UDC 339.564
JEL: F13; F19; L60; P42
DOI: https://doi.org/10.32983/2222-4459-2025-9-132-141

FORMING A RATIONAL STRATEGY FOR THE EFFICIENCY OF EXPORT-IMPORT ACTIVITIES

©2025 KUPRIIANOV V. M.

UDC 339.564
JEL: F13; F19; L60; P42

Kupriianov V. M. Forming a Rational Strategy for the Efficiency of Export-Import Activities

The article addresses the relevant issue of the absence of a clearly defined strategy for the efficiency of export-import activities in the context of growing geopolitical instability and a modern market environment characterized by high dynamism and uncertainty. The aim of the article is to explore the formation of a specifically rational strategy for the efficiency of export-import activities, as improving the efficiency of such activities becomes a key factor in ensuring stable development and strengthening the economic resilience of enterprises, regions, and the national economy. The article analyzes existing approaches to defining the concepts of ratio, rational, and rationality and identifies the key differences between a strategy and a rational strategy. The article substantiates the appropriateness of forming a rational strategy – a strategy based on applying ratio as a guiding principle and meeting the clear criteria of «rational». As a result of the conducted study, a specific definition of a rational strategy for the efficiency of export-import activities has been proposed. A methodology for developing a rational strategy to enhance the efficiency of export-import activities has been created, with its stages clearly substantiated. An example of the implementation of one of the key stages of this methodology is presented – conducting an evaluation of the efficiency of export-import activities in the Kharkiv region. The analysis of efficiency indicators for export-import activities in the Kharkiv region made it possible to identify the main efficiency issues and outline potential strategic directions for improvement, confirming the importance of this stage and its logical connection to the content of subsequent stages of the methodology. Particular attention is given to the problem of low diversification of export-import flows, which increases the risks of weakening the economic stability of business entities. Diversification indicators were calculated to assess the level of diversification of export-import flows, and the results confirm the need to expand sales and supply markets as a direct means of increasing the efficiency of export-import activities. A promising direction for further research is the application of the obtained results for the practical development of rational strategies to enhance the efficiency of export-import activities at the macro, meso, and micro levels.
Keywords: *rational strategy, efficiency, export-import activities, strategy formation technology, diversification indicators.*
Fig.: *2.* ***Tabl.:*** *4.* ***Formulae:*** *3.* ***Bibl.:*** *20.*

Kupriianov Vladyslav M. *– Postgraduate Student of the Department of Economic and Mathematical Modeling, Simon Kuznets Kharkiv National University of Economics (9a Nauky Ave., Kharkiv, 61166, Ukraine)*
E-mail: *kupriianovvladyslav@gmail.com*

УДК 339.564
JEL: F13; F19; L60; P42

Купріянов В. М. Формування раціональної стратегії ефективності експортно-імпортної діяльності

У статті висвітлено актуальну проблему відсутності чітко сформованої стратегії ефективності експортно-імпортної діяльності в умовах зростаючої геополітичної нестабільності та сучасного ринкового середовища, що характеризується високою динамічністю та невизначеністю. Метою статті є дослідження формування саме раціональної стратегії ефективності експортно-імпортної діяльності, адже підвищення ефективності експортно-імпортної діяльності стає ключовим фактором забезпечення стабільного розвитку та зміцнення економічної стійкості підприємств, регіонів та національної економіки. Проведено аналіз існуючих підходів до визначення понять раціо, раціонального, раціональності та виявлено ключові відмінності між стратегією та раціональною стратегією. Обґрунтовано доцільність формування саме раціональної стратегії – стратегії, що ґрунтується на застосуванні раціо як визначального принципу та відповідає чітким критеріям «раціонального». У результаті проведеного дослідження запропоновано власне визначення раціональної стратегії ефективності експортно-імпортної діяльності. Розроблено технологію формування раціональної стратегії ефективності експортно-імпортної діяльності та обґрунтовано її етапи. Представлено приклад реалізації одного з ключових етапів технології формування раціональної стратегії ефективності експортно-імпортної діяльності – проведення оцінки ефективності експортно-імпортної діяльності регіону (Харківської області). Проведений аналіз показників ефективності експортно-імпортної діяльності Харківської області дозволив визначити основні проблеми ефективності та окреслити можливі стратегічні напрями її підвищення, що підтверджує важливість даного етапу та його логічний зв'язок зі змістом подальших етапів технології. Особливу увагу приділено проблемі низької диверсифікації експортно-імпортних потоків, що підвищує ризики ослаблення економічної стійкості суб'єктів господарювання. Розраховано показники диверсифікації для оцінки рівня диверсифікації експортно-імпортних потоків, результати якої підтверджують необхідність розширення ринків збуту та постачання як напряму підвищення ефективності експортно-імпортної діяльності. Перспективним напрямком подальших досліджень є застосування отриманих результатів дослідження для практичної розробки раціональних стратегій ефективності експортно-імпортної діяльності на макро-, мезо- та мікрорівні.
Ключові слова: *раціональна стратегія, ефективність, експортно-імпортна діяльність, технологія формування стратегії, показники диверсифікації.*
Рис.: *2.* ***Табл.:*** *4.* ***Формул:*** *3.* ***Бібл.:*** *20.*

Купріянов Владислав Михайлович *– аспірант кафедри економіко-математичного моделювання, Харківський національний економічний університет імені Семена Кузнеця (просп. Науки, 9а, Харків, 61166, Україна)*
E-mail: *kupriianovvladyslav@gmail.com*

In the context of global economic transformations and increasing geopolitical instability, enhancing the efficiency of export-import activities becomes a key factor in ensuring economic stability and competitiveness for enterprises, regions, and the national economy. The modern market environment is characterized by high uncertainty and dynamism, which significantly complicates the development of export-import operations without a clearly formulated efficiency strategy. However, economic entities increasingly encounter difficulties in developing a rational strategy for the efficiency of export-import activities due to a lack of systematic and scientifically grounded approaches. Therefore, creating a genuinely rational strategy for the efficiency of export-import activities remains an extremely relevant task.

