5. Robinson, J. (2004). Squaring the circle? Some thoughts on the idea of sustainable development. *Ecological Economics, 48 (4)*, 369–384. doi: http://doi.org/10.1016/j.ecolecon.2003.10.017

6. Pohoață, I., Diaconașu, D. E., Crupenschi, V. M. (2020). *The Sustainable Development Theory: A Critical Approach, Volume 1: The Discourse of the Founders.* Cham: Palgrave Macmillan, 225. doi: http://doi.org/10.1007/978-3-030-54847-6

7. Balakrishnan, U., Duvall, T., Primeaux, P. (2003). Rewriting the bases of capitalism: reflexive modernity and ecological sustainability as the foundations of a new normative framework. *Journal of Business Ethics, 47 (4)*, 299–314. doi: http://doi.org/10.1023/a:1027309918415

8. Blyth, W. et. al. (2014). *Low carbon jobs: The evidence for net job creation from policy support for energy efficiency and renewable energy.* London: UK Energy Research Centre, 31.

9. Stern, N. (2007). *The Economics of Climate: The Stern Review.* London: The Cambridge University Press, 10. doi: http://doi.org/10.1017/cbo9780511817434

10. Friedman, T. L. (2009). *Have a nice day.* New York Times. Available at: https://www.nytimes.com/2009/09/16/opinion/16friedman.html

11. Stefan, A., Paul, L. (2008). Does It Pay to Be Green? A Systematic Overview. *Academy of Management Perspectives, 22 (4)*, 45–62. doi: http://doi.org/10.5465/amp.2008.35590353

12. Jackson, E. A. (2020). *Fostering sustainable innovation through creative destruction theory. Industry, Innovation and Infrastructure.* Centre of West African Studies, University of Birmingham, 1–13. doi: http://doi.org/10.1007/978-3-319-71059-4_119-1

13. Pongratz, H. (2020). *A society of entrepreneurs: the expansion and profanation of 'creative destruction'. Care or Control of the Self?* Norbert Elias, Michel Foucault, and the Subject in the 21st Century, 96.

*Ivanchenko Vitalii, PhD, Associate Professor, M. P. Shulgin State Road Research Institute State Enterprise, Kyiv, Ukraine, e-mail: Ivanchenko_vital@ukr.net, ORCID: http://orcid.org/0000-0003-4014-0780*

Mishchuk Ie.

# DEVELOPMENT OF MODERN DIRECTIONS OF ESTIMATOLOGY IN THE ECONOMIC SECURITY OF THE ENTERPRISE

*The object of research is the process of developing directions in estimatology of the economic security of an enterprise. Multiple objects are taken into account in the estimatology of economic security. It is revealed that the presence of many approaches to determining liminal (recommended, desired) values when assessing indicators of economic security is due to their multitasking. It is substantiated that the detected multitasking generates multilevel and multi-persistence of economic security. The property of variability of the degree of rigidity of the liminal (recommended and other) values of indicators is shown. The essence of the triple nature of acceleration (deceleration) of an enterprise is revealed. The use of critical time in the algorithm for assessing the state of economic security is proposed. An ambivalent approach to management decisions and activities of an enterprise in terms of their impact on economic security is determined. The features of taking into account the impact of the security of the company's stakeholders on its economic security are formulated. It is substantiated that the most influential liminal value of the personnel safety indicator is the salary in the replacement country, adjusted for the amount of rental payments and the difference between food costs in the replacement country and Ukraine. It is determined that overpaid dividends, and not their lack, have a greater impact on the safety of the enterprise. Differences in assessing the level and state of economic security (the level and state of its formation and provision) in the current and medium-term periods are systematized. It is substantiated that the key difference between the current and mid-term assessment is the use of technical indicators in the latter. It is proposed in assessing the level of security, which is based on the amount of shortage of profit before tax, to use the appropriate models for converting technical indicators into economic ones. The expediency of the symbiosis of functional and process approaches in assessing economic security is shown. The result of this research is the developed new directions in the estimatology of the economic security of the enterprise. The application of the developed directions allows a more comprehensive and systematic assessment of various objects of economic security, both in the current and in the medium term.*

