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## Methodological approaches to determining the integrated state and margin of economic security with regard to its provision

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**Abstract.** *Purpose of the research.* The article aims to develop methodological approaches to determining the integrated state and margin of economic security with regard to its provision. *Methodology.* The following general scientific theoretical methods are used in the study: generalization, explanation, grouping – to analyse economists' and practitioners' views on the object under study and draw conclusions upon analysis of primary sources; analysis and synthesis – to justify a new differentiated-integrated approach to economic security assessment; the matrix approach – to integrate the level of economic security and its temporal state and determine the margin of economic security. *Results.* The article presents methodological approaches developed to determine the integrated state of economic security of an enterprise. It is proposed to understand the integrated state of economic security as its value at a specific date of assessment determined considering the achieved level and temporal state of economic security at a given moment. The article presents a matrix approach to determining the current economic security and proposes an additional indicator of expediency of security provision measures based on the time criterion. The proposed methodological approach to determining the margin of economic security of the enterprise with regard to its provision is based on qualitative and quantitative approaches to its assessment. The approach involves comparison of the value of the level of economic security provision with the integrated state of security resulted from corresponding measures. *Practical meaning.* The use of the indicator of the margin of economic security with regard to its provision in practical activities of enterprises enables their management to consider beyond-control factors and on this basis make decisions on strengthening (acceleration) or, on the contrary, weakening and economy of implemented measures and programmes aimed to enhance economic security. *Prospects for further research.* Further research by the author is devoted to development of a methodology for determining the integrated state of medium-term and strategic economic security and, accordingly, identifying the margin of economic security that may occur when these types of economic security are provided.

**Keywords:** margin of economic security, integrated state of economic security, level of economic security, temporal state, level of economic security provision.

JEL Classification: H56, J28.

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## Методичні підходи до визначення інтегрального стану та запасу економічної безпеки з позиції її забезпеченості

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**Анотація.** *Мета дослідження.* Метою статті є розробка методичних підходів до визначення інтегрального стану економічної безпеки та її запасу з позиції забезпеченості. *Методологія.* У дослідженні застосовуються загальнонаукові теоретичні методи: узагальнення, пояснення, групування – для аналізу поглядів економістів і практиків на об'єкт дослідження та формулювання висновків контент-аналізу первинних джерел, аналіз і синтез – для обґрунтування нового диференційовано-інтеграційного підходу до оцінювання економічної безпеки, матричний підхід – до інтеграції рівня економічної безпеки та її темпорального стану, а також для визначення запасу економічної безпеки. *Результати.* Розроблені методичні підходи до визначення інтегрального стану економічної безпеки підприємства. Запропоновано під інтегральним станом економічної безпеки розуміти її величину на конкретну дату оцінки, визначену з урахуванням досягнутого рівня та темпорального стану економічної безпеки на даний момент часу. У статті приведено матричний підхід до визначення поточної економічної безпеки. Запропоновано додатковий показник доцільності безпеки за забезпечувальних заходів за часовим критерієм. Запропонований методичний підхід до визначення запасу економічної безпеки підприємства з позиції її забезпеченості, що ґрунтується на якісно-кількісних підходах до його оцінювання. Він передбачає співставлення величини рівня забезпечення економічної безпеки з одержаним у ході відповідних заходів інтегрального стану безпеки. *Практичне значення.* Застосування показника запасу економічної безпеки з позиції її забезпеченості у практичній діяльності підприємств дозволить їх керівництву урахувати невідконтрольні чинники і на цій підставі приймати рішення про посилення (пришвидшення) або ж, навпаки, послаблення та певну економію стосовно впроваджуваних заходів і програм, спрямованих на покращення економічної безпеки. *Перспективи подальших досліджень.* Подальші дослідження автора присвячені розробці методики визначення інтегрального стану середньострокової та стратегічної економічної безпеки та, відповідно, виявленню запасу економічної безпеки, який може виникати при забезпеченні саме цих видів економічної безпеки.

**Ключові слова:** запас економічної безпеки, інтегральний стан економічної безпеки, рівень економічної безпеки, темпоральний стан, рівень забезпечення економічної безпеки.