The *aim of the article* is to further refine the definition of a rational strategy for export-import activity efficiency, to develop a methodology for forming such a strategy, to substantiate its stages, and to conduct an analysis of the efficiency of export-import activities in a region (using Kharkiv region as an example) as a case study for implementing one of the key stages of the methodology – developing a system of indicators to assess the efficiency of export-import activities.

The issues of «ratio», «rational», «rationality», and «rational strategy» have been studied in the works of both foreign and domestic scholars such as O. A. Kratt, L. H. Deieva, M. Weber, G. Becker, M. Laugs, G. Kirchgässner [1]; R. V. Yakovenko, T. V. Bobochka, M. D. Lynchenko [2]; T. A. Malyarenko [3]; O. O. Shulha, T. M. Panevnyk, A. Smith [4]; H. A. Simon [5]; L. R. Robbins [6]; G. Wentworth, D. E. Smith, H. D. Harper [7]. Despite a substantial number of scientific works, the issue of specifically forming a rational strategy, in particular, the formation of a rational strategy for the efficiency of export-import activities has been insufficiently studied. This necessitates an analysis of existing approaches to defining the concepts of ratio, rational, rationality, rational strategy, and developing a methodology for forming specifically a rational strategy for the efficiency of export-import activities.

The roots of the concept of ratio can be traced back to the ancient Greek term λόγος (logos), which simultaneously encompassed the meanings of «reason», «intellect», «though», «calculation», «enumeration», and «sum». In Plato, logos signifies a type of intellectual activity filled with pure content, through which persons become aware of their own thoughts. He connects logos with the all-encompassing order of the world, an organized sphere of all that exists, revealed to humans. In Aristotle, logos serves to explain relations, correlations, and proportionality within things themselves [1, p. 49]. By translating the word «logos» into the Latin «ratio» («reason», as in the word «reasonable»), the idea of rational comparison was established in the foundations of Western thought. Among medieval authors, the word «proportio» («proportion») was used to denote ratio, and «proportionalitas» («proportionality») to express the equality of relations [5].

The term «rationality» originates from the French «rationalisme» (root «rationelle») – «reasonable». In economic activity, the concept of rationality is primarily applied to the choices and actions of economic agents (individuals, firms, the State). M. Weber was one of the first to use rationality to denote a specific type of activity corresponding to a particular form of goal-setting, motivation, and pursuit of interests. G. Becker, M. Laugs, and G. Kirchgässner explained the possibilities and necessity of applying rationality in economics, emphasizing the increasing significance of rational knowledge in society [1, p. 49].

In economic theory, the basic model of behavior is the «economic (rational) man» – homo economicus. Its foundations were laid in the works of representatives of the English classical school, primarily Adam Smith. The main goal of a rational person is the maximization of profit, taking into account both material and non-material factors of well-being [4, p. 5].

In contemporary research, the acronym REMM (resourceful, evaluative, maximizing man) is used to define the concept of the «economic man» – a resourceful individual inclined toward evaluation and maximization [4, p. 30]. Thus, Homo economicus is an economically rational entity with such a level of intelligence, information, and competence that allows them to achieve their objectives under conditions of free competition, while rational behavior is achieving the maximum outcome at minimal cost under conditions of limited opportunities and resources [2, p. 131].

The concept of a rational strategy is linked to the development of game theory and the theory of rational choice. In the 20th century, Lionel Robbins' theory of rational choice became central to mainstream economics, according to which the «economic man» is a person who acts rationally, guided by self-interest and the pursuit of material well-being. A rational strategy in game theory is a strategy chosen by a rational player seeking to maximize their payoff while considering the strategies of other players. Classical game theory assumes that all players are economically rational: they can evaluate their outcomes, anticipate future moves, and select actions that lead to the most desirable results for them [6]. It is worth noting that within game theory, the very concept of strategy already implies the rationality of the classical player. As noted in a study on conflict analysis, «strategies are merely rational courses of action against an also rational opponent» [3].

Strategy in the economic context usually refers to the long-term plans of economic entities aimed at achieving economic development goals. In particular, O. V. Tur defines strategy as «a complex of managerial decisions (a system of managerial measures, a set of target programs, development plans) aimed at shaping positive prospects, priorities, and directions for the development of the socioeconomic system of an economic entity, as a result of ensuring the dynamic and sustainable development of enterprises» [10, p. 44].