**Keywords:** *security level, security state, security formation state, security indicators.*

## 1. Introduction

The estimatological aspect of economic security in foreign studies can be reduced to two key areas. The first characterizes the safety of households [1, 2]. The second direction corresponds to a thorough and comprehensive coverage of the country's economic security in the context of its national security [3]. The economic security

of enterprises among foreign specialists is not formalized as an independent area of research. On the other hand, the related risk management received wide coverage [4]. Only in the last decades, have affected the stability of the activities of companies in all spheres of business in Eastern Europe, representatives of these countries are more outlined talking about economic security at the enterprise level as an autonomous area of knowledge [5]. In the countries of the post-Soviet space, the estimatological direction in the economic security of an enterprise is a fairly popular object of research. This is both its advantage and disadvantage. The disadvantage is that a large number of methodological developments and techniques have been formed that require systematization and the development of a unified approach. This need is repeatedly emphasized by the founders of the estimatological aspect in safety science [6, 7]. Therefore, despite the emergence of new methods for assessing economic security [8, 9], it is necessary to develop a direction of estimatology, which allows a comprehensive and complex assessment of various objects of economic security.

So, *the object of research* is the process of developing directions of estimatology in the economic security of an enterprise. *The aim of research* is to develop areas of estimatology in the economic security of an enterprise.

## 2. Methods of research

The research used the dialectical method, the method of analysis and synthesis – in the study and generalization of scientific concepts of estimatology in the economic security of an enterprise, as well as in the development of its new directions.

## 3. Research results and discussion

The studies made it possible to develop promising areas of modern estimatology in economic security, within which the following are distinguished:

1. Multi-object differentiated approach. The differentiated approach consists in measuring the level of many objects of economic security separately from measuring their condition. Such objects are directly the level of economic security, the state of economic security, the level of ensuring economic security, the state of its provision, the level of formation, the state of formation, the level of management, the state of management and others. Features of the differentiated approach are primarily in the use of various indicators to measure the state and level.

2. Multitasking liminal (threshold/recommended/desired/set, etc.) values of indicators of economic security of an enterprise. In assessing economic security, scientists and practitioners use no less varied values as the so-called normative, reference, recommended and similar indicator values. The latter include averages (arithmetic for the enterprise, industry (simple, weighted), etc.), specially measured in various ways (expertly, based on mathematical modeling, etc.), internal (established by the enterprise itself) and external (dictated by the requirements of the business environment) and others. Let's believe that scientific discourse should not focus on justifying the advisability of using one or another indicator value as liminal (threshold/recommended), as is the case in modern safety science. The focus should be on tasks that

are solved using a specific liminal (threshold) value at a specific point in time or time interval. For example, if to choose values that correspond to the best Western practices as the liminal (recommended) values, one problem is solved. It is quite another if to choose the values that characterize the development taking into account scientific and technological progress.

So, the state of economic security in the current period characterizes the time for which this enterprise lags behind its competitor in the country. The mid-term safety status is the time it takes for an enterprise to catch up with foreign best practices. For economic security in the strategic dimension (more than 5 years), it is advisable to set goals, rather than assess its level or state according to indicators that are likely to be irrelevant in this period. This is due to changes in the priorities and direct interests of both the enterprise itself and its owners and other stakeholders.

3. Multiequality and multistate of economic security as a consequence of the multitasking of liminal values. The introduced terms characterize the presence of several types of levels and several types of states of economic security (and, accordingly, several levels and states of its formation and provision). For example, consider a real investment project. Within the framework of it, standards of three kinds can be used – specified by the investment program of the enterprise, due to the scientific and technological progress in the industry, the best business practices. However, the list of possible values is not limited to those listed. Thus, the use of these values in assessing the level and state of economic security will lead to a triad of levels and a triad of states. Visualizing the proposed approach in Fig. 1.

There is a similar vision for assessing the level and state of the formation and ensuring the economic security of the enterprise as the results of the implementation of the corresponding processes.

4. The property of the severity variability of the liminal (recommended and other) values of indicators. On this basis, they can be divided into hard, moderate and soft. Moreover, such a classification can be both for the value of the indicator (in any units of measurement: value, natural, etc.), and for the time allotted for its implementation. Strict standards should be met in any state of the enterprise, in any external conditions of the business environment and within a clearly defined time frame.

However, in contrast to existing views, let's propose to take into account the property of transition of the rigidity degree to another state, taking into account the specific conditions and circumstances of management. For example, the specific amounts of tax payments and the deadlines for their payment were considered rigid values for the new COVID business conditions. However, the opposite situation – the transition from soft values to hard values can also take place. The reason for this can be various factors: the emergence of a new competitor, the strengthening of protectionist measures in the markets, government sanctions, etc. (Fig. 2).