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### 1. Introduction.

Economic security is a system of a number of various components. The state of economic security of an enterprise is largely due to dynamism of the external business environment, as well as the joint synergic influence of

exogenous factors not controlled by enterprise management. Obviously, efforts to provide security may not correspond to the result obtained which is the state of economic security. This allows the conclusion about the nonlinearity of relationship between the level of

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economic security provision and its obtained state. Therefore, economic security is a kind of the object of research precisely because it can be classified as a partially controlled system.

The above mentioned, on the one hand, causes the objective need to determine the integrated indicator of its assessment and, on the other hand, requires justification of parameters of provision and determination of the margin of economic security specifically with regard to its provision. The mentioned parameters should reveal both internal and external prerequisites for achieving / maintaining the desired state of economic security at both the operating and the strategic levels.

## **2. Literature review.**

Methods of assessment and mechanisms for providing economic security of the enterprise are the subject of scientific discussions of many scientists both in the post-Soviet countries and abroad. Their principal common feature is focus on protecting the enterprise from threats, mainly external ones (Kozachenko, Ponomarev and Lyashenko, 2003; Ianioglo and Polajeva, 2012). Provision of security is defined as the goal of adaptation (Yachmenova, 2007) and a prerequisite for self-preservation of the enterprise in conditions of instability of the external environment of its functioning (Noorit, Thapayom and Pornpundejwittaya, 2020). At the same time, scientists pay little attention to the issue of relationship between security provision measures and consequences of their implementation. Traditionally, so to say by default, it is believed that the result, i.e. the economic security state, depends on the amount of effort initially spent on maintaining economic security in the proper condition. However, it is obvious that this is far from the case. In particular, if activities of the enterprise depend greatly on beyond-control factors (inflation, commodity prices, legal regulations, protectionism in markets, tax burden, etc.), even the highest level of economic security provision cannot guarantee the same high level of economic security itself. Works determining the economic security margin are close

to the outlined issues. However, the essence of this concept used by other scientists differs from the one that we believe it should contain. Thus, O. Maslak and N. Grishko use the term “margin of safety of economic security” in respect to an industrial enterprise, which they describe as a prognostic assessment of pre-conditions to provide economic security in the future, which is an integral constituent of its preventive management (Maslak and Grishko, 2013). According to them, the formula for determining the safety margin of the economic security system of a machine-building enterprise looks as follows (Maslak and Grishko, 2013):

$$Y_{ms}^R = Y_{rt}^R - Y_{pt}^R, \quad (1)$$

where  $Y_{ms}^R$  is the margin of safety of the machine building enterprise;

$Y_{rt}^R$  is the rational level of economic security in realistic terms;

$Y_{pt}^R$  is the rational level of economic security in pessimistic terms.

Chronologically, next comes the work by S. Labunska where assessment of the safety margin of enterprise economic security system is suggested on the basis of two approaches: cognitive and normativity. The first approach involves comparison of the calculated actual integrated indicator of economic security of the enterprise with its planned expert evaluation-based value. The second approach involves application of the value calculated on the basis of analyzing activities of the previous years instead of the planned one (Labunska, 2014).

It should be noted that it is this understanding of the economic security margin – as a difference between the actual (reporting) value of the indicator which assesses its level and its planned (normative, rational, etc.) value – that is the most common, almost classic approach used by scientists.

The concept of the safety margin of the enterprise itself or its financial or operating

activities has the similar essence. It is also based on the difference between two values of a certain indicator: actual (or its analogue – reporting, obtained at the time of assessment) and planned (standard, set, etc.). For example, the margin of safety of the enterprise's operating activities in value terms is calculated according to the formula (Kuts, 2012):

$$MS = Qpl - Qbr, \quad (2)$$

where  $MS$  is the value of products sales that provides the “margin of safety” of the enterprise's operating activities;

$Qpl$  is the value of the products sales that provides formation of the planned (or actually obtained) amount of the gross operating profit of the enterprise;

$Qbr$  is the value of the products sales that provides reaching the breakeven point of operating activities of the enterprise.

