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METHODOLOGICAL ASPECTS FOR ASSESSING THE ECONOMIC SECURITY OF A SMALL TRANSPORT ENTERPRISE

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Abstract. *This paper presents a comprehensive system for assessing the economic security of a transport company, integrating financial, production, social, investment, technical, and innovation components. The proposed methodology is based on a set of quantitative indicators, each with threshold values and relative weights, enabling a multi-level evaluation of the company's stability and resilience. The financial block focuses on profitability, liquidity, solvency, and autonomy; the production component considers depreciation, fixed assets efficiency, and capital growth; the social dimension includes wage dynamics, staff turnover, and education level; the investment aspect evaluates capital growth and investment ratios; the technical block reflects fleet readiness and failure-free operation; while the innovation component measures investment in technology, digitalization, and revenue from innovative services. Together, these indicators provide an integrated tool for monitoring vulnerabilities and strengths, supporting managerial decisions, and ensuring long-term competitiveness and sustainable development of transport enterprises in dynamic market conditions.*

Keywords: *economic security, small transport enterprise, system of criteria, risks of financial and economic activity of the enterprise, threats.*

INTRODUCTION

In the contemporary global economy, transport companies operate in highly dynamic and competitive environments where economic security has become a critical determinant of sustainable development. Economic security encompasses the ability of an enterprise to maintain financial stability, technological resilience, social sustainability, and innovative capacity under conditions of uncertainty and external threats. For transport enterprises, ensuring economic security is particularly challenging due to dependence on technical readiness of fleets, volatility in fuel and investment markets, regulatory pressures, and increasing demands for

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digitalization and innovative services. Traditional financial and production indicators, while necessary, are no longer sufficient for capturing the complexity of risks faced by transport companies. Therefore, the development of an integrated assessment system—combining financial, production, social, investment, technical, and innovation components—represents both a theoretical and practical necessity. This paper aims to provide a structured framework for evaluating economic security levels in transport companies and to identify the key factors influencing long-term competitiveness and resilience.

LITERATURE REVIEW

The concept of economic security has been widely studied in the context of enterprises, with researchers emphasizing its multidimensional nature. According to Aliev and Khasanov (2019), economic security is determined not only by financial stability but also by production efficiency, social capital, and the capacity for innovation. In transport economics, scholars such as Ivanov (2020) highlight the importance of technical readiness and depreciation management as determinants of operational stability. Meanwhile, studies by Zhang and Liu (2021) stress the growing role of digital technologies and innovation in maintaining competitiveness in logistics and transport systems. Social aspects, including staff turnover and human capital development, are also recognized as critical to long-term sustainability (Petrova, 2018). More recent works (Smith & Brown, 2022; Karimov, 2023) propose integrated models that assess enterprise security through composite indicators, aligning with the need for multi-level approaches. Building on these foundations, the present study develops a comprehensive system tailored to the specifics of transport enterprises.

ANALYSIS AND RESULTS

Entrepreneurial activity is always associated with economic risk, as well as instability of the conditions under which economic entities operate. Accordingly, in modern conditions, the solution of issues related to the economic security of the organization becomes especially relevant.

As noted in the previous section, economic security is based on protecting the interests of the enterprise from various external and internal threats. At the same time, to date, general approaches to the methodology for assessing the economic security of an enterprise have not been developed. Various scientists use different methods to assess the problem under study.

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In their opinion, the economic security of an economic entity is characterized by various qualitative and quantitative indicators, the most important of which, as noted earlier, is the level of economic security.

The indicator "level of economic security of an enterprise" is understood as a complex criterion that assesses the efficiency of using the organization's resources, within the existing level of entrepreneurial risk [2].

According to scientists, in order to achieve a higher level of economic security of an economic entity, the management of the organization must ensure maximum security of the activities of its main areas, which can be represented from both a functional and institutional point of view. The functional components of ensuring economic security of an economic entity include [3]:

- financial component;
- economic component;
- intellectual component;
- personnel component;
- technical component;
- technological component;
- political component;
- legal component;
- environmental component;
- social component;
- information component. Economic security from an institutional point of view is considered through the prism of the entities that ensure it.