5. The triple nature of acceleration (deceleration) of the enterprise. Acceleration (deceleration) can be real, intra-industry and market. Real acceleration (deceleration) characterizes the reduction (lengthening) of the time period for the liminal (desired and other) parameters of economic security in comparison with the plans or forecasts of the enterprise due to the implementation of certain measures and the implementation of the corresponding processes.

Intra-industry acceleration (deceleration) characterizes the reduction (lengthening) of the specified period of time by the given enterprise in comparison with other enterprises in the region within the country. This is due to the reverse mechanisms in the industry. An example acceleration of a basic enterprise has the following meaning. The time to reach liminal values at the enterprises of the industry increases significantly. Therefore, an improvement in the periods of achieving the indicated values of similar indicators at the base enterprise is not real, but only looks like this against the background of other companies. At the same time, the base enterprise can generally stand still, while other enterprises in the industry can slow down in achieving the liminal values of safety indicators. A similar mechanism characterizes the market acceleration (for Ukrainian business, mainly deceleration) of the underlying enterprise in comparison with the world leaders in the industry (best foreign practices).

the critical time is relevant for indicators characterizing the security of the enterprise with fixed assets, material and raw materials, energy resources, and the like. So, in the 1990s, even with the availability of funds, enterprises experienced supply disruptions, which were reflected in downtime and corresponding losses. The modern COVID business environment is also characterized by supply disruptions, supply chain disruptions, and the like. In this regard, the role of insurance stocks and reserves is increasing. However, their formation is not always economically feasible, especially for those enterprises that do not have their own warehouses or the existing warehouses are small. In addition, the critical time is updated when payments are delayed from counterparties, as well as when settlements with creditors, in turn, can increase insolvency and initiate the threat of bankruptcy. Security assessments based on time indicators have the advantage that economic security indicators are heterogeneous in their economic essence. The algorithm for assessing the state of economic security using critical time is shown in Fig. 3.
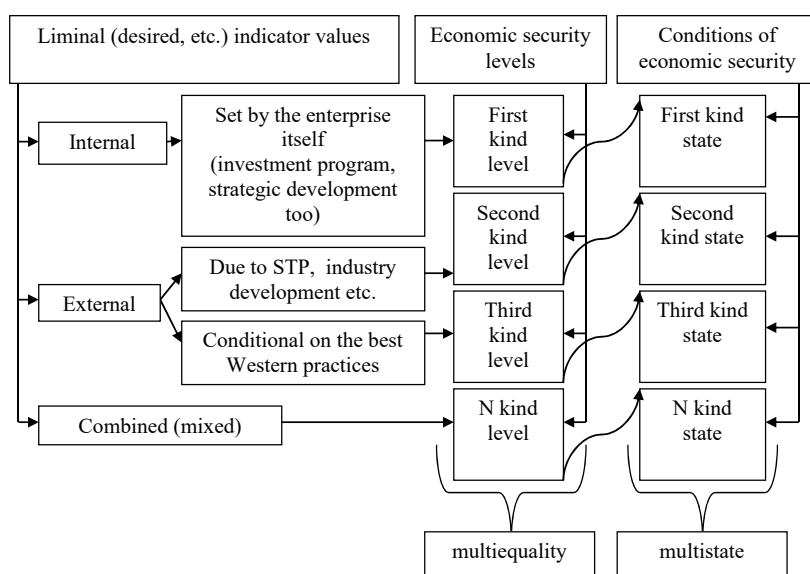


Fig. 1. Visualization of the author's vision of the multiequality and multistate of the economic security of the enterprise (developed by the author)

At the same time, let's note that the author of work [10] conducted a study, according to which it was substantiated that the probability of entering the bankruptcy procedure of monopolist enterprises in specialized markets (such as iron ore and mining and processing plants, as well as metallurgical plants) is quite low, regardless of their financial and economic condition. In this regard, it is inappropriate to introduce a critical time for the security of the financial solvency of such enterprises.

Let's propose to apply a similar critical time to the assessment of the state of formation and provision of economic security. For example, the critical time in ensuring economic security is the maximum possible period during which the company's products are not certified according to international standards (quality, environmental requirements, and others).

When assessing the state of economic security, taking into account the COVID business environment, it is advisable to make several scenarios (pessimistic and optimistic). At the same time, let's propose to determine the boundaries of the corresponding intervals not only for the values of indicators of economic security, but also for its individual components.