In the literature, the well-known traditional understanding of the margin of financial safety is based on definition of the ratio where gains minus breakeven is the numerator and gains is the denominator, with breakeven being the ratio of fixed expenses to the marginal income share in the gains. I. Boychik treats the concept of internal margin of safety as a system, availability of resources to protect the enterprise from destabilizing factors (Boichyk, 2016). This viewpoint is very similar to the protective approach to determining economic security of the enterprise. Therefore, combination of categories of margin of safety and economic security is reflected, in particular, in the work by N. Duleba where it is noted that for reaching economic security of operating activities the enterprise should have the revenue level able to provide coverage of unforeseen expenditures caused by internal and external factors – “margin of safety” (Duleba, 2020). All the considered approaches to determining either the economic security margin or the margin of safety are assessed in value terms. In contrast to them, V. Nusinov and A. Yarova suggest using the factor of the economic state strength reserve in terms of time in order to

take into account time limits when diagnosing crisis conditions at mining and beneficiation plants and to identify their technical insolvency point (Nusinov and Yarova, 2012). According to them, this indicator determines the period until the moment of time ( $Tk$ ) when the forecast value of the economic condition indicator ( $F$ ) chosen for analysis breaks the boundary permissible level ( $N$ ) (Nusinov and Yarova, 2012):

$$F(Tk) = N. \quad (3)$$

So, the literature review enables concluding that assessment of the margin of economic security of the enterprise is in no way associated with the level of providing economic security, i.e. the generalized result of security provision measures and actions. The indicator of economic security level (state) assessment itself and a set of measures (mechanisms, tools) for maintaining this level (state) within the given value range are the focus of vast majority of discussions. In addition, the margin of economic security can be expressed both in terms of quantity and quality, in cost and time units.

### 3. Methodology.

The following general scientific theoretical methods are used in the study: generalization, explanation, grouping – to analyze economists' and practitioners' views on the object under study and draw conclusions upon analysis of primary sources; analysis and synthesis – to justify a new differentiated-integrated approach to economic security assessment; the matrix approach – to integrate the level of economic security and its temporal state and determine the margin of economic security.

### 4. Research objectives.

The article is aimed at developing methodological approaches to determining the integrated state and margin of economic security with regard to its provision.

### 5. Results and discussions.

According to the algorithm for determining the stockpile of economic security, the initial stage consists in assessment of its



integrated or complex indicator. We believe that the integrated state of economic security is the indicator that comprehensively characterizes its value. In our previous works, we justify the differentiated approach to assessing economic security that involves separate quantitative and qualitative determination of its level depending on its state (Mishchuk, 2019). At that, the level of economic security is assessed on the basis of the ratio where the indicator of EBT insufficiency is the numerator and the liminal value of the earnings is the denominator. The numerator accumulates amounts that are the result of economic security indicators not reaching their liminal values (preset or desired thresholds). Our approach implies that the temporal state of economic security is a quantitative indicator as well and it is assessed based on the ratio where the period of security indicators reaching their liminal values is the numerator and a certain limiting period is the

denominator. The latter is a period during which these liminal values should be reached to protect economic interests of the enterprise. To obtain a complex indicator, both economic security indicators (the level and the temporal state) require integration.

As is known, there exist various methods and techniques of integrating. Classic approaches to integration include direct integration, change of a variable, taking a function under the differential sign, integration by parts. However, we consider application of a matrix approach – a 2D matrix – to be the most expedient to achieve the goal. This approach has shown good results in strategic management since it enables presenting a complex task as a set of simple situations and making deliberate managerial decisions on their basis.

For this, the qualitatively expressed level and the temporal state of economic security should be compared in pairs (Table 1).

**Table 1. Matrix of determining the integrated state of economic security of the enterprise**

Economic security levels	Temporal states of economic security					
	Very high	High	Medium	Low	Minimal	Zero
Very high	Very high	x	x	x	x	x
High	x	High	High	High	High	High
Medium	x	x	Medium	Medium	Medium	Medium
Low	x	x	x	Low	Low	Low
Minimal	x	x	x	x	Minimal	Minimal
Zero	x	x	x	x	x	Zero

Source: Suggested by the author.