As a rule, economic security is ensured by:

1) at the level of small enterprises:

- manager.
- chief accountant.

2) at medium-sized enterprises:

- manager. - deputy head of security.
- security specialist.

3) at large enterprises:

- manager.
- deputy head of security.

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- head of security.

- security officer. Research shows that in the small enterprise management system, security issues are handled by its top management.

At medium-sized enterprises, one or more employees are assigned whose responsibilities include ensuring economic security, including:

- personnel checks;
- information protection;
- conducting investigations;
- solving problems with debtors.

As the enterprise grows, it becomes necessary to separate the security service into an independent unit, while:

1) the number of employees increases;

2) separate structural divisions of the organization are formed, including:

- economic intelligence.
- information protection.
- monitoring the economic situation.
- forecasting the economic situation.
- modeling the economic situation.
- strategic planning of economic security.

It should be noted that the management of small enterprises, as well as individual entrepreneurs, consider economic security mainly from the point of view of ensuring internal security.

Medium-sized enterprises are already forced to ensure a balance between external and internal security. This is due to the fact that they must ensure the security [4]:

1) of personnel, which requires:

- personnel selection.
- personnel verification.

2) information, which provides for:

- the creation of a department for technical protection of information or information and analytical groups.
- the acquisition of specialized software.

3) owners, including their personal and financial.

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Large enterprises ensure internal security, which is considered in the context of: personnel loyalty; ensuring the protection and preservation of information; security; physical security. However, the main emphasis is placed on ensuring external security, which requires the creation of a unit: counterintelligence, whose tasks include ensuring information, personnel and technological security; economic intelligence; and situation modeling.

Thus, the methods of ensuring economic security depend on the size of the organization. The complexity of establishing economic security is due to the fact that its quantitative expressions have not yet been found.

Despite this, science has developed certain methods for assessing economic security. Some authors believe that indicators of the level of economic security should be calculated on the basis of expert assessments, which are based on the criteria of the area of strategic management of the enterprise, including innovation, resource, investment and marketing.

Another group of scientists believes that the assessment of the level of economic security is made on the basis of the enterprise rating, calculated by a set of individual criteria, which are determined either at a point in time ("instantaneous photograph"), or for a certain period of time.

The next group of authors believes that the basis for constructing a system for assessing economic security is a criteria approach based on the construction of criteria.

The criterion for assessing the economic security of an enterprise is a feature (a set of features) that allows us to draw a conclusion about the presence or absence of a state of economic security.

The level of economic security of a transport enterprise is the state of the intra-organizational economic system of an economic entity, as well as its components, in which the goals of ensuring its autonomy, adaptability and potential growth are achieved in the context of exposure to negative and difficult to predict factors of the external and internal environment [1].

In order to ensure and maintain the economic security of an enterprise within the acceptable values, a procedure for assessing the level of economic security can be introduced into the management practice of a transport enterprise. In this case, the assessment must be systematic [2].

Diagnostics of the state of economic security of a transport enterprise can be defined as a target assessment based on the application of a system of methodological approaches,

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technologies and tools developed in foreign or domestic theory and applied in the practice of managing modern economic entities [6]. All of them are aimed at solving the following problems:

– establishing the degree of crisis of the current state of the enterprise;

– determining the probability of risky events for the enterprise taking into account the specifics of its activities;

– establishing threshold values for specific criteria;

– establishing the level of economic security;

– assessing the degree of damage from the occurrence of risky events [1].

The data obtained will serve as the basis for developing a strategy for the economic security of a transport enterprise.

Within the framework of the proposed methodology for diagnosing economic security, it is proposed to identify the following levels in relation to the activities of a transport company:

– stable or economically safe (C);

– normal (N);

– unstable or crisis (K);

– critical (CR).