The issues of forming a strategy for enterprise performance efficiency were addressed by scholars such as V. B. Zakhozhay, H. A. Bratus [11], O. I. Prodius, M. A. Afanasenko, V. V. Pukhlenko [12], V. M. Kuzomko, I. V. Onyshchenko [13], I. A. Bryzhan, V. Ya. Chevhanova [14], L. M. Malyarets, P. O. Hrynko [15], Yu. S. Baliuk [16]. Still, the essence of a rational strategy for the efficiency of export-import activities remains not clearly defined. Primarily, it is advisable to clarify the key differences between a strategy and a rational strategy (*Tbl. 1*). Thus, a rational strategy is a formalized and logically substantiated plan of rational actions aimed at achieving specified goals, taking into account the available economic potential and environmental uncertainties, which includes clear criteria and metrics for assessing efficiency. The key difference is that a rational strategy is based on the use of reason (intellect, logic, justification) as the guiding principle and involves only rational actions. A rational strategy must meet clear «rational» criteria: logical consistency between goals and means, objectivity in the justification of decisions based on data and analysis, optimal use of economic potential, the presence of criteria for evaluating efficiency, and maximization of performance. Every rational strategy is a strategy, but not every strategy is rational.

The efficiency of a company's export-import activities is a distinct economic category which, although it shares some features with the general concept of business efficiency, has its own specific characteristics. In previous studies, the author refined the current definition of the efficiency of enterprises' export-import activities as a characteristic of an enterprise manifested in achieving optimal economic results, namely, maximizing the positive balance from export-import operations while minimizing the costs of their execution through full use of available export-import potential [17, p. 186].

Considering the essence of the concepts of «rational strategy» and «efficiency of export-import activities», it is appropriate to clarify the definition specifically of a rational strategy for the efficiency of export-import activities. A rational strategy for the efficiency of export-import activities is a formalized and logically substantiated plan of rational actions aimed at achieving the strategic goals of

Table 1

Key differences between the concepts of «strategy» and «rational strategy»

Characteristics	Strategy	Rational strategy
Essence of the concept	A complex of managerial decisions aimed at shaping positive prospects, priorities, and directions for the development of the socioeconomic system of an economic entity (Tur O. V.).	A plan of rational actions based on reason – a purposeful, logically justified, and goal-oriented course for achieving objectives, considering the available economic potential and environmental uncertainty
Main goal	Achieving the desired result (success, development, growth, etc.) by any effective means	Optimal achievement of the goal from the perspective of ratio – reason and logic; maximizing benefits or outcomes given the existing economic potential
Decision-making	Can be based on analysis, intuition, tradition, or experimentation. Includes the possibility of emergent steps (not everything is planned in advance)	It is based on system analysis, facts, and calculations. Decisions are made consciously and with justification after comparing alternatives (rational choice of the best alternative)
Verification of results	May be absent or formal	There are clearly defined criteria and metrics for evaluating efficiency
Level of formalization	A strategy can exist as an idea or general direction; it is formalized as needed (for example, a strategic document or plan)	A high level of formalization: clearly organized, described in models, diagrams, plans, and mathematically substantiated
Stability	Can often be vulnerable to environmental changes	Involves risk management and establishing the adaptation mechanisms

Source: completed for [1–4; 8–10].

export-import activities while optimally utilizing the available export-import potential. Such a plan of action includes clear criteria and a system of indicators for assessing the efficiency of export-import activities, selecting rational approaches to enhancing efficiency from alternative options, and promoting the maximization of the positive balance from export-import operations. Rational actions should be understood as rational managerial decisions made at each stage of the formation and implementation of a rational strategy.

Analysis of specialists' work on the issues of strategy formation to enhance the efficiency of enterprises' export-import activities has demonstrated the appropriateness of the logic and content of the stages in forming a rational strategy for the efficiency of enterprises' export-import activities (*Tbl. 2*). It is the stages of such a (rational) strategy that allow not only controlling the rationality of its organization but also managing the process of strategy formation. The more structured each stage of the strategy is and the more clearly its components and provisions are defined, the greater the rationality of the strategy.

Determining the overall formation period is the first stage in the technology of developing a rational strategy for the efficiency of export-import activities. At this stage, both the overall period for developing and implementing the rational strategy and the specific deadlines for completing each of its stages are established.

The next stage is the substantiation of the strategic goals for the efficiency of export-import activities. The goals must be clearly organized, realistic, attainable, and optimized taking into account the existing export-import potential and resources.

The third stage is the analysis of the factors influencing the external and internal environments on the efficiency of export-import activities. Factors that enhance efficiency, as well as destabilizing factors, are identified through economic analysis, specifically via factor analysis, indicators established using correlation-regression analysis, and cause-and-effect relationships between factors.

Table 2

Main stages of the methodology for developing a rational strategy to improve the efficiency of export-import activities

Technology stage	Methods	Expected results
1. Determining the period of formation and implementation	Strategic analysis, calendar planning	Established overall period and clear deadlines for each stage
2. Logical substantiation of strategic goals	Strategic analysis, theoretical-logical analysis	List of substantiated strategic goals
3. Analysis of external and internal environmental factors	SWOT analysis, PESTLE analysis, economic analysis	Identified and classified external and internal factors of positive/negative influence
4. Development of criteria and a system of evaluation indicators	Economic analysis, analytical evaluation methods	Criteria and indicator system
5. Identification of key efficiency issues	Strategic analysis, analytical evaluation methods	List of key performance issues
6. Determination of efficiency improvement directions and selection of the most rational ones among them	Economic analysis, theoretical-logical analysis	List of rational directions for enhancing efficiency
7. Expert evaluation of efficiency improvement directions	Expert evaluation methods	A list of scenarios for implementing measures to enhance efficiency
8. Development of implementation scenarios for efficiency improvement directions	Economic analysis, forecasting methods and models	A list of scenarios for implementing directions to enhance efficiency
9. Formation of a management team for strategy implementation	Economic analysis, methods of analysis and synthesis	A management team has been formed, and managerial decisions have been made
10. Development of an action plan	SWOT analysis, strategic analysis, network methods	Action plan for implementing the strategy
11. Control, monitoring, and adjustment of the strategy	Analytical evaluation methods	Detection of deviations and making corrections

Source: completed for [11–16].