7. An ambivalent approach to management decisions and activities of an enterprise in terms of their impact on economic security. The classification of management decisions based on their impact on economic security provides for their division into direct and indirect. The former provide for direct measures to improve economic security (its level, condition, formation, provision). The latter have an indirect effect. Ambivalence manifests itself when a management decision is effective from the point of view of traditional economic indicators, but dangerous from the point of view of deterioration of the level and state of economic security of the enterprise and/or its stakeholders.
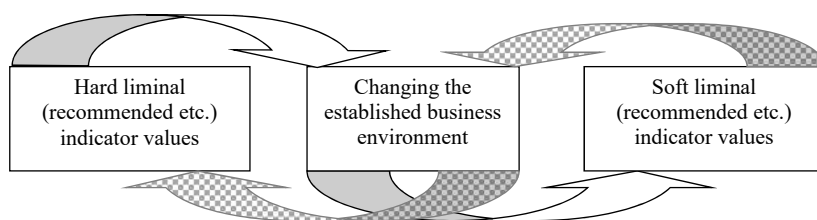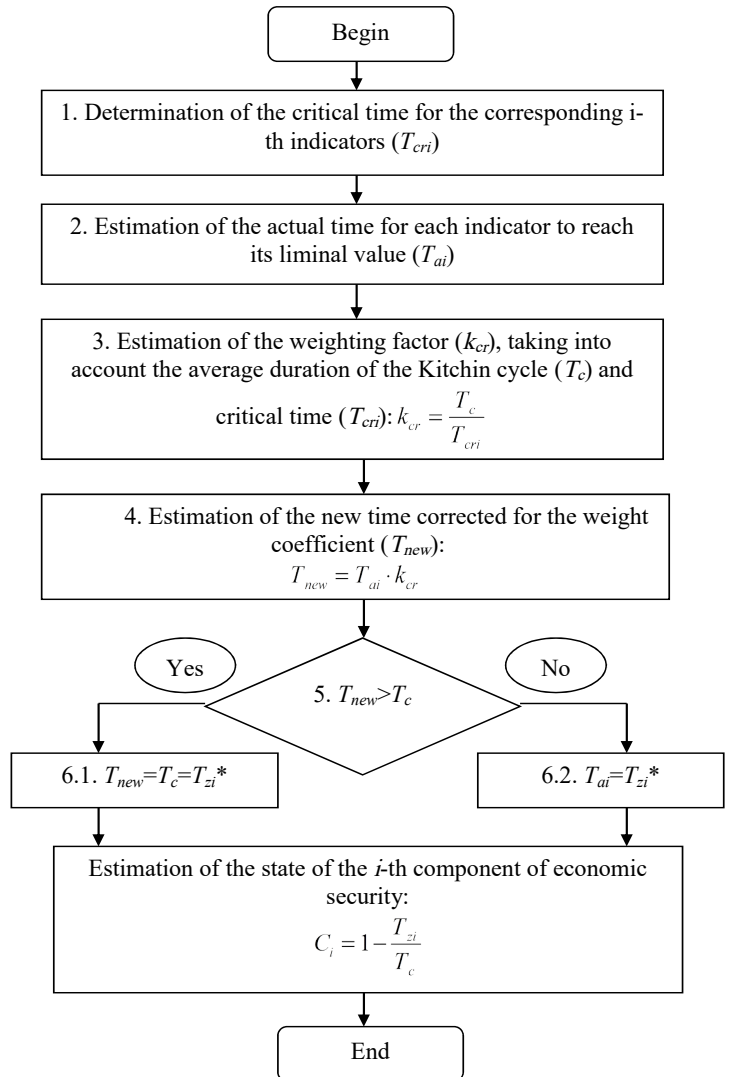


Fig. 2. Visualization of the property of variability of the rigidity degree by liminal (recommended and other) values (developed by the author)

6. Application of critical time as a weighting factor for indicators of economic security. When assessing the indicators of the state of the components of economic security, it is advisable to take into account the critical time, which is the period during which an enterprise can operate in conditions of failure of one or another indicator to reach its threshold value. This can be both the maximum allowable time after which a critical event occurs (for example, the opening of a bankruptcy case), and the minimum possible time. Let's note that, first of all,

Begin

1. Determination of the critical time for the corresponding $i$-th indicators ($T_{cri}$)

2. Estimation of the actual time for each indicator to reach its liminal value ($T_{ai}$)

3. Estimation of the weighting factor ($k_{cr}$), taking into account the average duration of the Kitchin cycle ($T_c$) and critical time ($T_{cri}$): $k_{cr} = \dfrac{T_c}{T_{cri}}$