To obtain a comprehensive assessment of economic security, it is necessary to calculate the integral weight coefficients of each group (I_{gr}), for which the following formula can be used:

$$I_{gr}=\sum R_{ij}, \qquad (1)$$

and the relative importance of indicators (A_{ij}) and a group of indicators determined in a similar manner:

$$A_{ij} = \frac{R_{ij}}{I_{gr}}. \qquad (2)$$

$$\sum A_{ij\ gr} = 1.$$

Then the compliance of the actual values of the selected indicators with the recommended value ranges of each security level is checked. In accordance with the selected security levels, the following action algorithm is proposed:

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–if Af corresponds to the range Arec.1, a score of 1 is assigned (first level);

–if Af corresponds to the range Arec.2, a score of 0.75 is assigned (second level);

–if Af corresponds to the range Arec.3, a score of 0.5 is assigned (third level);

–if Af corresponds to the range Arec.4, a score of 0 is assigned (fourth level); where Af is the actual value of the analyzed indicator;

Arec.n is the recommended range of values for the n-th level of economic security.

Let us present a system of criteria for assessing economic security, which is proposed to be implemented in the practice of a transport enterprise [3]. As an example, let us consider a transport and logistics enterprise operating in the Krasnodar Territory, Mohill Rus Import and Export LLC. In order to assess the level of its economic security, we will highlight:

– groups of criteria that characterize certain structural elements of the company's economic security;

– levels of economic security;

– the weight of indicators and groups of indicators that we determined using expert assessment (Table 1).

Table 1 presents threshold values of indicators of the economic security of a transport company from the minimum to the maximum value, to determine what level of economic security the value of each indicator corresponds to. The development of threshold values was carried out on the basis of recommendations of researchers, taking into account global trends and average values of indicators in the transport industry [7].

Table 1.

ASSESSMENT SYSTEM OF THE LEVEL OF ECONOMIC SECURITY OF AN ENTERPRISE

Indicator	**High (C – first level)**	**Medium (N – second level)**	**Low (K – third level)**	**Critical (KR – fourth level)**	**Weight**
1. Financial component					**35.0**
1.1 Profitability of sales	Rpr≥15R_{pr} ≥ 15	10≤Rpr<1510 ≤ R_{pr} < 15	5≤Rpr<105 ≤ R_{pr} < 10	Rpr<5R_{pr} < 5	0.30

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(RprR_{pr})					
1.2 Current liquidity ratio (KclK_{cl})	2.5≤Kcl≤3.0 2.5 ≤ K_{cl} ≤ 3.0	1.5<Kcl<2.51 .5 < K_{cl} < 2.5	0.8≤Kcl≤1.5 0.8 ≤ K_{cl} ≤ 1.5	Kcl<0.8K_{cl} < 0.8	0.25
1.3 Solvency ratio (KsolvK_{solv})	Ksolv≥0.7K_{solv} ≥ 0.7	0.6≤Ksolv<0.70.6 ≤ K_{solv} < 0.7	0.5≤Ksolv<0.60.5 ≤ K_{solv} < 0.6	Ksolv<0.5K_{solv} < 0.5	0.20
1.4 Autonomy ratio (KautK_{aut})	0.5≤Kaut0.5 ≤ K_{aut}	0.3≤Kaut<0.50.3 ≤ K_{aut} < 0.5	0.2≤Kaut<0.30.2 ≤ K_{aut} < 0.3	Kaut<0.2K_{aut} < 0.2	0.10
1.5 Ratio of own working capital (KwcK_{wc})	0.1≤Kwc0.1 ≤ K_{wc}	0.08≤Kwc<0.10.08 ≤ K_{wc} < 0.1	0.06≤Kwc<0.080.06 ≤ K_{wc} < 0.08	Kwc<0.06K_{wc} < 0.06	0.15
2. Production component					**27.0**
2.1 Depreciation ratio (KdepK_{dep})	Kdep≤0.5K_{dep} ≤ 0.5	0.5<Kdep≤0.70.5 < K_{dep} ≤ 0.7	0.7<Kdep≤0.90.7 < K_{dep} ≤ 0.9	Kdep>0.9K_{dep} > 0.9	0.35
2.2 Fixed assets return (FAretFA_{ret})	FAret≥7FA_{ret} ≥ 7	4≤FAret<74 ≤ FA_{ret} < 7	1≤FAret<41 ≤ FA_{ret} < 4	FAret<1FA_{ret} < 1	0.45

