) the actual values of indicators with their indicators and the appropriate treatment of the identified deviations. The indicator approach looks very attractive when describing the sequence of techniques, procedures, calculation operations and algorithms used. The main problematic issues in the use of indicator approach are formulated: plurality of sets of indicators, unambiguous limit or threshold values of indicators, lack of rules for selection of indicators, limited application of a systematic approach in forming a set of indicators, setting values of indicators. The use of interval indicators of economic security of the region is revealed, which provide an opportunity to identify some dangerous zone, within which its state is gradually changing; The economic security of the region may be in this danger zone for some time, the duration of which depends on the influence of a number of factors. It is noted that in determining the number of indices for assessing the economic security of the region, two approaches are possible: a small number of indices, each of which evaluates a significant number of aspects of economic security of the region; a significant number of indices, each of which assesses a small number of aspects of the region's economic security.

**Key words:** economic security of regions, approach, evaluation, primary indicators, rules, indicators, method.

**Анотація.** Проаналізовано підходи до оцінювання економічної безпеки регіону, які використовуються у певному переплетінні, в якому базою найчастіше виступає функціональний (або комплексний) підхід, який передбачає виділення функціональних напрямів (складових або аспектів) економічної безпеки, кожен з яких відображає певну сторону функціонування економічної системи регіону. Розглянуті основні правила формування сукупності первинних показників для оцінювання економічної безпеки регіону:

обмежена кількість первинних показників моделі, кількісний (або квазікількісний) характер показників, інформаційна ємність показника, визначення значення показника за допомогою безпосереднього виміру або методу прямих алгоритмів. Висвітлено індикаторний підхід, через який економічна безпека регіону оцінюється за результатами порівняння (абсолютного або відносного) фактичних значень показників з їхніми індикаторами і відповідного оброблення виявлених відхилень. Індикаторний підхід виглядає дуже привабливим при викладі послідовності прийомів, процедур, розрахункових операцій та алгоритмів, які використовуються. Сформульовано основні проблемні питання у використанні індикаторного підходу: множинність сукупностей індикаторів, однозначність граничних або порогових значень індикаторів, відсутність правил відбору індикаторів, обмежене застосування системного підходу при формуванні сукупності індикаторів, встановлення значення індикаторів. Розкрито використання інтервальних індикаторів економічної безпеки регіону, які надають можливість виявити деяку небезпечну зону, в межах якої її стан поступово змінюється; економічна безпека регіону може перебувати в цій небезпечній зоні деякий час, тривалість якого залежить від впливу низки чинників. Зазначено, що при визначенні кількості індексів для оцінювання економічної безпеки регіону можливі два підходи: незначна кількість індексів, в кожному з яких оцінюється значна кількість аспектів економічної безпеки регіону; значна кількість індексів, в кожному з яких оцінюється незначна кількість аспектів економічної безпеки регіону.

**Ключові слова:** економічна безпека регіонів, підхід, оцінювання, первинні показники, правила, індикатори, метод.

**Problem Formulation.** Assessments of the region's economic security play an important role in ensuring it, as, along with other data, they serve as a starting point in the development of various measures for the economic development of the region. Ensuring the economic security of the region is based on its assessments. Assessment of economic security of the region is a set of assessment procedures and actions performed using selected (or created) tools, the results of which serve as a basis for obtaining a sound judgment about the state of economic security of the region.

An appropriate methodological framework is needed to assess the economic security of the region. Research on the economic security of the region on a systematic basis has begun relatively recently, and therefore the creation of a methodological framework for its evaluation is not yet complete, but there is reason to talk about the gradual formation of its main element - approaches to evaluation. Therefore, it is of interest to analyze these approaches, which provides an opportunity to determine their completeness, conditions of effective use and areas for further improvement.

The basis for assessing the economic security of the region is the relationship between the resulting indicator (or indicators) that describe the state of economic security of the region and the primary indicators that describe the results of the processes that took place in the region and the state. on her estimates [1, p. 21].

The basis for assessing the economic security of the region, regardless of the tools of its development (fuzzy logic, indicator method, etc.) and the form of combination of methods, techniques, algorithms and assessment procedures (methodology, model) are the primary indicators.