Developing criteria and a system of indicators is the next important stage in forming a rational strategy for the efficiency of export-import activities. Clear criteria for assessing efficiency (effectiveness, cost-effectiveness, profitability, etc.) and a system of performance indicators for export-import activities are being developed.

The fifth stage is identifying key efficiency problems. At this stage, based on the analysis of internal and external environmental factors and the efficiency assessment, weaknesses/key problems in export-import activities are determined.

At the sixth stage, alternative options for enhancing the efficiency of export-import activities are identified, and their substantiation is carried out according to established criteria, evaluation indicators, and selection principles. This stage considers both positive factors identified during the analysis of the external and internal environment and negative ones. An important aspect is aligning the proposed directions with the existing export-import potential.

At the seventh stage, an export evaluation is conducted to determine the feasibility and practical implementability of the directions to improve the efficiency of export-import activities. Expert assessment allows for consideration of both quantitative and qualitative aspects that significantly affect the success of strategy implementation.

The eighth stage involves developing possible scenarios for implementing the directions to enhance the efficiency of export-import activities. For example, supplier diversification, optimization of transportation routes, cost optimization, expansion of the product range, and so on.

The ninth stage is the formation of a management team for strategy implementation. At this stage, the team of people responsible for implementing a rational strategy for the efficiency of export-import activities is determined. An important requirement is rationality in managerial decision-making: team members must act as «rational economic agents», meaning they make decisions based on logic, data, and systemic analysis.

The tenth stage is the development of an action plan that details the chosen course of implementing the rational strategy. At this stage, strategic SMART(ER) goals are specified.

At the final stage, continuous monitoring of the implementation of the action plan is conducted, including tracking intermediate results and comparing them with the planned indicators. An important task is not only to identify deviations but also to make timely adjustments to the strategy, taking into account changes in both the external and internal environments. This ensures the strategy's flexibility and adaptability, as well as providing a basis for its further improvement.

One of the key stages in the methodology of forming a rational strategy for the efficiency of export-import activities is the development of an assessment indicator system, which allows for assessing the efficiency of export-import activities and identifying key issues. This study presents an example of implementing this stage – assessing the effectiveness of export-import activities in a region, illustrated by Kharkiv region, which, as a frontline region during wartime, faces significant challenges in export-import activities. The results of assessing the efficiency of export-import activities in the Kharkiv region will help identify key issues, which will form the basis for substantiating rational ways to improve efficiency (*Fig. 1*).

After 2022, the Kharkiv region's export-import activities have been marked by a 60% decline in goods exports and a 44% increase in goods imports, meaning for Kharkiv region not just a reduction in foreign currency inflows, but the destruction of a unique industrial ecosystem, the restoration of which could take decades [18]. The import coverage ratio by exports of goods has decreased from 82% in 2020 to 39% in 2024. Compared to other regions of Ukraine, Kharkiv region ranked only 20th in 2024. For the analysis, five regions with the highest import coverage ratios by exports were selected in comparison to the Kharkiv region, which allows comparing the dynamics of the target region with the group of leaders. High values of the indicator in the top 5 regions are due to their strong agricultural specialization, food and light industries, and favorable conditions in global food markets, which result in export volumes that significantly exceed the imports of these regions, mainly consisting of chemical industry products, machinery, and agricultural equipment. In contrast, in the Kharkiv region, which experienced substantial losses in industrial production and logistics due to military actions, export opportunities have significantly decreased, resulting in a decline in the import coverage ratio by exports.

To assess the region's level of engagement in export-import activities, export and import quotas were calculated. During 2020–2024, the export and import quotas of the Kharkiv region decreased: the export quota fell from 18% to 16%, and the import quota – from 24% to 21%. These values are low, and the reduction of both quotas reflects a decrease in the impact of export-import activity volumes on the formation of the gross regional product (*Fig. 2*).

During 2020–2024, the geographical structure of Kharkiv region's exports underwent a significant transformation. Poland became the main partner, with its share more than tripling (from 4.3% to 13.6%). Supplies to Lithuania, Spain, and Moldova increased significantly, and new destinations appeared – Romania,

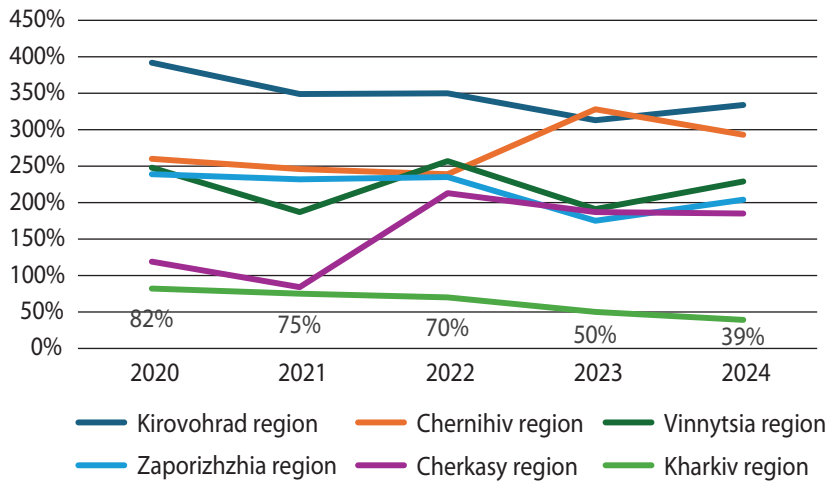

Fig. 1. Dynamics of the import coverage ratio by exports of goods in the top 5 regions of Ukraine and the Kharkiv region (2020–2024)