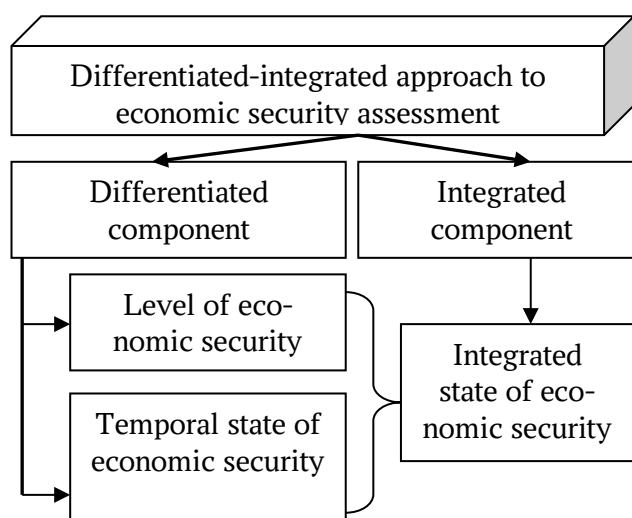
Thus, when determining the integrated state of economic security, it is advisable to orientate at its achieved level. Since assessment is performed at a specific point in time, the suggested approach is based on the idea that when a level reaches a certain qualitative value, the temporal state of economic security cannot be worse than this level. However, in practice, there may occur situations when deviation of actual values of economic security indicators from liminal values of corresponding indicators will characterize, for example, a high level of security, while the ratio of the period of their achievement to the limiting period will indicate a low temporal state. Such exceptions are a separate area of research and require

in-depth analysis. In particular, the following issues require further research: what components of economic security have impacted the situation; what factors have slowed down achievement of liminal values and other factors.

In addition, determining the integrated level of the medium-term and strategic economic security forms a separate area of research. Thus, the integrated state of medium-term security or, as we put it, security of medium-term economic interests, may differ even in the matrix approach. This is due to the fact that in this case the temporal state characterizes completely different periods of time necessary for security indicators to achieve their

liminal values. However, this study focuses only on current security – the one of current economic interests.

As quantitative assessment of the security level is first differentiated, i.e. separated from quantitative assessment of the temporal state and then they are integrated into a single indicator, we suggest calling this a differentiated-integrated approach (Figure 1).



**Fig. 1. Structure of the differentiated-integrated approach to assessment of economic security of the enterprise**

*Source: Developed by the author.*

The differentiated-integrated approach creates a complete system of enterprise economic security assessment. It allows treating determination of its value systemically and provides a more complete picture of not only impacts of values of indicators of economic security on its overall value, but also the time for their achieving set liminal values.

This time is determined with respect to usual operating activities of the enterprise without considering special measures that could accelerate it.

Therefore, after the qualitative value of the indicator of the integrated state of economic security of the enterprise is found, it is possible to arithmetize the verbal scale maintaining the preset proportions. To this end, the corresponding quantitative values of the integrated state are established for the obtained values:

- the value 0 corresponds to the zero integrated state of economic security;
- the range (0–0.25) or more accurate 0.01 instead of 0, more accurate 0.249 instead of 0.25 corresponds to the minimal integrated state of economic security;
- the range [0.25–0.5) or more accurate 0.549 instead of 0.5 corresponds to the low integrated state of economic security;
- the range [0.5–0.75) or more accurate 0.749 instead of 0.75 corresponds to the medium integrated state of economic security;
- the range [0.75–1.0) or more accurate 0.99 instead of 1.0 corresponds to the high integrated state of economic security;
- the value 1.0 corresponds to the very high integrated state of economic security.

It should be noted that the proposed scale was determined through application of the Delphi method and with the help of experts – staff members of economic security and other economic departments of Kryvyi Rih mining and beneficiation plants.

Next, let us compare quantitative values with corresponding time intervals. For illustrative purposes let us take the medium duration of the Kitchin cycle (3 years or 12 quarters) as a limiting period in assessing the temporal state (Table 2).