4. Estimation of the new time corrected for the weight coefficient ($T_{new}$):
$T_{new} = T_{ai} \cdot k_{cr}$

Yes ← 5. $T_{new} > T_c$ → No

6.1. $T_{new} = T_c = T_{zi}*$          6.2. $T_{ai} = T_{zi}*$

Estimation of the state of the $i$-th component of economic security:
$C_i = 1 - \dfrac{T_{zi}}{T_c}$

End

* Symbol introduced for clarity of application in the further formu

**Fig. 3.** Algorithm for assessing the state of economic security using critical time (developed by the author)

8. Features of accounting for the impact of the security of the stakeholders of the enterprise on its economic security. In particular, when taking into account the influence of personnel safety as the liminal level of wages, it is not advisable to take intra-industry values across the country (neither average nor maximum). The basis for comparison should be the wages of the country where workers of Ukrainian enterprises most often leave to work (the country of replacement). Poland has been the leader among such countries in recent years. At the same time, such wages should be adjusted for the amount of rent for housing and the difference between the cost of food in the country of replacement and Ukraine.

In addition, the safety of personnel implies not only the satisfaction of their economic interests, but also the provision of a workplace. Since the company can take measures to raise wages and social benefits to the best European standards, along with measures to reduce staff. Therefore, in some cases, when measuring the safety of personnel, it is advisable to take into account the number of dismissed workers and the corresponding savings in the payroll. It should be noted that the relationship between

personnel safety and enterprise safety is direct, but not as linear as it seems at first glance. Despite the interests of the enterprise to reduce staff and the resulting savings, workers who remain may go on strike, which will worsen its safety.

It is proposed to assess the impact of the safety of the environmentally oriented stakeholders on the economic safety of the enterprise based on the amount of untapped environmental costs. Such expenses are formed in the following areas:

– as the difference between the amounts of financing actually implemented environmental measures (programs) and required programs. This raises the problem of identifying the necessary environmental programs precisely from the point of view of stakeholders, not the enterprise. At the same time, one should take into account the situation when the volume of programs planned by the enterprise, and then the amount of expenses for their financing ($EEpl$) will be less than the required amount ($EEreq$). In this case, the following condition must be met:

$$EEpl \geq EEreq; \qquad (1)$$

– as the difference between the estimated amounts that the company paid for similar objects in accordance with foreign environmental legislation and the amounts of environmental payments paid by calculation in accordance with Ukrainian legislation. For example, the amount of unused environmental tax ($\Delta BEt$) is proposed to be calculated as follows:

$$\Delta BEt = ETf - ETukr, \qquad (2)$$

where $ETf$ – the amount of environmental tax, calculated in accordance with foreign environmental regulations, c. u.;

$ETukr$ – the amount of environmental tax paid in accordance with the Tax Code of Ukraine, c. u.

It should be noted that it is advisable to choose the one in which environmental requirements are the most stringent as foreign legislation. Now the requirements of compliance with the legislation of the European Union are being tightened for Ukrainian enterprises. In addition, as a separate option, it is advisable to take into account the environmental legislation of the country – the importer of the company's products. If it turns out to be softer than the Ukrainian one, then the amount of unused expenditures on environmental payments should be considered equal to zero;

– in case of violation of environmental legislation, the amount of fines paid and compensation for damages should be additionally taken into account. At the same time, it is advisable to distinguish between the estimated amounts of such fines and losses, which were determined on the basis of foreign environmental legislation and Ukrainian. The analysis showed that the scarcity of the amounts of fines paid by Ukrainian mining and processing plants is associated with imperfect methods for calculating such fines, prescribed in domestic regulatory legal acts:

$$\Delta EEf = EFf - EFukr, \qquad (3)$$

where $\Delta EEf$ – difference in the calculated amount of fines (including compensation for damages caused), estimated according to foreign and Ukrainian regulations, c. u.;

$EFf$ – the amount of fines (including compensation for damages), calculated in accordance with foreign environmental regulations, c. u.;

$EFukr$ – the amount of fines (incl. Compensation for damages), calculated in accordance with the Ukrainian environmental regulations, c. u.

It is worth noting that information about planned and actually implemented and financed environmental programs should be publicly available. However, today such information is considered confidential by enterprises and is not subject to disclosure. The situation with the necessary environmental programs is even worse. So, in the city of Kryvyi Rih, one of the ecologically backward cities of Ukraine, there are no detectors of emissions into the air even in sufficient quantities.