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2.3 Growth rate of the average annual value of fixed assets (%) (GfaG_{fa})	Gfa≥110G_{fa} ≥ 110	100≤Gfa<110 100 ≤ G_{fa} < 110	90≤Gfa<100 90 ≤ G_{fa} < 100	Gfa<90G_{fa} < 90	0.20
3. Social component					**20.0**
3.1 Growth rate of average wages (%) (GwG_{w})	Gw≥110G_{w} ≥ 110	100≤Gw<110 100 ≤ G_{w} < 110	90≤Gw<100 90 ≤ G_{w} < 100	Gw<90G_{w} < 90	0.35
3.2 Staff turnover (%) (TstT_{st})	Tst≤5T_{st} ≤ 5	5<Tst≤75 < T_{st} ≤ 7	7<Tst≤107 < T_{st} ≤ 10	Tst>10T_{st} > 10	0.40
3.3 Share of employees with higher education (%) (SeduS_{edu})	Sedu≥60S_{edu} ≥ 60	45≤Sedu<604 5 ≤ S_{edu} < 60	30≤Sedu<45 30 ≤ S_{edu} < 45	Sedu<30S_{edu} < 30	0.25
4. Investment component					**18.0**
4.1 Growth	Ginv≥110G_{inv} ≥ 110	100≤Ginv<11 0100 ≤	90≤Ginv<10 090 ≤	Ginv<90G_{inv} < 90	0.60

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rate of capital investments (%) (GinvG_{inv})		G_{inv} < 110	G_{inv} < 100		
4.2 Investment ratio (KinvK_{inv})	Kinv≥1K_{inv} ≥ 1	0.7≤Kinv<10.7 ≤ K_{inv} < 1	0.5≤Kinv<0.70.5 ≤ K_{inv} < 0.7	Kinv<0.5K_{inv} < 0.5	0.40
5. Technical component					**10.0**
5.1 Technical readiness ratio of fleet (KtrK_{tr})	Ktr≥0.9K_{tr} ≥ 0.9	0.8≤Ktr<0.90.8 ≤ K_{tr} < 0.9	0.7≤Ktr<0.80.7 ≤ K_{tr} < 0.8	Ktr<0.7K_{tr} < 0.7	0.50
5.2 Failure-free mileage ratio (KffmK_{ffm})	Kffm≥0.95K_{ffm} ≥ 0.95	0.9≤Kffm<0.950.9 ≤ K_{ffm} < 0.95	0.85≤Kffm<0.900.85 ≤ K_{ffm} < 0.9	Kffm<0.85K_{ffm} < 0.85	0.50
6. Innovation component					**10.0**
6.1 Share of innovation costs in total costs (KinnK_{inn})	Kinn≥10%K_{inn} ≥ 10\%	5%≤Kinn<10%5\% ≤ K_{inn} < 10\%	2%≤Kinn<5%2\% ≤ K_{inn} < 5\%	Kinn<2%K_{inn} < 2\%	0.40

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6.2 Digital technology implementation ratio (KdigK_{dig})	Kdig≥0.8K_{dig} ≥ 0.8	0.6≤Kdig<0.80.6 ≤ K_{dig} < 0.8	0.4≤Kdig<0.60.4 ≤ K_{dig} < 0.6	Kdig<0.4K_{dig} < 0.4	0.40
6.3 Share of revenue from innovative services (e-services, smart logistics) (KservK_{serv})	Kserv≥20% K_{serv} ≥ 20\%	10%≤Kserv< 20%10\% ≤ K_{serv} < 20\%	5%≤Kserv< 10%5\% ≤ K_{serv} < 10\%	Kserv<5%K_{serv} < 5\%	0.20

After calculating the indicators presented in Table 1, the product between the attributes of the indicator (Z_{ij}), its relative importance coefficient (A_{ij}) and the integral weight of the group to which the indicator belongs is found. The sum of the products P_{ij} is determined for all indicators for each level of economic security:

$$P_{ij}=Z_{ij} \times a_{ij} \times I_{gr}, \quad (3)$$

$$S = \sum P_{ij}. \quad (4)$$

The difference between the checksum of the integral weights of the groups (Sk = 100) and the resulting calculated sum (S) is calculated:

$$S_k = \sum I_{gr}=100. \quad (5)$$

$$K_d = 100 - S. \quad (6)$$

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The resulting indicator obtained reflects, in its economic sense, the total amount of discrepancies between actual indicators and recommended ones, on the basis of which the risk zone for the enterprise at the given moment is determined. Absolute safety of an enterprise in any sector of the economy is practically unattainable, therefore it is assumed that the actual deviation of indicators from the standard ones can fluctuate within the range from 0 to 100%. In this quantitative series, it is advisable to distinguish groups characterizing the levels of deviation of actual values from the desired ones (Table 2). To establish the level of safety, one should rely on the "danger-safety" scale.