The inclusion of indicators in the primary assessment of the economic security of the region should be carefully justified. Unreasonable selection of primary indicators for assessing the economic security of the region: significantly affects the

reliability of its estimates; leads to their identification with assessments of economic development of the region or its economic situation; reduces the information value of economic security assessments of the region.

**Analysis of recent research and publications.** The problems of regions' economic security are devoted in the works of such scientists as: V. V. Bukolova [1; 5], O. I. Baranovsky [2], T.G. Vasylytsiv [3], N. Yu. Gichova [4], S. B. Dovbnya [4], G. V. Kozachenko [5; 6], A. B. Kaczynski [7], I. G. Mishina [8] and others.

**Main goal.** Highlight the features of approaches to assessing the economic security of regions.

**Presenting main material.** Approaches to evaluation in economic security were formed by combining the same content of principles, techniques and methods of measuring the level of economic security, the set of which is aimed at operationalizing the concepts of a particular approach. It is the concepts of the approach as a whole that represent his idea of obtaining the resulting data for the formation of an evaluative judgment about the state of economic security of the region. Proposed in economic security methods for assessing the economic security of various objects (state, region, enterprise) are quite diverse: - expert assessment, monitoring of economic indicators, analysis and processing of scenarios, optimization, multidimensional statistical analysis, game theory, artificial neural networks [3]; - extrapolation (parametric dependencies, time trends), expert methods (surveys, expert commissions, preparation of analytical reports, "brainstorming", Delphi), structural-analytical methods (modeling, hierarchical decomposition, morphological analysis, matrix method, network analysis, SWOT-analysis, construction of semantic differential, construction of profile of environment, drawing up of scenarios) [5]; - methods of comprehensive threat assessment (integrated risk assessment, assessment of the effectiveness of protective measures), methods of comprehensive assessment of economic potential of the enterprise

(assessment of competitive status of the enterprise, integrated assessment of enterprise interests, SWOT-analysis, multi-vector resource-functional model of economic security, multifactor linear model) , methods of bankruptcy prediction (multifactor discriminant models and other methods of integrated assessment of the financial and economic condition of the enterprise) [4].

The most common in assessing the economic security of the region is a functional (or comprehensive) approach, due to the complex nature of the assessed phenomenon, due to which there is a need to decompose it into simpler components. Assessing the economic security of the region by the functional approach is to find its partial (intermediate) assessments for each component, followed by their integration.

Despite the widespread use of a functional (or integrated) approach to assessment in economic security and some stability of the technology of its application, there are still a number of fairly unresolved issues, which negatively affects the quality of economic security assessments in the region, hindering their comparability. one region, so by region of the country, forms an artificial set of methodological developments, which, in principle, implement the same idea of evaluation. Approaches to assessing the economic security of the region are divided into: functional (or complex), rating, taxonomic, indicator, index, modeling.

Yes, there is no consensus on the list of components in the assessment of economic security. And this applies to evaluation at all its levels (state, region, enterprise). Each of the researchers provides their own list of components for evaluation (and the economic security of the region as an object of evaluation is no exception). And although these components are not fundamentally different, the presence of a significant number of them creates "information noise" in the methodological framework for assessing the economic security of the region.

The state of each of the components of economic security of the region is described by a number of primary indicators. For them, each of the components of economic security in the region is even more diverse than the diversity of components. The main drawback here is the lack of justification for the use of the selected (or proposed) indicator to describe the component of economic security of the region. This indicator cannot be any statistical indicator.

Unreasonable choice of indicators for assessing the economic security of the region: - significantly affects the reliability of estimates; - leads to the identification of assessments of socio-economic security of the region with assessments of its socio-economic development or its socio-economic situation; - reduces the information value of assessments.

The primary indicators for assessing the economic security of the region and the rules for interpreting the resulting indicator are directly determined by the chosen approach, method or model of assessment. But, on the other hand, the choice (or development) of a method, approach or model should be based on the ability to obtain the values of the primary indicators selected to assess the economic security of the region. If the value of the selected primary indicators is very difficult to obtain (for example, no statistics, data for calculation or calculation of the value of the indicator is very time consuming, etc.), then the application of the selected method, approach or model of assessment in assessing the economic security of the region loses meaning. In this case, the assessment does not comply with the principle of relative simplicity, which proclaims the avoidance of excessive complexity in the assessment.

