University Economic Bulletin
Vol. 19, No. 2, 2024
Journal homepage: https://ue-bulletin.com.ua/en
Received: 15.08.2024. Revised: 30.11.2024. Accepted: 12.12.2024

UDC 339.562/.564:334.724 DOI: 10.69587/ueb/2.2024.69

Monitoring technology for the efficiency of utilisation and development of the export-import potential of economic entities of the state sector

Lyudmyla Malyarets*
Doctor of Economics, Professor
Simon Kuznets Kharkiv National University of Economics
61166, 9A Nauky Ave., Kharkiv, Ukraine
https://orcid.org/0000-0002-1684-9805

Oleksii Budarin
Postgraduate Student
Simon Kuznets Kharkiv National University of Economics
61166, 9A Nauky Ave., Kharkiv, Ukraine
https://orcid.org/0000-0001-9399-9914

Abstract. This study aimed to identify approaches for assessing the efficiency of utilisation and development of the export-import potential of Ukrainian state-owned enterprises, considering the influence of external and internal factors. Additionally, a comprehensive monitoring system was developed to enhance competitiveness and facilitate strategic planning in their operations. The research methodology was based on the application of quantitative and qualitative methods for analysing economic performance indicators of state-owned enterprises and their external trade potential. A SWOT analysis was conducted on the proposed multi-level monitoring system, which was also assessed through a change management model. The study contextualised the strategic planning of the export-import potential of economic entities in the state sector of the economy. The impact of political, economic, social, technological, environmental, and legal factors on the export import activities of state-owned enterprises was identified, with particular emphasis on the challenges arising from full-scale military aggression. A 17-stage monitoring technology for export import potential has been proposed, integrating quantitative and qualitative analysis methods, including profitability assessment, competitiveness evaluation, and import and export dependency analysis. The implementation of the proposed technology has been examined through the lens of Kurt Lewin's transformational model, which entails a phased adaptation to changes and the consolidation of new approaches in strategic management. The findings of the contextual study also confirm the significance of international support, market diversification, and innovation in restoring export-import potential. The study focused on the public sector of the economy and the need to adapt monitoring tools to the specific conditions of enterprises. The conclusions drawn may serve as a basis for developing strategies to support state-owned enterprises, enhance their competitiveness, and ensure sustainable development amid external and internal challenges

Keywords: contextual analysis; strategic planning; competitiveness; foreign trade activity; trade balance

INTRODUCTIONS

A prerequisite for Ukraine's sustainable economic development is the continuous expansion of its presence on the global market. The importance of this precondition is enshrined in the country's National Economic Strategy until 2030 (Resolution of the…, 2021). Achieving national economic goals is possible through the objective assessment and effective utilisation of the export-import potential of economic entities. The lack of a universal approach to monitoring the realisation of the export-import potential of state-owned enterprises underscores the relevance of this research.

Suggested Citation:
Malyarets, L., & Budarin, O. (2024). Monitoring technology for the efficiency of utilisation and development of the export-import potential of economic entities of the state sector. *University Economic Bulletin*, 19(2), 69-80. doi: 10.69587/ueb/2.2024.69.

*Corresponding author

N.T. Hung *et al.* (2024) delineated a country's economic potential as comprising two key components: export and import potential. Exports are pivotal to a nation's economic growth, involving the sale and transfer of goods or services beyond its customs territory in exchange for foreign currency. E.P. Molepo & A.C. Jordaan (2023) asserted that these foreign earnings contribute directly to a country's gross domestic product (GDP) and fuel its economic expansion. Historically, specific sectors have been more instrumental in shaping a nation's export capacity. For instance, agriculture accounted for 14% of Ukraine's GDP in 2020. L.M. Malyarets *et al.* (2023) highlighted those external factors significantly influence a country's export potential. S.A. Alimova & M.N. Khalilova (2022) quantified the impact of Russia's military aggression, revealing a 48% decline in Ukraine's export revenues. Conversely, M. Nehrey & R. Finger (2024) observed a remarkable resilience in export potential. Their comparison of first-quarter export figures for 2023 (USD 15,699.4 million) and 2022 (USD 10,305.5 million) suggests a gradual but discernible recovery toward pre-war levels.