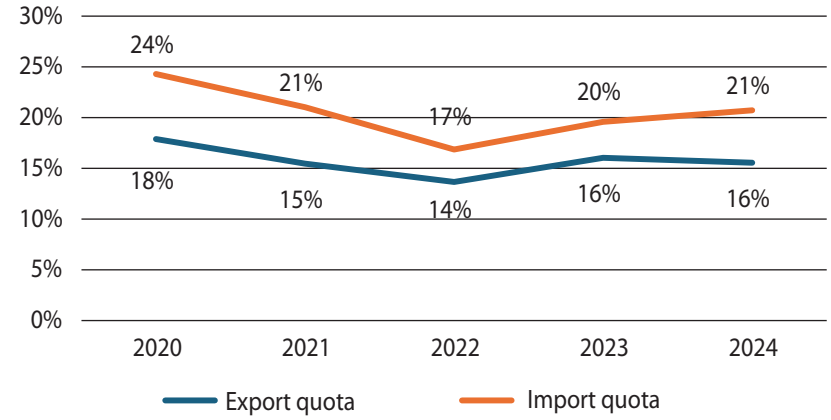

Fig. 2. Dynamics of export and import quotas of the Kharkiv region (2022–2024)

Bulgaria, Italy, and Egypt. In contrast, exports to the russian federation and belarus completely ceased after 2022. Overall, these trends indicate a reorientation of exports from post-Soviet markets to EU and Mediterranean countries, which simultaneously reduced dependence on eastern markets and strengthened the focus on European markets.

In the structure of Kharkiv region's imports from 2020 to 2024, the role of China sharply increased: its share rose from 20.4% to 38%, resulting in high dependence on a single supplier. At the same time, imports from Poland, Turkey, and India also increased, while the share of Germany and the USA tended to decrease. Imports from the russian federation and belarus completely ceased after 2022, and new directions emerged instead – Bulgaria, Romania, and the Czech Republic. Overall, the dynamics indicate a structural restructuring of imports with a focus on EU and Asian countries, but with a high level of concentration in the Chinese market.

According to the analysis of the geographical structure of export-import flows, there is significant concentration, as in 2024 the 10 largest partners accounted for 56% of the total export volume. A high concentration of export-import flows increases the risk of export-import instability, because any changes in the policies or market situations of key partners, which account for a significant share of trade, can create an imbalance in trade turnover and weaken the economic resilience of the region. Ye. I. Ivanov, O. O. Drahan, and O. O. Rudych propose using indicators to assess the level of diversification for a more in-depth analysis of the structure of export-import flows. Diversification is seen as the opposite of concentration and inequality in the distribution of flows across commodity groups at different aggregation levels or across geographical trade directions [19; 20]. This approach is based on the fact that the key indicators for measuring diversification in the trade sector were developed by adapting indicators originally created for use in other areas of the economy. This includes, in particular, the

Herfindahl – Hirschman concentration index, which was developed to assess the level of market monopolization, the Theil entropy index, and the Gini index, which were originally intended to measure income distribution inequality.

One of the diversification indicators is based on the use of the Herfindahl – Hirschman concentration index formula and is calculated as follows:

$$H = 1 - \sum_{i=1}^{n} P_i^2, \quad (1)$$

where H – is the diversification coefficient;

P_i – is the share of the i-th type of goods in the total volume of goods;

n – is the number of geographic partners.

As an alternative to the Herfindahl – Hirschman index, contemporary studies use the Theil entropy index:

$$T_j = \frac{1}{k} \sum_{i=1}^{k} \frac{x_{ij}}{\mu} \ln\left(\frac{x_{ij}}{\mu}\right), \quad (2)$$

where μ is the average export volume of the country for a single commodity;

k – is the number of geographic partners.

analyzed (*Tbl. 3*). The structure of export-import flows demonstrates a high level of diversification according to the diversification coefficient (inverse of the Herfindahl – Hirschman index), where the level of import diversification is lower than that of exports (value close to 1), but this indicator may be less sensitive to the presence of several large partners. The obtained values of the Theil and Gini indices reflect a high level of concentration (in the Kharkiv region, the 10 largest partners account for 56% of exports and 74% of imports). However, it is important to consider the impact of the reduction in the number of partners (from 89 to 69 export partners and from 78 to 68 import partners) and the fact that these indicators are more sensitive to the presence of many small shares in the distribution, showing greater concentration when there is significant asymmetry between large and small shares. Thus, the analysis results confirm the high level of concentration of export-import flows in the Kharkiv region. Moving forward, it is necessary to reduce dependence on imports from partner countries with large shares (particularly China, whose share reaches 38%) and to diversify markets, which will enhance the resilience of the region's export-import activities.

Table 3

Dynamics of indicators of diversification of the geographical structure of export-import activities of the Kharkiv region in 2020–2024

Index	Exports					Imports				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Diversification Coefficient (Inverse of the Herfindahl – Hirschman index)	0,939	0,958	0,952	0,948	0,953	0,913	0,898	0,895	0,872	0,835
Theil index	4,596	3,370	3,601	3,649	2,797	7,389	10,030	6,208	5,734	8,920
Gini index	0,712	0,674	0,645	0,628	0,629	0,761	0,785	0,713	0,723	0,766
Number of partners	89	96	73	60	69	78	81	70	63	68

The Gini index (G), expressed by Brown's formula, is also used to assess the level of diversification:

$$G = \left| 1 - \sum_{m=1}^{k} \left(\frac{(x_m - x_{m-1})(2m-1)}{k} \right) \right|, \quad (3)$$

where x_m – is the cumulative share in the total export of product items in quantity m.