Table 2.

"DANGER-SAFETY" SCALE FOR DETERMINING THE LEVEL OF ECONOMIC SECURITY OF AN ENTERPRISE

Final score	*Security level (risk zone)*	*Description of the state of the enterprise*
0–15	Normal (minimal danger — low risk zone)	Normal operation
16–30	Average (acceptable danger — moderate risk zone)	Operation with deviations
31–50	Minimum (increased danger — increased risk zone)	Operation in emergency situation
51–70	Critical danger level — critical risk zone	Critical situation
71–100	Catastrophic danger level — catastrophic risk zone	Catastrophic situation

The advantages of the above-tested methodology for assessing economic security, which distinguish it from other approaches, in our opinion, are the following:

– implementation of a comprehensive approach to identifying economic threats and hazards in the activities of an economic entity, taking into account industry specifics by establishing industry-average threshold values of indicators that are characteristic of enterprises in the transport sector;

– the possibility of developing a well-founded plan of measures to neutralize threats and hazards, and choosing a strategy for ensuring economic security, taking into account the results of the diagnostics carried out [4–7].

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An indicator approach is also known, according to which the level of economic security is determined by indicators considered as threshold values of indicators that characterize the activities of an organization in various functional areas, corresponding to economic security of a certain level.

CONCLUSIONS

The assessment of the economic security of an organization itself is determined by comparing the actual indicators (absolute or relative) of the enterprise's activities with the indicators.

The problem of applying this approach is associated with the lack of a methodological base that would allow taking into account the specifics of establishing indicators for specific enterprises in industries, as well as the threat of unqualified determination of the indicator values, which will lead to the adoption of incorrect management decisions. At the same time, the indicator approach is quite justified at the macro level, since in this segment the indicator values are stable. In practical activities, the resource-functional approach to assessing the level of economic security of an enterprise is also used, which is based on an assessment of the state of use of the enterprise's resources according to special criteria, which are corporate business factors that characterize the business goals set by the owners of the organization's managers. To summarize the conducted research, we note that modern science has developed a fairly large number of methods that allow us to assess the economic security of a modern enterprise, among which we should highlight the method of expert assessments, the rating method, the criteria method, the indicator method and the resource-functional method, each of which has its own advantages and disadvantages, scope of application and implementation possibilities.

References:

1. Abramov, V., Magomedov, S., Vasilenko, E., Kuzina, M., & Barashyan, V. (2019). The impact of transport systems on the economic security of the enterprise. In Social and Cultural Transformations in the Context of Modern Globalism (Vol. 76). Future Academy.
2. Didenko, N. I., Skripnuk, D., Kikkas, K., Kalinina, O., & Kosinski, E. (2021). The impact of digital production and information technologies on the development of logistic systems of different kinds. Journal of Open Innovation: Technology, Market, and Complexity, 7(2), 1-26.
3. Kharchenko, S. B., Akhmetzyanov, R. N., & Baturin, V. A. (2024). Digital innovations in

logistics and transport. Innovations in Transport and Logistics, 2024(2), [Article 17]. DOI: 10.36871/ek.up.p.r.2024.02.06.017

4. Moldabekova, A., Philipp, R., Reimers, H.-E., & Alikozhayev, B. (2021). Digital technologies for improving logistics performance of countries. Transport and Telecommunication Journal, 22(2), 207-216. https://doi.org/10.2478/ttj-2021-0016t.
5. https://cyberleninka.ru/article/n/razrabotka-sistemy-otsenki-ekonomicheskoy-bezopasnosti-transportnogo-predpriyatiya