When assessing and planning a country's economic development, it is essential to consider its import potential – the capacity to import goods, services, or technologies. Similar to exports, a country's import potential is influenced by external factors and challenges, such as regional political instability. J. Grant *et al.* (2023) found in their research that in the initial months of the full-scale invasion, import volumes decreased by 21%. In 2023, an 11% increase in import volumes was documented compared to the previous year, facilitated in part by the emergence of new import categories, such as weapons. A. Wojtowicz (2024) emphasised the need for a comprehensive assessment of a country's export-import potential. According to her findings, in the first quarter of 2023, the export-to-import ratio was 0.66. According to the National Bank of Ukraine, the country is effectively overcoming macroeconomic challenges, and its export-import potential is sufficiently high to suggest annual GDP growth of 4-6% in the coming years.

Various approaches have been proposed for evaluating the export-import potential of specific economic sectors or entire countries. For instance, R. Baki (2024) suggested a classification approach for potential market alternatives, positing that export potential is determined by the characteristics of the target market for specific goods or services. H. Telnova *et al.* (2023) recommended considering export potential within the context of a country's or trade alliance's trade policy, particularly for specific goods or services. Their research also indicated that trade policy can be a tool for shaping a country's or a specific economic sector's import potential. H. Mu & D. Zhang (2023) developed a ranking of factors influencing export-import capital, with regional economic level, scientific and technological progress, and GDP being the most significant.

A gap in these studies was their focus on entire countries or economic sectors, limiting the adaptability of the proposed approaches and tools to individual enterprises. This research aimed to investigate the specifics of evaluating the effectiveness of realising the export-import potential of Ukrainian state-owned enterprises. The objectives were to create a multi-level monitoring technology and develop recommendations for its application.

MATERIALS AND METHODS

This research employed both quantitative and qualitative methods to analyse the factors influencing the export-import potential of economic entities of the state sector. A quantitative contextual analysis was conducted using the PESTLE framework, which considers the impact of political, economic, social, technological, environmental, and legal factors on the development of economic entities of the state sector. The primary objective of this contextual analysis was to gain a comprehensive understanding of external factors and to plan export-import strategies that maximise positive impacts while minimising or avoiding negative ones. Beyond contextualising the exportimport potential of economic entities of the state sector, the analysis enabled the development of a monitoring technology for this potential.

The monitoring technology was designed considering the fact that the emergence and subsequent development of an economic entity's export-import potential is influenced by a combination of external factors, both controllable and uncontrollable. The proposed technology integrates qualitative and quantitative analysis methods, including profitability, deviations of actual production results from planned ones, export dependency ratio, import dependency ratio, profitability of export activities, profitability of imported resources, net trade balance, and competitiveness index.

The analysis of external influences allowed to develop an export-import monitoring strategy that maximises existing opportunities while remaining resilient to adverse impacts. The proposed technology comprises seventeen (n = 17) steps, each analysed in terms of the enterprise's export-import objectives and the tools to achieve them. The strategy was also evaluated through a SWOT analysis, examining the strengths, weaknesses, opportunities, and threats of using a multistage technology for assessing the strategic planning of export-import potential in state-owned entities. Based on the SWOT analysis, conclusions were drawn regarding the feasibility of using the proposed tool to monitor the effective development of the export-import potential of economic entities of the state sector.

Recommendations for implementing the multi-level monitoring technology were grounded in Kurt Lewin's three-step change model, known for its effectiveness in implementing change. This model conceptualises the implementation of a new monitoring technology as a change process comprising three key phases: unfreezing, changing, and refreezing (Yli-Kerttula & Varis, 2023). The implementation of the 17-step monitoring model was viewed in this study as a sequence of steps: preparing the economic entity for monitoring, conducting monitoring using the 17-step technology, and ensuring long-term positive changes resulting from the technology's implementation. At each

stage of implementing the monitoring technology, various factors can either accelerate or hinder the transformation process. Based on the application of Kurt Lewin's model, the factors with the greatest impact on the implementation of the proposed monitoring framework were identified. These factors were considered when developing recommendations for evaluating the strategic planning of the export-import potential of state-owned enterprises.