Widespread in safety science is the view on the direct relationship between the level of economic security of an enterprise and the amount of dividends paid to its owners. In general, it is not deny the importance of the enterprise's ability to have such an amount of profit that will be sufficient to pay dividends. However, the payment of a small amount of dividends or its complete absence is not always an indication of a low level of security. The available theoretical developments overlook the fact that in practice, the budget of the enterprise is approved at the end of the calendar year, usually in November. While the decision on the payment of dividends is made by the general meeting of shareholders at the end of the year, as a rule, in April next year. Therefore, when drawing up a budget, the management of the enterprise already understands how much the owners will take from its activities. Together with the budget, CAPEX is also approved – a program whose activities can be financed from profits, shareholders' investments and debt capital. If the business of an enterprise is planned to be scaled up, then investments can be directed to working capital. Therefore, the decision on the payment of dividends and their amount are made directly by the owners. In this regard, there are no such universal models to establish the reason for the absence of payment of dividends or their small amount. With the available amount of net profit, such reasons may be:

– decision of the owners to direct the available profit to finance real investment projects, the development of new markets, the release of a new type of product, and the like;

– intentions regarding mergers and acquisitions, acquisitions of other companies;

– personal lack of interest of the owners in receiving dividends in the current period;

– lack of interest of owners to pay dividends to minority shareholders;

– unfavorable for the owners of the tax burden on dividends, through which they seek other measures to receive funds;

– lack of free cash – when accounts receivable occupy the prevailing share of income, then even with a sufficient amount of net profit, there is not enough funds to pay off obligations to shareholders;

– other reasons.

In this case, it is advisable to estimate the minimum required amount of profit, which consists of two parts. The first part is the amount that the company needs for further effective financial and economic activities. The second part is the amount that ensures the payment of the dividend amount desired by the owners during the assessment period. The first amount can be determined in various ways, among which the simplest is to estimate using the liminal value of profitability. Measuring the second amount generates the need to solve an additional task: determining the desired amount of dividends. In this case, the desired amount can have two manifestations: as a quotient of the profit received by the enterprise and as a desirable absolute amount of dividends. In the first manifestation, the share can be determined using three kinds of liminal values: average among enterprises in the industry, maximum in the region, and the best in world business practice. The measurement of the absolute desired dividend amount should also be based on a specific baseline. However, in practice, such a measurement is practically not found.

There are peculiarities of paying dividends at enterprises that are owned by several large owners. If such owners can't agree among themselves, then the full amount of net profit is sent to dividends in proportion to the share of shares of each such owner. An example is the Severny Mining and Processing Plant Private Joint Stock Company (Kryvyi Rih, Ukraine).

So, low or no dividend amounts do not always indicate a low level of economic security. The danger for the enterprise arises not only when the owners can't receive the desired amount of dividends due to insufficient profits. More threatening to the security of the enterprise is the situation when the owners decide to pay too large amounts. In contrast to the existing approaches, when assessing the impact of the security of owners on the security of an enterprise, let's emphasize the need to take into account their feedback. Let's propose to take into account precisely the excessively paid amounts of dividends, the payment of which leads to the exsanguination of the enterprise and the deterioration of the level of economic security. There are cases when ore mining and processing enterprises used 100 % of their net profit to pay dividends, leaving nothing for their own development.

So, in contrast to the well-established view of the importance of taking into account threats to stakeholders, let's focus on stakeholders as a source of threats to the enterprise.

9. Assessment of the level and state of economic security in the medium term in comparison with the current period has a number of features (Table 1).

The key difference between current and mid-term assessments is the application of technical indicators. To assess the state of economic security, it is found that each technical indicator reaches its liminal value. However, in assessing the level of security, which is based on the magnitude of the lack of profit before tax, one should additionally use the appropriate models for converting technical indicators into economic ones. For this, the sums of cost indicators that are needed for recalculation (mainly the price of products and the value of assets) are taken into account according to separate forecasts. In this case, it is advisable to make the assumption that the existing conditions remain unchanged.