Diversification coefficients can be applied at the macro, meso, and micro levels, as they allow for evaluating the concentration and distribution of shares among product groups or partners, which is relevant both for the country's economy and for individual regions or enterprises.

The indicators of diversification of the geographical structure of exports and imports of goods in the Kharkiv region for the period 2020–2024 have been

Throughout 2020–2024, the commodity structure of foreign trade in the Kharkiv region underwent changes indicative of a forced economic restructuring under the impact of military actions. There was a shift from exporting high value-added industrial products to exporting raw materials and agricultural goods. In 2020, the shares of prepared food products (22%) and plant-based products (22.6%) were nearly equal, but the share of plant-based products became dominant, peaking at 34.3% in 2022 and stabilizing at 24.2% in 2024. Exports of prepared food products nearly halved (from 22% to 12.2%), while the share of machinery and equipment, after declining in 2022 (from 17.1% in 2020 to 12.8% in 2022), is only slowly recovering (15.4% in 2024).

The import structure reflects different trends, highlighting the region's recovery needs. The leading group remains machinery, equipment, and mechanisms, whose share rose from 20% in 2020 to 25.9% in 2024. Such growth is related to the need to replace destroyed industrial equipment and the demands of the defense sector. Overall, the import structure indicates a high dependence of the region's economy on foreign technologies, equipment, and components to maintain livelihoods and reconstruction.

In 2024, there is a high concentration of commodity flows. The 5 largest commodity groups account for 74.1% of total exports and 68.2% of imports. The diversification of the commodity structure of exports and imports in the Kharkiv region for the period 2020–2024 (*Tbl. 4*) has been analyzed. A stable high level of diversification is observed according to the diversification coefficient (inverse of the Herfindahl – Hirschman index), with the import commodity structure being more diversified. The values of the Theil and Gini indices confirm a significant concentration of export-import flows, and their dynamics indicate an increase in the diversification of the export commodity structure and a decrease in import diversification. Therefore, it will be necessary to promote export diversification in the future by supporting high value-added industries and finding ways to diversify suppliers of critically important imported goods, particularly machinery and equipment.

Thus, the analysis of the efficiency of export-import activities in the Kharkiv region for 2020–2024 showed changes in the region's export-import operations due to the full-scale military invasion: the destruction of the industrial export core, which resulted in a 60% drop in its volume and a decrease in the export-to-import coverage ratio from 82% to 39%, a structural shift from high-tech product exports to raw materials, and the emergence of critical dependence on imports from China, whose share reached 38%. To improve the efficiency of export-import activities, the following strategic directions should be considered: the establishment of effective mechanisms for insuring investors and exporters against war risks, as well as the introduction of special support programs (logistic, loans-based) to enhance the trust of international partners; applying the «smart specialization» approach to revive high-tech industries by identifying 3–5 priority niches with the highest scientific and production potential for rapid recovery and access to foreign markets (for example, energy engineering, agricultural machinery manufacturing, pharmaceuticals, production of modern construction materials); diversification of export-import flows by seeking opportunities to export restored industrial products to new markets; development of regional programs to retain and attract highly qualified specialists, integration of educational institutions with priority industrial sectors, and modernization of educational programs according to the technological needs of post-war reconstruction.

Thus, as a result of the analysis of the concepts of «ratio», «rationality», and «rational strategy», the need to develop a rational strategy for the efficiency of export-import activities has been substantiated, as its implementation ensures economic stability and competitiveness under conditions of global instability and a dynamic market environment. A precise definition of a rational strategy for the efficiency of export-import activities has been proposed, based on the use of ratio as a guiding principle. A methodology for developing a rational strategy for export-import activities has been created, and its stages, structure, and clearly defined content have been substantiated, which strengthens the rationality of such a strategy. The implementation of one of the key stages in the methodology for developing a rational export-import strategy is demonstrated – the development of a system of indicators and performance assessment – illustrated by the analysis of the efficiency of

Table 4

Trends in the diversification indicators of the commodity structure of export-import activities in the Kharkiv region, 2020–2024

Index	Exports					Imports				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Diversification Coefficient (Inverse of the Herfindahl – Hirschman index)	0,856	0,852	0,829	0,840	0,869	0,892	0,895	0,885	0,882	0,875
Theil index	3,626	3,617	3,207	3,119	2,731	1,568	1,329	1,987	2,048	2,006
Gini index	0,604	0,603	0,632	0,628	0,593	0,511	0,496	0,536	0,543	0,533
Number of partners	19	20	18	18	18	18	19	18	18	18

the region's export-import activities (Kharkiv region). The results of this stage confirm its importance, as well as the logic and substance of the methodology's stages, since the analysis of the efficiency of export-import activities in the Kharkiv region revealed key issues and possible strategic directions for improving efficiency, which form the basis of the subsequent stages of the methodology. The obtained results reinforce the theoretical foundations for developing a rational strategy to increase the efficiency of export-import activities and serve as a basis for the practical formulation of such strategies at the macro, meso, and micro levels. ■