RESULTS

Contextualising strategic planning for export-import potential in the state sector of the economy

According to data from the Ukrainian Ministry of Economy, as of April 2024, there were 3,116 state-owned enterprises in Ukraine, of which 845 (27%) were engaged in production activities and only 475 (15%) were profitable (Ministry of Economy of Ukraine, 2024). Examples of profitable state-owned enterprises include the National Joint Stock Company "Naftogaz of Ukraine", the state enterprise "National Power Company "Ukrenergo", and the private joint-stock company "Ukrhydroenergo". The significant imbalance between the number of unprofitable and profitable enterprises is a major problem, as the latter serve as the driving force behind economic development and social well-being. The stagnation of state-owned enterprises may indicate that their export-import potential is not fully assessed or realised. Drawing on industry reports and selected academic research, this study identified factors influencing the operations of economic entities of the state sector, including their utilisation and development of export-import potential. The factors identified through a PESTEL analysis are presented in Table 1.

Table 1. PESTEL analysis of export-import potential formation in economic entities

Factor	Comment
Political	Economic entities must realise their export-import potential amidst full-scale military aggression against the country. The restoration of export-import levels to pre-war figures is possible with the support of international partners
Economic	Full-scale military aggression has exacerbated the economic crisis, leading to an increase in the number of unprofitable enterprises
Social	State-owned economic entities are among the key employers and sources of social stability. Fullscale military actions have resulted in a workforce outflow, worsening the staffing crisis in the state sector of the economy
Technological	The emergence of new technologies and investment in innovation enhance efficiency and improve the competitiveness of economic entities. However, due to full-scale aggression and the resulting economic crisis, investment in production technology development has declined
Environmental	Business operations are governed by national and international environmental standards. Due to full-scale military invasion, certain territories have become unsuitable for economic activities
Legal	The state regulates the activities of economic entities through legislation, including through provisions of the Law of Ukraine No. 549-IV "On State Control over International Transfers of Military and Dual-Use Goods" (2003), Law of Ukraine No. 185-V "On Management of State-Owned Property" (2006); Draft Law of Ukraine No. 2142a "On Ensuring Large-Scale Export Expansion of Ukrainian Producers by Insurance, Guaranteeing and Reducing the Cost of Export Lending" (2015)

Source: created by the authors based on the materials of the Law of Ukraine No. 549-IV (2003), the Law of Ukraine No. 185-V (2006), Draft Law of Ukraine No. 2142a (2015)

From the table above, it is evident that the use of export-import opportunities by enterprises is influenced by a combination of factors. Some of these, such as legal support from the state or technological progress in the industry, drive the export-import development of an economic entity. Other factors, such as the need to operate under full-scale military aggression or a reduction in resources for conducting economic activities, instead hinder the process of realising the enterprise's export-import potential. An illustration of this assertion is the dynamics of Ukrainian export-import changes from 2021 to 2024, which vividly demonstrates the impact of Russian aggression, leading to a sharp decline in foreign trade operations, and the recovery potential of enterprises (Table 2).

Table 2. Dynamics of Ukraine's export-import operations in 2021-2024

Year	Trade turnover, million USD	Export		Import		Balance, million USD
		Export, million USD	Changes in % from the previous year	Import, million USD	Changes in % from the previous year	
2021	141,377	68,088	38	73,289	35	-5,201
2022	103,676	44,173	-35	59,503	-19	-15,331
2023	99,420	359,580	-19	63,456	7	-27,497
2024*	82,060	30,839	12	51,221	11	-20,382

Notes: * – data for 2024 are for the first 9 months; percentage changes are compared to data from the first 9 months of 2023
Source: compiled by the authors based on State Statistics Service of Ukraine (2024), S. Shamborovskyi (2024)

Since the beginning of Russia's full-scale invasion of Ukraine, the export component, which according to N. Jia *et al.* (2024) accounted for 30% to 50% of the country's GDP, has suffered the most significant losses. In the first months of the war, the country's exports decreased by 50%, but from August of the same year, a gradual recovery to pre-war levels was observed (Devadoss & Ridley, 2024; Kutsmus *et al.*, 2024). Based on the provided statistics, it can be argued that the country's export-import potential exhibits high resilience and a capacity for rapid recovery amid full-scale aggression.

From a political standpoint, the restoration of enterprises' export-import potential is possible thanks to international support, which involves reorienting towards new markets. As of 2023, the main consumers of Ukrainian exports were Poland, Romania, Turkey, China, Hungary, Germany, and Italy. International agreements signed after February 2022 have opened up new markets for the country to strengthen the export-import capabilities of the state sector of the economy.