**Table 1**

Generalization of differences in assessing the level and state of economic security (level and state of its formation and provision) in the current and medium-term periods

| Estimatologi-cal parameter | Features of assessing economic security in the current period | Features of assessing economic security in the medium term |
|---|---|---|
| Liminal (threshold) indicator value | The maximum among the enterprises of the industry (depending on the objectives of the study – various aver-age, etc.) | The values characterizing the best business practices (depending on the research objectives, not limited to the branch of the enterprise in individual cases – the value due to scientific and technological progress (STP) is established in the programs (strategies) of enterprise development, etc.) |
| Estimation period | Current based on flashback | Past (using reverse (reverse) trends) future (various forecasting and prediction methods) |
| Indicator units | Any | Mainly technical, without cost – pollutant emissions, production volumes, etc. (in some cases, for research pur-poses, a possible exception: use of wages, etc.) |
| Components of economic security | All | In assessing the state – all the components. In assessing the level – the elimination of cost indicators or the imposition of restrictions and taking into account assumptions (the use of appropriate economic mod-els for converting technical indicators into cost indicators, all other things being equal) |
| Planning horizon | No planning horizon due to current estimate | Dual approach – the planning horizon is set (as a rule, 5 years or a period equal to the time of implementation of a strategic event, such as an investment project); not set |
| Accounting for accelera-tion (decel-eration) | Only in exceptional cases | Mandatory, subject to avail-ability |

10. Symbiosis of functional and process approaches. Thus, the assessment of the level and state of economic security can be the most complex only on the basis of measuring its functional components with subsequent inte-gration. Consideration should be given to the nonlinearity of the relationship between the security level (state) and the security level (state) itself. Taking this into account, the most acceptable, let's consider the process approach to ensuring (formation) of economic security and measuring it as a result of a set of individual processes. In contrast to the traditional approach, in which economic security is considered through the prism of ensuring its individual func-tional parts, let's propose a process approach. Its peculiarity is that with the help of certain processes, key properties, qualities and specific features of the economic security of an enterprise are provided (formed). Such processes include both individual, inherent in a particular type of activity, and indifferent to it.

## 4. Conclusions

On the basis of a critical understanding of the exist-ing experience in the assessment of economic security and author's research, modern trends in the estimatology of the economic security of an enterprise have been developed. Ten characteristic areas are identified, each of which is multi-layered in terms of possible options for its application in other areas of economic science. The proposed directions are interconnected and sys-temic from the point of view of their implementation in the practice of modern industrial enterprises. Tak-ing multi-objectivity into account in the estimatology of economic security made it possible to apply a dif-ferentiated approach to a separate assessment of the level from the state, not only in relation to economic security as such, but also to its provision and forma-tion. The formulated multitasking of the liminal value made it possible to reveal the poly-rage and polity of economic security. The proposed algorithm for assess-ing the state of economic security using critical time will contribute to faster and more effective management decisions on measures to ensure economic security. A certain ambivalent approach to management decisions and activities of an enterprise from the point of view of their impact on economic security allows a new approach to the process of their development and implementation. Based on the identified features of stakeholder safety assessment, it becomes possible to take into account its impact on the economic security of the enterprise. It is substantiated that the key difference between the current and mid-term assessment is the use of technical indicators in the latter. It is proposed in assessing the level of safety, which is based on the amount of shortage of profit before tax, to use the appropriate models for converting technical indicators into economic ones. The expediency of the symbiosis of functional and process approaches in assessing economic security is shown.

Thus, the application of the developed directions al-lows a more comprehensive and systematic assessment of various objects of economic security, both in the current and in the medium term.

### References

1. Financial Security Program. *The Aspen Institute*. Available at: http://www.aspeninstitute.org/programs/financial-security-program/
2. Ajdari, B., Asgharpour, S. E. (2011). Human security and development, emphasizing on sustainable development. *Proce-dia – Social and Behavioral Sciences, 19*, 41–46. doi: http://doi.org/10.1016/j.sbspro.2011.05.105
3. Tamošiūnienė, R., Munteanu, C. (2015). Current research ap-proaches to economic security. *The 1 st International Confer-ence on Business Management*. Valencia. doi: http://doi.org/10.4995/icbm.2015.1537
4. Giannopoulos, G., Filippini, R., Schimmer, M. (2012). *Risk assessment methodologies for critical infrastructure protection*. Luxembourg: Joint Research Centre of Institute for the Pro-tection and Security of the Citizen. Part I: A state of the Art. European Union, 53.
5. Ianioglo, A., Polajeva, T. (2016). Origin and definition of the category of economic security of enterprise. *Business and Man-agement 2016*. Vilnius. doi: http://doi.org/10.3846/bm.2016.46
6. Kozachenko, H. V., Vakhlakova, V. V. (2016). Obiekty ta pid-khody v otsiniuvanni ekonomichnoi bezpeky pidpryiemstva yak osnovni elementy otsinnoi systemy. *Ekonomichna bezpeka:*

*derzhava, rehion, pidpryiemstvo, 1,* 185–208.