BIBLIOGRAPHY

1. Кратт О. А., Дєєва Л. Г. Раціональність як інструмент наукового пізнання економічних процесів і явищ. *Економічний вісник Донбасу*. 2007. № 4. С. 49–53. URL: https://nasplib.isofts.kiev.ua/server/api/core/bitstreams/987ba5fb-d78c-4701-ac4f-e95c42c5a02c/content
2. Яковенко Р. В., Бобочка Т. В., Линченко М. Д. «Людина економічна» та її еволюція. *Наукові праці Кіровоградського національного технічного університету. Серія «Економічні науки»*. 2015. Вип. 27. С. 129–137. URL: https://dspace.kntu.kr.ua/server/api/core/bitstreams/da52496e-9b01-4646-820f-a722e2c78497/content
3. Маляренко Т. Теорія ігор у дослідженні конфліктів. *Освіта регіону*. 2009. № 4. URL: https://socialscience.uu.edu.ua/article/133
4. Поведінкова економіка: від теорії до практики : міждисциплінарний навчальний посібник / за наук. ред. канд. екон. наук, доц. Татомир І. Л., канд. екон. наук,, доц. Квасній Л. Г. Трускавець : ПОСВІТ, 2022, 408 с.
5. Simon H. A. Rationality in Psychology and Economn ics. *The Journal of Business*. 1986. Vol. 59. No. 4. Part 2. P. S209–S224.
   DOI: https://doi.org/10.1086/296363
6. Robbins L. R. An Essay on the Nature & Significance of Economic Science. 2nd ed. London : Macmillan and Co., 1935. 160 p.
7. Wentworth G. A, Smith D. E., Harper H. D. Fundamentals of Practical Mathematics. Boston : Ginn, 1922. 202 p.
8. Ratio. URL: https://en.wikipedia.org/wiki/Ratio
9. Stanford Encyclopedia of Philosophy. Winter 2008 Edition.
10. Тур О. В. Формування поняття стратегія розвитку підприємства. *Інтелект XXI*. 2015. № 4. С. 38–45. URL: https://intellect21.nuft.org.ua/journal/2015/2015_4/5.pdf
11. Захожай В. Б., Братусь Г. А. Методичні засади формування стратегії підвищення ефективності діяльності промислових підприємств. *Наукові праці МАУП*. 2016. Вип. 3. С. 159–164. URL: https://journals.maup.com.ua/journal/50_2016/13.pdf
12. Продіус О. І., Афанасенко М. А., Пухленко В. В. Стратегічні напрями підвищення ефективності діяльності торгівельного підприємства в умовах воєнного стану. *Економіка та суспільство*. 2024. Вип. 63.
    DOI: https://doi.org/10.32782/2524-0072/2024-63-119
13. Кузьомко В. М., Онищенко І. В. Стратегія підвищення ефективності господарської діяльності підприємства на різних стадіях його життєвого циклу. *Економіка і суспільство*. 2016. Вип. 5. С. 170–174. URL: https://economyandsociety.in.ua/journals/5_ukr/30.pdf
14. Брижань І. А., Чевганова В. Я. Формування стратегії підвищення конкурентоспроможності підприємства: методика та практика. *Економіка і регіон*. 2015. № 4. С. 16–22. URL: https://reposit.nupp.edu.ua/bitstream/PoltNTU/3007/1/БрижаньЧевганова.pdf
15. Малярець Л. М., Гринько П. О. Аналітичне забезпечення аналізу ефективності експортно-імпортної діяльності підприємства. *Проблеми економіки*. 2019. № 1. С. 208–216.
    DOI: https://doi.org/10.32983/2222-0712-2019-1-208-216
16. Балюк Ю. С. Сучасні стратегії експортно-імпортної діяльності промислових підприємств та їх обґрунтування. *Бізнес Інформ*. 2022. № 5. С. 100–107.
    DOI: https://doi.org/10.32983/2222-4459-2022-5-100-107
17. Kupriianov V. M. The Substantive Definition of the Efficiency of Export-Import Activities in Ukraine. *Бізнес Інформ*. 2025. №. 3. С. 183–191.
    DOI: https://doi.org/10.32983/2222-4459-2025-3-183-191
18. Зовнішньоекономічна діяльність. *Головне управління статистики у Харківській області*. URL: https://kh.ukrstat.gov.ua/zovnishnoekonomichna-diialnist
19. Рудич О. О., Драган О. О. Методичні підходи до оцінки диверсифікації, як засобу зниження ризику виробничої діяльності сільськогосподарських підприємств. *Наукові праці Кіровоградського національного технічного університету. Серія «Економічні науки»*. 2018. Вип. 33. С. 33–43.
    DOI: https://doi.org/10.32515/2413-340X.2018.3333-43
20. Іванов Є. І. Методичні підходи до оцінювання диверсифікації зовнішньої торгівлі. *Підприємництво та інновації*. 2020. Вип. 12. С. 9–14.
    DOI: https://doi.org/10.37320/2415-3583/12.1

REFERENCES

Baliuk, Yu. S. (2022). Suchasni stratehii eksportno-importnoi diialnosti promyslovykh pidpryiemstv ta yikh obgruntuvannia [Modern strategies of export-import activity of industrial enterprises and their substantiation]. *Biznes Inform*, *5*, 100–107.
https://doi.org/10.32983/2222-4459-2022-5-100-107