International support is one of the factors in overcoming the economic crisis caused by fullscale military aggression. State-owned enterprises, whose assets account for about 13% of the total value of assets of all Ukrainian enterprises, have become the most vulnerable to the crisis. Only 27% of state-owned economic entities are operational, and only 15% of them are profitable. Therefore, it can be argued that state-owned economic entities require additional support to unlock their export-import potential.

The achievement of this goal is possible, in part, through the rational use of human potential, which is the driving force behind the competitiveness and investment attractiveness of economic entities of any ownership type. One barrier to utilising human resources is the migration crisis, the long-term trends and consequences of which are difficult to predict. The International Organization for Migration (2024) report noted that, with the onset of fullscale invasion, approximately 3 million Ukrainian citizens emigrated abroad, and another 3.5 million became internally displaced persons. The same report also stated that 4,734,000 individuals returned to their usual places of residence, indicating that migration processes are reversible. S. Kubiciel-Lodzińska & B. Solga (2023) suggested that depending on military actions, irreversible migration losses could range from 500,000 to 5.5 million citizens. Given that the overwhelming majority of migrants are of working age, there may be a shortage of personnel in state-owned enterprises in the medium to long term.

In addition to the aforementioned factors, technological factors also influence the exportimport potential of economic entities. These generally have a positive impact on the development of the export-import potential of the economic entity, as the implementation of the latest technologies, artificial intelligence, robotic production, and so on, enhances their competitiveness and investment attractiveness. However, when analysing this aspect of exportimport potential, it is important to consider that the implementation of technological innovations is costly and not always accessible to state-owned entities.

The state of the country's ecology is one of the factors that slows down the effective use and development of the country's export-import potential. R. Quitzow *et al.* (2022) in their study noted that conducting military operations within the country leads to the pollution of land and water areas, and the depletion of other natural resources, which makes economic activity impossible in certain areas. While the economic entities in the agricultural sector suffered the most significant losses, the negative impact of pollution was also recorded in other sectors.

At the legislative level, the state promotes a level playing field for economic entities and the continuous improvement of their export-import potential. This support was expressed through the adoption of the Law of Ukraine No. 185-V "On Management of State-Owned Property" (2006), which stipulates the accountability of economic entities and monitoring of their activities to create better conditions for the formation of export-import potential.

Based on the analysis, it can be concluded that economic entities of the state sector operate in predominantly unfavourable conditions, significantly reducing the utilisation and development of their export-import potential. With the beginning of the full-scale invasion, the problems of utilising and developing such potential have intensified due to new economic, social, environmental, and other challenges. The dynamics of the return of export-import values to pre-war levels suggest the reversibility of negative processes in the state sector of the economy. Reversing the crisis and preventing stagnation is possible through government support for enterprises, the implementation of innovative processes, and participation in international economic development initiatives.

Monitoring the utilisation and development of an economic entity's export-import potential

The sustainable development of state-owned economic entities necessitates strategic planning. Such planning is grounded in an understanding of the internal and external factors and trends that influence the enterprise's performance. A key objective of planning is to select and implement strategies that maximise the benefits of favourable factors and trends while minimising or avoiding the impact of negative ones. Strategic planning for state-owned entities is based on a multicomponent analytical technology presented in Table 3. The implementation of the proposed technology is justified by the national policy aimed at improving the efficiency of resource utilisation by state-owned economic entities. The state's oversight of economic entities is outlined in documents such as memoranda from the Ministry of Finance, reports from the National Anti-Corruption Bureau, and periodic audits by the Audit Chamber. The effectiveness of the proposed technology has also been confirmed by case studies of specific economic entities of the state sector. A distinctive feature of the proposed technology is the combination of quantitative and qualitative assessment criteria with informed strategic planning for export-import activities of enterprises.