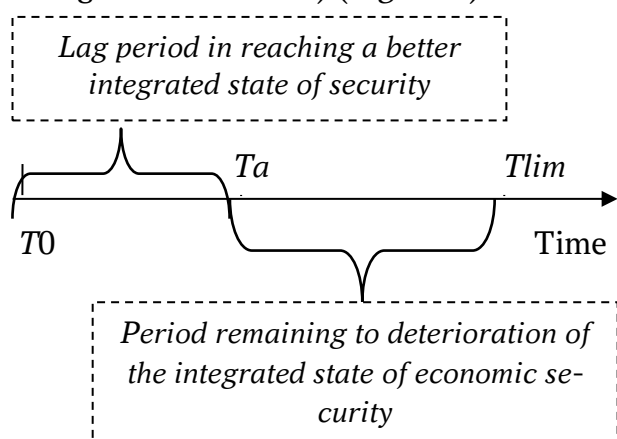
**Table 2. Comparison of quantitative values of the integrated state of economic security with corresponding time intervals for its indicators reaching their liminal values**

Integrated state of economic security	Time intervals for indicators reaching their liminal values (limiting period for this – 12 quarters*)	Median value of the period, quarters
Zero	12 and more quarters	x
Minimal	11.88 – 9.01 quarters; (2.97 – 2.25 years)	10.4
Low	9 – 6.01 quarters; (2.25 – 1.5 years)	7.5
Medium	6 – 3.01 quarters; (1.5 years – 0.75 years)	4.5
High	3 – 0.12 quarter; at that 0.12 quarter is 10.8 days (from 0.75 year to 10.8 days)	1.5
Very high	0 (liminal value is reached)	x

\* the periods are calculated by the formula  $12 \times (1 - Rthres)$  where *Rthres* is the value corresponding to the upper or lower value of the range of quantitative values of the integrated state

*Source: Developed by the author.*

Based on the time intervals obtained, two types of time lags can be determined: periods of time before deterioration of the integrated state of economic security and periods necessary to achieve a better state under the same trends (i.e. without introduction of additional management measures) (Figure 2).



Indications:  $T_0$  – time corresponding to a better integrated state of economic security than an actually achieved one;  $T_a$  – time corresponding to an actual achieved integrated state of economic security at the moment of assessment;  $T_{lim}$  – duration of the limiting period.

**Fig. 2. Visualization of time lags characterizing lag periods when achieving a better integrated state and the period remaining before its deterioration**

Source: Developed by the author.

In general, the above-mentioned time lags are determined by the formulas:

$$\Delta Tlag = Ta - T_0; \quad (4)$$

$$\Delta Td = Tlim (Tw) - Ta; \quad (5)$$

where  $\Delta Tlag$  is the period of time necessary to enhance the actual achieved integrated state of economic security up to a better (very high) one without special accelerating measures, quarters;

$\Delta Td$  is the period of time necessary for deterioration of the actual achieved integrated state of economic security to a worse (or zero) one under current trends;

$Tw$  is the period of time corresponding to a worse integrated state than the actual achieved one, quarters.

It should be noted that due to the fact that in most cases not a specific value, but a whole

range corresponds to the integrated state of economic security, the periods of time necessary for deteriorating or enhancing economic security can have three meanings:

- assessed based on the lower boundary of the range;
- assessed based on the value falling into the middle of the range;
- assessed based on the upper boundary of the range;

Thus, the values calculated by the first and third options correspond to pessimistic and optimistic scenarios (or vice versa – depending on target periods). For the second option, it is possible to find out median time intervals.

With a range of time values available, it is advisable to single out two types of scenarios regarding the time needed for enhancement or deterioration of the integrated state of economic security. It is possible to find such periods from the actual integrated state to the next, i.e. the following one in the range of possible states (e.g. from medium to low and vice versa), as well as from the actual state to the extreme one (zero or very high). Let us consider an example of the last option (Table 3).