The main rules for forming a set of primary indicators to assess the economic security of the region are: a limited number of primary indicators of the model, quantitative (or quasi-quantitative) indicators, information capacity of the indicator, determining the value of the indicator by direct measurement or direct algorithms.

According to the rule of information capacity, the primary indicator of the model can be an address indicator that adequately describes the impact of processes that have affected the economic security of the region, which manifests itself in the emergence of certain characteristics of the region. safe condition [1, p. 22].

Observance of the rule of information capacity will allow, on the one hand, to select those indicators that are really important for assessing the economic security of the region, and on the other - to prevent the use of information-intensive indicators, which are indicators that should be used to assess other phenomena in the region.

No less important is the rule of the number of primary indicators of the model for assessing the economic security of the region. On the one hand, the number of primary indicators of the model should be sufficient to comprehensively describe the economic security of the region. However, on the other hand, according to Ashby's law of required diversity, with the increase in the number of primary indicators, evaluation becomes more difficult, in particular in terms of collecting and processing primary indicators, which requires improvement (and often complication) of processing methods. In addition, the increase in the number of primary indicators and, accordingly, the complexity of their collection and processing is not always justified by a significant increase in the accuracy of assessments of economic security in the region.

When choosing the number of primary indicators for assessing the economic security of the region, it is advisable to follow the rules proposed by I.G. Mishina: a set of indicators for assessing the economic security of the region should be determined for each specific study; the set of indicators should be formed in accordance with the state of economic security of the region; the set of indicators is determined by the purpose of assessments of economic security of the region, user requests and taking into account the main trends in its provision [8, p. 13].



Functional (or integrated) approach in assessing the economic security of the region is often used in conjunction with the indicator and index approach, which is the use of indicator and index approaches is based on the allocation of individual components (or aspects) of economic security of the region [6].

According to the indicator approach, the economic security of the region is assessed by comparing (absolute or relative) the actual values of indicators with their indicators and the appropriate treatment of the identified deviations. The indicator approach looks very attractive when describing the sequence of techniques, procedures, calculation operations and algorithms used. O.I. Baranovsky associated indicators with a traffic light, which, depending on the difference between the actual values of indicators and indicators lights up in red, yellow or green at one time or another [2, p. 351].

Deviations of actual values from their indicators create an analytical basis for studying the economic security of the region, identify negative trends and prevent their further development, in some way localize the causes of weakening economic security and try to influence them using various levers, make changes in current regional bodies. management and to their interaction with public authorities, to clarify the strategies of economic development of the region. However, the indicator approach is characterized by a number of limitations of different origins, which are clearly evident in attempts to apply it in practice.

According to the primary content load, the term "indicator" means the value (desired or necessary) of the indicator, which is selected to describe the state of the phenomenon, trends, the state of the object of observation, the course of the analyzed process or its results [5, p. 153].

The main problematic issues in the use of the indicator approach are: the plurality of sets of indicators, the unambiguity of the limit or threshold values of

indicators, the lack of rules for selecting indicators, the limited use of a systematic approach in forming a set of indicators, setting indicators.

To improve the quality of assessments of economic security in the region, it is advisable to use interval indicators, although we must realize that the transition to them significantly increases the complexity of the task of determining the value of indicators. The output of the actual values of the indicator outside the interval of the indicator should signal the active development of threatening processes and their significant destructive impact on the economic security of the region or, conversely, the attenuation of threats in the region or the results of their deviation.

The use of interval indicators of economic security of the region provides an opportunity to identify some dangerous zone, within which its state is gradually changing. The economic security of the region may be in this danger zone for some time, the duration of which depends on the influence of a number of factors.

Mathematical methods can provide reliable results in establishing the value of indicators of economic security of the region and the intervals of their values. However, as noted by A.B. Kaczynski, currently there are no studies on the application of mathematical methods to determine the limit values of safety indicators [7, p. 75]. Therefore, the issue of applying mathematical methods in determining the values of indicators of economic security at all levels (state, region, enterprise) remains very relevant.