Table 3. Monitoring technology for the utilisation and development of the export-import potential of an enterprise

No.	Stage of the technology	Instrumental support
1	Defining the goals and tasks of monitoring	Enterprise audit, including the involvement of independent experts. Contextual analysis of the enterprise's activities using PESTEL analysis and Porter's Five Forces Model. Formulation of smart goals, considering the enterprise's strategic vision
2	Quick assessment of business activities	Analysis of industry reports and accounting documentation, observations, case study method
3	Forming a system of indicators for the effective use and development of the enterprise's export-import potential	Benchmarking method, formulation of smart goals, creation of an enterprise development "roadmap"
4	Analysis of trends in the changes of partial indicators for the use and development of the enterprise's export-import potential	Descriptive statistics method
5	Comparative analysis and control of partial indicators for the use and development of the enterprise's export-import potential with normative or benchmark values	Benchmarking method, analysis of the enterprise's activities in the context of industry reports, analysis of success stories of other enterprises within the industry at the national or international level, case study method
6	Calculation of the effectiveness of export-import potential implementation	Building an integral taxonomic indicator of development
7	Assessment of the dynamics of export-import potential use and development	Comparative analysis of data over a specific period
8	Evaluation of the relationship between the use and development of export-import potential	Multidimensional canonical analysis method
9	Analysis of the environmental impact on the formation and implementation of export-import potential	Regressive analysis, cointegration method, PESTEL analysis, Porter's Five Forces Model
10	Assessment of the impact of internal environment factors on the use and development of export-import potential	SWOT analysis, observations, surveys, focus groups, in-depth interviews
11	Assessment of optimal values for export-import potential indicators	Multifactorial regression analysis
12	Forecasting export-import potential use indicators	Growth curves, scenario forecasting methods, benchmarking, case study method
13	Comparative analysis of export-import potential use and development indicators with optimal and forecast values	Benchmarking, contextual market or segment analysis, analysis of segment accounting documentation over a certain period
14	Control of deviations in the values of export-import potential use and development indicators	Benchmarking method, contextual analysis, PESTEL and SWOT analyses
15	Assessment of reserves for enhancing the effectiveness of export-import potential implementation	Benchmarking, analysis of external influences that hinder the full use of export-import potential
16	Formulation of a rational managerial decision to support the normal process of export-import potential use and development	Economic analysis and management decision-making methods
17	Monitoring the processes of export-import potential use and development	Continuous monitoring, starting from the second stage of the technology

Source: compiled by the authors based on J. Grant *et al.* (2023), H. Mu & D. Zhang (2023), N.T. Hung *et al.* (2024)

To ensure the effectiveness of the proposed monitoring, specific metrics and tools are recommended for evaluating the efficiency of realising an enterprise's export-import potential. Qualitative tools provide a deep understanding of the context in which a state sector enterprise operates. Recommended qualitative tools include observation, contextual analysis, industry report analysis, case studies, focus groups, and interviews. These and other approaches help interpret data obtained using quantitative analysis tools. Recommended quantitative tools for analysing the utilisation and development of the export-import potential of state-owned enterprises include:

1. Profitability of the enterprise, used to assess the potential for profit generation in the short term. It is a criterion for effective financial, operational, and investment activities of the enterprise:

$$F = E/P, \quad (1)$$

where F is the efficiency of activity; E is the result of management decisions and efforts; P is the costs (resources).

2. Deviation of actual production results from planned ones. There is an inverse relationship between the deviation of production results and its efficiency. This is used to calculate deviations for:

- volume:

$$OQ = (Qf - Qi)\ NI\ PI, \quad (2)$$

where Q is the output volume; N is the standard consumption of resources per unit of output; P is the price per unit of resource f; I is the indices of the actual and planned values of the quantities;

- price:

$$Op = Qf\,(Pf - PI)\,NI; \quad (3)$$

- standard:

$$On = Qf\,Pf\,(Nf - NI). \quad (4)$$

3. Export dependency ratio is used to understand the share of exports in the total volume of products sold by the enterprise:

$$Kexp = (Vreal/Vexp) \times 100\%, \quad (5)$$

where *Vexp* is the export volume in value or physical terms; *Vreal* is the total volume of products sold.

4. Import dependency ratio allows predicting the price and assessing the competitiveness of the final product (a smaller share of imported raw materials or components means a lower price), as well as assessing the production's ability to develop sustainably under changing economic and political realities:

$$Kimp = (Vtotal/Vimp) \times 100\%, \quad (6)$$

where *Vimp* is the volume of materials imported by the enterprise; *Vtotal* is the total volume of materials used in production.

5. Profitability of export activities allows determining the ratio of profit from exports to total export activity. A higher profit from lower export volumes indicates high profitability of the enterprise's export activities:

$$Rexp = (Vexp/Pexp) \times 100\%, \quad (7)$$

where *Pexp* is the profit from export activities; *Vexp* is the export volume.