Therefore, we suggest to apply the indicator of a time lag as an additional indicator in determining expediency of a particular security provision measure. To do this, it is necessary to compare the obtained period with duration of a management measure itself. If the latter is longer than the determined time interval requires, the measure obviously needs to be adjusted (e.g. to accelerate it or change the sequence of actions, etc.), and in case of impossibility of such a correlation it should be rejected. Thus, we suggest distinguishing between two types of security provision managerial decisions:

- those aimed at overcoming the lag in achieving a better integrated state of economic security;
- those aimed at preventing the deterioration of the integrated state of economic security.

**Table 3. Scenario approach to determining the time necessary for deterioration of the actual achieved integrated state of economic security to zero and enhancement to a very high state**

Actual integrated state of economic security	Periods of time necessary for deterioration of the actual achieved integrated state of economic security to a worse (or zero) one, quarters			Periods of time necessary for enhancement of the actual achieved integrated state of economic security up to a very high one, quarters		
	Pessimistic	Conditionally optimistic	Median	Pessimistic	Optimistic	Median
Zero	x	x	x	Over 12 quarters	12.0	Minimum 12 quarters
Minimal	0.12	2.99	1.6	11.99	9.0	10.4
Low	3.0	5.99	4.5	8.99	6.0	7.5
Medium	6.0	8.99	7.5	5.99	3.0	4.5
High	9.0	11.99	10.5	2.99	0.12	1.5
Very high	12.0	Over 12 quarters	x	x	x	x

Source: Developed by the author.

These decisions are realized in certain projects, programmes, activities, actions, etc. Moreover, the same event (e.g. an investment project) may be the result of both managerial decisions. The time criterion of expediency of managerial security provision measure is formalized as follows:

- the measure is inexpedient if:

$$T_m \geq \Delta T_{lag}; T_m \geq \Delta T_d;$$

- the measure is expedient if:

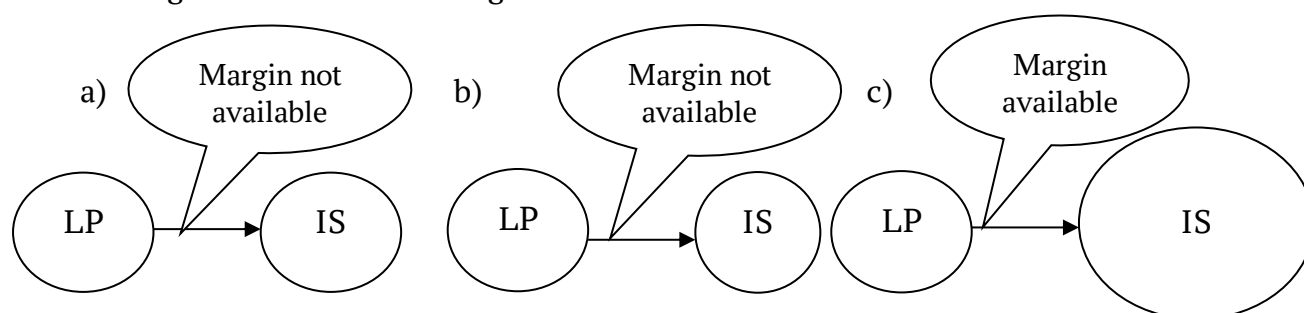
$$T_m < \Delta T_{lag}; T_m < \Delta T_d;$$

where  $T_m$  is duration of the security provision (managerial) measure, quarters.

We consider it reasonable to note again that intensity and scales of efforts invested in implementation of security provision measures may not give the expected results at the output. Moreover, the opposite situation may occur when the highest values of the integrated state

of economic security may result from the smallest security provision actions. Both cases are explained by availability (non-availability) of the margin of economic security with regard to its provision.

It should be separately noted that methodological approaches to assessment of the degree of economic security provision through the corresponding indicator of the level of provision are detailed in (Nusinov and Mishchuk, 2019). This level is a kind of summary result of those measures and actions implemented to provide economic security parameters – operating excellence and market stability. In the same study, it is necessary to mention comparison of the following two indicators: the level of economic security provision and the integrated state of economic security (Figure 3).