Often the set of indicators for assessing the economic security of the region is unreasonably called a system [6]. O.I. Baranovsky noted that the system of indicators must be built in accordance with the criteria requirements for it. However, according to him, in modern economic security there are no theoretical developments regarding the system of indicators and criteria for it [2, p. 348]. Thus: the indicator approach, despite its apparent simplicity, is quite difficult to use; there

is no justification for the number of indicators and their list for assessing the economic security of the region [5, p. 154].

The legitimacy of using the index method in assessing the economic security of the region is due to its recognition as a complex economic phenomenon, the ability to establish links between its individual components (or elements, aspects), to study them not in isolation but in relationship and determine their impact on the resulting estimates.

The main element of the index method is the index (however, the index cannot be considered any relative value). Indices of economic security of the region can provide a comprehensive picture of its state, which requires not individual indices, but their totality.

Analytical (general or aggregate) indices should be used in assessing the economic security of the region, which allow to assess its specific aspect, represented by homogeneous elements, which is to obtain an aggregate assessment of a certain component of socio-economic security of the region. Such an aggregate assessment is compared with its maximum possible value and already on the results of such a comparison, on the basis of certain deviations, you can get an idea of the state of the assessed component of economic security of the region.

When determining the number of indices for assessing the economic security of the region, two approaches are possible: - a small number of indices, each of which evaluates a significant number of aspects of economic security of the region; - a significant number of indices, each of which assesses a small number of aspects of economic security in the region [5, p. 154].

In the first case, it is easier to get an idea of the economic security of the region, but the calculation of indices is more time consuming and with increasing number of assessed components in each index decreases its reliability. In the second case, it is more difficult to get an idea of the economic security of the region due to

the large number of indices, but the calculation of indices is not so time consuming and due to the small number of estimated components in each index (3-4) its reliability is quite high.

The technology of application of the index method in assessing the economic security of the region is based on the processes of movement and processing of information, involves the implementation of a set of interrelated procedures and actions, during which information is converted into appropriate estimates. The most difficult actions in the technology of application of the index method in assessing the economic security of the region are the selection of components of each of the indices, the selection of indicators to describe these components, determining the order of calculation of their values. Other actions of technology (scaling of intervals of values of index indicators, distribution of values of index indicators on scale intervals and determination of values in quasi-quantitative meters and aggregation of index indicators in quasi-quantitative meters) are technical and well known [5].

The application of the index method in assessing the economic security of the region requires appropriate information and analytical support, the incompleteness or low reliability of which significantly makes it impossible to assess or leads to poor quality assessments. You can offer any indexes of any composition to assess the economic security of the region, but if the data are inaccurate or missing to calculate indicators that quantify the components of the index, or obtaining such data is much more difficult, the calculation of indices becomes meaningless. That is, the indices for assessing the economic security of the region should have not only theoretical justification but also practical applicability, and not complicated by the increased cost of finding the necessary data or excessive complexity of their processing methods.

**Conclusions.** In the economic security of the meso level today, several approaches to assessing the economic security of the region have been formed.

Available approaches to assessing the economic security of the region differ in the methods of obtaining the resulting estimates and the basis of comparison. Moreover, this difference cannot be considered fundamental.

The existence of several approaches to assessing the economic security of regions can be seen as a reflection of the contextuality of the postmodern methodology of economic security, which is characterized by flexible research strategies. The main thing here is to fulfill this requirement: approaches using different methods (a method as a set of techniques, procedures, calculation operations and algorithms) should provide the same content (although different in form) description of the economic security of the region. Approaches cannot be considered fundamentally different, although they differ in the methods of obtaining the resulting estimates, they do not compete with each other, but rather complement each other, being sufficiently interconnected, although they differ in the methods of obtaining the resulting estimates [5, p. 155].

The analyzed approaches to assessing the economic security of the region are used in a certain interweaving, in which the basis is often a functional (or complex) approach, which involves the allocation of functional areas (components or aspects) of economic security, each of which reflects a particular side of the economic system. When applying the analyzed approaches in assessing the economic security of the region, there is a desire to obtain its assessment in a very large number of aspects. But the increase in assessing aspects of the region's economic security is not always offset by the accuracy of its estimates. In some cases, this leads to the cumbersomeness of the evaluation procedure.

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