6. Profitability of imported resources. A higher profit generated from a smaller volume of imported resources indicates high import profitability for the enterprise:

$$Rimp = (Vimp/Pimp) \times 100\%, \quad (8)$$

where *Pimp* is the profit from imported resources; *Vimp* is the volume of imported resources.

7. Net trade balance. For a well-performing enterprise, the volume of exports exceeds the volume of imports, resulting in a positive trade balance:

$$TB = Vexp - Vimp, \quad (9)$$

where *TB* is the trade balance; *Vexp* is the volume of exports; *Vimp* is the volume of imports.

8. Competitiveness index provides an understanding of the enterprise's development vector:

$$Icomp = (Qcomp/Qour) \times (Cour/Ccomp), \quad (10)$$

where *Qour* and *Qcomp* are the quality of the enterprise's products and competitors' products, respectively; *Cour* and *Ccomp* are the costs of the enterprise's products and competitors' products, respectively.

When using the proposed monitoring technology, it is recommended to consider that the primary objective is to enhance the enterprise's competitiveness. The importance of this task is underscored by the significant role that state sector entities play in contributing to GDP, employment, and addressing other economic and social challenges. It is also essential to acknowledge that, despite their crucial role, a majority of state-owned enterprises are unprofitable, necessitating more rigorous monitoring of the factors contributing to their low competitiveness.

Monitoring state-owned enterprises involves considering the multi-faceted nature of competitiveness, with key aspects including indicators of economic development, employee living standards, and investment attractiveness. Most of the tools proposed within the technology for monitoring the realisation of an enterprise's export-import potential are used to determine the economic development level of the economic entity. These indicators include import and export dependency ratios, profitability of export activities, and profitability of import activities. Additional indicators that can be included are the gross product of the economic entity, the volume of output, and the profitability of operating activities.

Indicators of employee living standards are equally important as they can be used to foster long-term cooperation with the economic entity, avoid a labour crisis, and improve production efficiency. The dependence of an enterprise's profitability and competitiveness on employee living standards necessitates monitoring the latter. Recommended tools for this monitoring include average monthly nominal wages, social benefits for employees, vacancy fill rates, and employee disposable income. High levels of economic development and employee living standards enhance investment attractiveness, which is essential for the sustainable development of state-owned economic entities.

Investment attractiveness indicators for an enterprise include its earnings before interest and taxes (balance) and foreign direct investment. It is also recommended to use comparative indicators to assess an enterprise's investment attractiveness relative to other economic entities. One such indicator is whether the economic entity is profitable. Additionally, analysing the economic entity's involvement in innovative activities is crucial, as it significantly increases the chances of attracting investment. Thus, a multi-factor analysis of an enterprise's competitiveness is a key component of monitoring the efficiency of its export-import potential.

The implementation of the proposed monitoring system considers numerous internal and external factors. A thorough understanding of these influences is achieved through a SWOT analysis. The purpose of such an analysis is to examine and classify the impacts on the enterprise's strengths, weaknesses, opportunities, and threats. Based on an understanding of these potential positive and negative influences, strategic objectives are formulated. Key influencing factors are presented in Table 4.

Table 4. SWOT analysis of the proposed monitoring system

Strengths	Weaknesses
◆ comprehensive assessment; ◆ a variety of tools; ◆ versatility	◆ complexity in use; ◆ lack of readiness among managers to use certain tools
Opportunities	**Threats**
◆ improved competitiveness; ◆ increased production efficiency; ◆ enhanced investment potential; ◆ support for sustainable development of the economic entity	◆ lack of certain data; ◆ subjective evaluation

Source: developed by the authors

Based on the table presented, the implementation of the proposed monitoring system is deemed appropriate, as its benefits and potential outweigh the associated drawbacks and risks. The primary advantage of this system lies in its versatility; it can be applied to monitor the export-import potential of enterprises regardless of their specific activities. This versatility is attributed to the diversity of methods, allowing for the selection of approaches and tools that best suit a particular business scenario. It is also significant that the proposed monitoring technology incorporates both quantitative and qualitative tools, enabling a comprehensive and more in-depth assessment of enterprise performance and facilitating the selection of appropriate management strategies. The diversity of assessment tools can also be viewed as a drawback of the proposed technology, as the selection and implementation of specific approaches require training for those responsible for monitoring. Despite these limitations, the use of the proposed technology is justified given its potential benefits. Based on the table, key benefits include enhancing the efficiency and competitiveness of the economic entity.