LP – level of economic security provision; IS – integrated state of economic security.

**Fig. 3. Visualization of forming the margin of economic security with regard to its provision**

Source: Developed by the author.



So, when determining the margin of economic security with regard to its provision, three possible options should first be considered, and in two of them it is advisable to conclude about non-availability of margins of economic security with regard to its provision. These are situations *a* and *b*:

- a) when  $LP = IS$ ,
- b) when  $LP > IS$ .

The third option is the last of the visualized situations:

- c) when  $LP < IS$ .

It clearly demonstrates availability of the margin of economic security with regard to its provision.

So, it can be concluded that there are three qualitative levels of the margin of economic security with regard its to provision:

- positive, when the integrated state of security exceeds the level of its provision;
- neutral when the integrated state of security equals the level of its provision;
- negative when the integrated state of economic security exceeds the integrated state resulted from appropriate measures.

However, not everything is so unambiguous. The fact is that the margin of economic security may be available to some extent, but the enterprise utilizes it while providing economic security. Therefore, the value of the

integrated state may become greater – exactly due to utilization of the available margin and even if there is a decrease in this value, it should be realized that without such a margin, the decrease in the value of the integrated state could be even greater.

In (Mishchuk, 2019), we substantiate that the level of providing economic security has qualitative interpretation that reflects the style of security provision. As we single out eight styles of provision, to enable further research, let us harmonize their scale with the one of the qualitative values of the integrated economic security state (Table 4).

**Table 4. Qualitative scale of harmonizing the economic security provision style and levels of provision**

Economic security provision style	Corresponding level of provision
Leader	Very high
Progressive	High
Restrictive	High
Proactive	Medium
Supporting	Medium
Regressive	Low
Deforming	Minimal
Destructive	Zero

Source: Developed by the author.

The matrix of qualitative determination of the economic security margin is given in Table 5.

**Table 5. Matrix of qualitative determination of the economic security margin**

Economic security provision level (PL)	Integrated state of economic security (IS)					
	Very high	High	Medium	Low	Minimal	Zero
Very high	Positive margin	Negative	Negative	Negative	Negative	Negative
High	Positive	Neutral	Negative	Negative	Negative	Negative
Medium	Positive	Positive	Neutral	Negative	Negative	Negative
Low	Positive	Positive	Positive	Neutral	Negative	Negative
Minimal	Positive	Positive	Positive	Positive	Neutral	Negative
Zero	Positive	Positive	Positive	Positive	Positive	Neutral

Source: Developed by the author.

Due to availability of various options for obtaining qualitative levels of the economic security margin, focusing on qualitative determination only is insufficient. It should be

quantified. To this end, different integrated approaches can be applied. However, the most clear and adequate is the matrix method which in this case will be combined with a scoring

approach. To quantify the security reserve within the positive level, we use a simple scoring system: from 1 to 5, where 1 is the smallest margin and 5 is the largest. A similar logic is used to determine the negative margin using the scoring system from -1 to -5 (Table 6).

Table 6. Matrix of quantitative determination of the margin of economic security with regard to its provision

Economic security provision level (PL)	Integrated states of economic security (IS)					
	Very high	High	Medium	Low	Minimal	Zero
Very high	0	-1	-2	-3	-4	-5
High	+1	0	-1	-2	-3	-4
Medium	+2	+1	0	-1	-2	-3
Low	+3	+2	+1	0	-1	-2
Minimal	+4	+3	+2	+1	0	-1
Zero	+5	+4	+3	+2	+1	0

Source: Developed by the author.

Considering availability of different quantitative values within the qualitative levels of economic security margin, the classification of the latter can be supplemented by distinguishing additionally:

- the minimum positive (+1), the low positive (+2), the medium positive (+3), the high positive (+4) and the very high positive (+5) margin of economic security;

- the minimum negative (-1), the low negative (-2), the medium negative (-3), the high negative (-4) and the very high negative (-5) margin of economic security.