7. Kozachenko, H. V., Pohorelov, Yu. S. (2015). Otsiniuvannia ekonomichnoi bezpeky pidpryiemstva: analiz osnovnykh pidkhodiv. *Menedzhment bezpeky derzhavy, rehionu, pidpryiemstva: problemy i vyklyky sohodennia.* Lviv: Liha-Pres, 238–251.

8. Nusinov, V. Ya., Mishchuk, Ie. V., Izmaylov, Ya. (2019). Development of the stereometric method to the analysis of economic categories and processes and its application in security and taxation. *Baltic Journal of Economic Studies, 5 (4),* 160–170. doi: http://doi.org/10.30525/2256-0742/2019-5-4-160-170

9. Mishchuk, Ye. V. (2020). Otsinka stanu vydiv ekonomichnoi bezpeky, roztashovanykh na vyshchykh shchabliakh yii iierarkhii (na prykladi bezpeky tekhniko-tekhnolohichnykh interesiv ukrainskykh hirnychodobuvnykh pidpryiemstv). *Internauka, 4 (36),* 36–44.

10. Nusinov, V. Ya. (2016). Assessment of the severity of the financial crisis of Ukrainian companies. *East European Scientific Journal, 14,* 81–88.

*Mishchuk Ievgeniia, PhD, Associate Professor, Department of Accounting, Taxation, Public Administration and Administration, Kryvyi Rih National University, Kryvyi Rih, Ukraine, e-mail: tdutybz.077@gmail.com, ORCID: http://orcid.org/0000-0003-4145-3711*

# DEVELOPMENT OF STRATEGIC GUIDELINES FOR MINING ENTERPRISES IN THE MANAGEMENT OF THEIR BUSINESS ACTIVITIES

**Nusinov V., Ishchenko M., Polishchuk I..**

*The object of research is the process of determining the strategic guidelines for mining enterprises. The strategic positions of Metinvest B. V. (Netherlands) are analyzed using the BCG Grows-Share Matrix. It is found that this is the limiting position between the «Children» and «Dogs» quadrants. The deteriorating market conditions are indicated. It is found that getting rid of strategic business units and main strategic areas of management in the portfolio is inappropriate given the effect of «currency dumping». It is determined that its use became possible in conditions of a fall in the exchange rate of the national currency in relation to the main currency of international settlement transactions. It is determined that out of the five key strategic areas of business of Metinvest B. V., represented by the main export markets to the countries of Central and Eastern Europe and Asia, the volume of sales of the company's products only to China has a growing trend. The conclusion about the stage of the life cycle «Growth» is made. It is revealed that for all four markets of Central and Eastern Europe, the general linear trend is downward, and these strategic economic zones are located in the «Cows» square. The role of the markets of Central and Eastern Europe in the portfolio of the analyzed company as generators of cash flow («donors»), which practically do not require additional funding, is formulated. It is proposed to invest funds received from the sale of iron ore products to the markets of Central and Eastern Europe in increasing supplies to China (position «Children»), which has the largest growth prospects in the company's portfolio. It is taken into account that for China, Ukrainian mining companies are not the main suppliers. The key economic indicators of the world leaders of the mining industry are predicted until 2025. It is proposed to take into account the global dynamics in the formation of strategic management of business activities of Ukrainian enterprises. This will allow to correctly prioritize and focus on achieving competitive advantages, at least at the regional level. The result of this research is the developed strategic guidelines for mining enterprises. The use of the developed strategic guidelines will allow to introduce a targeted approach to business management of mining enterprises, taking into account the relevant environmental conditions.*

**Keywords:** *diversified company, asset utilization efficiency, competitive advantages, strategic areas of management, growth rate, target approach.*

## 1. Introduction

Scientific works on economics and business management focus on static phenomena [1, 2], containing proposals for achieving success in entrepreneurship based on the growth and challenges of the 21st century [3, 4]. With the development of the management paradigm, there came an understanding of the importance of a scientifically grounded approach to restructuring the enterprise management system [5, 6], as well as accounting for risk prediction [7]. However, such works do not take into account the industry specifics of enterprises. Certain strategic aspects of enterprise management are highlighted in [8]. In works [9, 10], methods are proposed that can be used for mining enterprises and focus on investment as one of