Bryzhan, I. A., & Chevhanova, V. Ya. (2015). Formuvannia stratehii pidvyshchennia konkurentospromozhnosti pidpryiemstva: metodyka ta praktyka [Formation of a strategy to increase the competitiveness of the enterprise: methodology and practice]. *Ekonomika i rehion, 4*, 16–22. https://reposit.nupp.edu.ua/bitstream/PoltNTU/3007/1/BryzhanChevhanova.pdf

Ivanov, Ye. I. (2020). Metodychni pidkhody do otsiniuvannia dyversyfikatsii zovnishnoi torhivli [Methodological approaches to evaluating the diversification of foreign trade]. *Pidpryiemnytstvo ta innovatsii, 12*, 9–14. https://doi.org/10.37320/2415-3583/12.1

Kratt, O. A., & Dieieva, L. H. (2007). Ratsionalnist yak instrument naukovoho piznannia ekonomichnykh protsesiv i yavyshch [Rationality as a tool for scientific knowledge of economic processes and phenomena]. *Ekonomichnyi visnyk Donbasu, 4*, 49–53. https://nasplib.isofts.kiev.ua/server/api/core/bitstreams/987ba5fb-d78c-4701-ac4f-e95c42c5a02c/content

Kupriianov, V. M. (2025). The substantive definition of the efficiency of export-import activities in Ukraine. *Biznes Inform, 3*, 183–191. https://doi.org/10.32983/2222-4459-2025-3-183-191

Kuzomko, V. M., & Onyshchenko, I. V. (2016). Stratehiia pidvyshchennia efektyvnosti hospodarskoi diialnosti pidpryiemstva na riznykh stadiiakh yoho zhyttievoho tsyklu [Strategy of increasing the efficiency of economic activity of the enterprise at different stages of its life cycle]. *Ekonomika i suspilstvo, 5*, 170–174. https://economyandsociety.in.ua/journals/5_ukr/30.pdf

Maliarenko, T. (2009). Teoriia ihor u doslidzhenni konfliktiv [Game theory in conflict research]. *Osvita rehionu, 4*. https://social-science.uu.edu.ua/article/133

Maliarets, L. M., & Hrynko, P. O. (2019). Analitychne zabezpechennia analizu efektyvnosti eksportno-importnoi diialnosti pidpryiemstva [Analytical support for the analysis of the efficiency of export-import activities of the enterprise]. *Problemy ekonomiky, 1*, 208–216. https://doi.org/10.32983/2222-0712-2019-1-208-216

Prodius, O. I., Afanasenko, M. A., & Pukhlenko, V. V. (2024). Stratehichni napriamy pidvyshchennia efektyvnosti diialnosti torhivelnoho pidpryiemstva v umovakh voiennoho stanu [Strategic directions for improving the efficiency of a trading enterprise in the conditions of martial law]. *Ekonomika ta suspilstvo, 63*. https://doi.org/10.32782/2524-0072/2024-63-119

Ratio (n. d.). Wikipedia. https://en.wikipedia.org/wiki/Ratio

Robbins, L. R. (1935). *An essay on the nature & significance of economic science* (2nd ed.). Macmillan and Co.

Rudych, O. O., & Drahan, O. O. (2018). Metodychni pidkhody do otsinky dyversyfikatsii, yak zasobu znyzhennia ryzyku vyrobnychoi diialnosti silskohospodarskykh pidpryiemstv [Methodical approaches to assessing diversification as a means of reducing the risk of production activities of agricultural enterprises]. *Naukovi pratsi Kirovohradskoho natsionalnoho tekhnichnoho universytetu. Seriia «Ekonomichni nauky», 33*, 33–43. https://doi.org/10.32515/2413-340X.2018.33.33-43

Simon, H. A. (1986). Rationality in psychology and economics. *The Journal of Business, 59*(4), S209–S224. https://doi.org/10.1086/296363

Stanford Encyclopedia of Philosophy. (2008). Winter 2008 Edition.

Tatomyr, I. L., & Kvasnii, L. H. (Eds.). (2022). *Povedinkova ekonomika: vid teorii do praktyky* [Behavioral economics: from theory to practice]. POSVIT.

Tur, O. V. (2015). Formuvannia poniattia stratehiia rozvytku pidpryiemstva [Formation of the concept of enterprise development strategy]. *Intelekt XXI, 4*, 38–45. https://intellect21.nuft.org.ua/journal/2015/2015_4/5.pdf

Wentworth, G. A., Smith, D. E., & Harper, H. D. (1922). *Fundamentals of practical mathematics*. Ginn.

Yakovenko, R. V., Bobochka, T. V., & Lynchenko, M. D. (2015). "Liudyna ekonomichna" ta yii evoliutsiia ["Economic Man" and its evolution]. *Naukovi pratsi Kirovohradskoho natsionalnoho tekhnichnoho universytetu. Seriia «Ekonomichni nauky», 27*, 129–137. https://dspace.kntu.kr.ua/server/api/core/bitstreams/da52496e-9b01-4646-820f-a722e2c78497/content

Zakhozhai, V. B., & Bratus, H. A. (2016). Metodychni zasady formuvannia stratehii pidvyshchennia efektyvnosti diialnosti promyslovykh pidpryiemstv [Methodological principles of forming a strategy for increasing the efficiency of industrial enterprises]. *Naukovi pratsi MAUP, 3*, 159–164. https://journals.maup.com.ua/journal/50_2016/13.pdf

Zovnishnoekonomichna diialnist [Foreign economic activity]. (n. d.). Holovne upravlinnia statystyky u Kharkivskii oblasti. https://kh.ukrstat.gov.ua/zovnishnoekonomichna-diialnist