### 6. Conclusions.

Thus, the article proposes methodological approaches to assessment of the integrated state of economic security of the enterprise. These approaches provide for supplementing a static indicator of economic security (its level) with a dynamic (which is the temporal state)

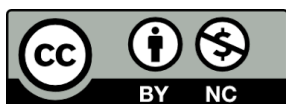
one and allow enterprises to treat determination of its value systemically. In addition, the described approaches reveal expediency of security provision measures based on the time criterion. The suggested methodological approach to determining the margin of economic security of the enterprise with regard to its provision is based on qualitative and quantitative approaches to its assessment. It provides for comparison of the value of the economic security provision level with the integrated state resulted from appropriate measures. The use of the indicator of the economic security with regard to its provision in practical activities of enterprises enables their management to consider beyond-control factors and on this basis make decisions on strengthening (acceleration) or, on the contrary, weakening and economy of implemented measures and programmes aimed to enhance economic security.

### References

- Boichyk, I. M. (2016), *Ekonomika pidpriemstva* [Economics of the enterprise], Kondor, Kyiv, Ukraine, 378 p.
- Duleba, N. V. (2020), "Methodical bases of definition of level of economic safety of the motor transport enterprise", *Innovative economy*, no. 7-8, pp. 151-157.
- Ianioglo, A. and Polajeva, T. (2016), "Origin and definition of the category of economic security of enterprise", *The 9th International Scientific Conference proceedings "Business and Management 2016"*, Vilnius, Lithuania, May 12-13, doi: <http://dx.doi.org/10.3846/bm.2016.46>
- Kozachenko, A. V., Ponomarev, V. P. and Lyashenko, A. N. (2003), *Ekonomicheskaya bezopasnost' predpriyatiya: sushchnost' i mekhanizm obespecheniya* [Economic security of the enterprise: essence and mechanism of support], Libra, Kyiv, Ukraine, 280 p.
- Kuts, L. L. (2012), *Kapital pidpriemstva: formuvannia ta vykorystannia* [Enterprise capital: Formation and use], TNEU, Ternopil, Ukraine, 114 p.

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- Labunska, S. V. (2014), "The concept of building a system of economic security of the enterprise in the process of innovation", *Problems of the Economy*, no. 4, pp. 282–289.
- Maslak, O. I. and Grishko, N. Y. (2013), "The economic security management of enterprise according to the principles of its rational level provision", *Marketing and Management of Innovation*, no. 1, pp. 198–208.
- Mishchuk, Ie. V. (2019), "Differentiated approach to assessing the level and condition of multilevel indicators on the example of economic security of the enterprise", *Economics, Management and Administration*, no. 3(89), pp. 16–23, doi: [https://doi.org/10.26642/ema-2019-3\(89\)-16-23](https://doi.org/10.26642/ema-2019-3(89)-16-23)
- Noorit, N., Thapayom, A. and Pornpundejwittaya, P. (2020), "Guidelines for adaptation of the thai industrial business to support the digital economy", *Academy of Strategic Management Journal*, vol. 19, no. 6, available at: <https://www.abacademies.org/articles/guidelines-for-adaptation-of-the-thai-industrial-business-to-support-the-digital-economy-9773.html> (Accessed 20 October 2020)
- Nusinov, V. Ya. and Mishchuk, Ie. V. (2019), "Elaboration of scientific and methodological approaches to providing economic security of an enterprise as a key component of its management", *Economies' Horizons*, no. 4(11), pp. 93–105, doi: [https://doi.org/10.31499/2616-5236.4\(11\).2019.219078](https://doi.org/10.31499/2616-5236.4(11).2019.219078)
- Nusinov, V. Ya. and Yarova, A. B. (2012), *Diahnostyka kryzovoho stanu pidpriemstv z urakhuvanniam faktora chasu* [Diagnosis of the crisis of enterprises taking into account the time factor], Cherniavskiy D. O., Kryvyi Rih, Ukraine, 204 p.
- Yachmenova, V. M. (2007), *Identyfikatsiia stiikosti diialnosti promyslovykh pidpriemstv* [Identification of stability of activity of industrial enterprises, Simferopol], Dolia, Simferopol, Ukraine, 384 p.



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