An analysis of the risks associated with implementing the proposed technology provides insights into how to overcome them, including through the use of Kurt Lewin's change model. This model views change as a sequence of interrelated stages: preparation for change, the actual change involving the implementation of new strategies and methods, and the consolidation of these changes over time. The main stages of the recommended model are presented in Figure 1.

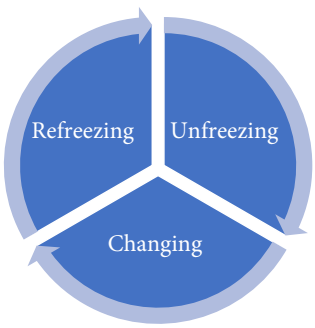

Figure 1. Kurt Lewin's transformation model

Source: compiled by the authors based on J. Yli-Kerttula & K. Varis (2023)

As illustrated in the figure, the transformation process is cyclical, aligning with the idea of continuous monitoring, starting from the second phase of the proposed technology. The figure also indicates that the change process consists of three phases, each with its own characteristics. When using the proposed model, it is essential to consider that the existing system for managing the enterprise's export-import potential is often stable and resistant to change. Transformation processes begin when the factors driving change outweigh those resisting it. This implies that the change process should begin with a comprehensive cost-benefit analysis to justify the proposed transformations. As supporting arguments, it is recommended to reference the results of the SWOT analysis, which highlights the importance of using the new monitoring system to realise the exportimport potential of the state-owned enterprise. At this stage, it is crucial to solidify the economic entity's readiness for change by reviewing strategic planning, signing memoranda, and taking similar actions.

The second phase involves the actual implementation of changes, meaning the new monitoring system for the effective use and development of the economic entity's export-import potential becomes operational. The effectiveness of this phase may be influenced by the threats identified in the SWOT analysis, such as a lack of specific data for monitoring and the possibility of subjective evaluation of the use and development of the economic entity's export-import potential. When planning change strategies at this stage, it is important to remember that the risk of missing specific data on state-owned economic entities is relatively low due to the state's regulatory requirements for the accountability of such enterprises. The main document ensuring the accountability of enterprises is Law of Ukraine No. 185-V "On Management of State-Owned Property" (2006). This law guarantees public access to information regarding the activities of stateowned economic entities. In addition to national platforms, state-owned economic entities often use internal, more secure intranet networks to provide access to information used for monitoring their activities.

A more significant challenge at this stage may be the lack of preparedness among stakeholders in using specific monitoring tools or their reluctance to adopt certain quantitative or qualitative analysis approaches. Overcoming these obstacles can be achieved through theoretical and

practical training for stakeholders in the use of specific monitoring tools. Training should be designed to cover the following aspects: presentation of the key capabilities and benefits of the proposed tool; specific features of using the tool in different monitoring situations; potential difficulties in using the proposed tool and ways to overcome them; and the compatibility of the proposed tool with other tools for monitoring the efficiency of using and developing the enterprise's export-import potential. When planning training for stakeholders, it is also recommended to consider the risk of subjective monitoring, which may be caused by a lack of a comprehensive approach to assessing the enterprise's performance, the presence of ethical dilemmas in the assessment, and so on. In such cases, it is recommended to provide additional training on the use of specific monitoring tools and the objective interpretation of the resulting data. When planning such training, it is recommended to specify the criteria for objective monitoring, consider factors that may influence the conduct of such monitoring, and propose ways to minimise the risks of subjective evaluation.

The final stage of the transformation process should also consider the system's inertia and its tendency to revert to its previous state if changes are not refreezing, that is, solidified in some way. To solidify these changes, it is proposed to make them part of the economic entity's strategy by declaring a commitment to monitoring the efficiency of utilising and developing export-import potential in the company's charter. Documenting these changes can serve as a basis for implementing an incentive system to encourage stakeholders to conduct objective monitoring of the use and development of the export-import potential of state-owned economic entities. An example of such an incentive could be a bonus for the timely provision of information and conducting monitoring following specified criteria.

The implementation of the proposed technology for evaluating the strategic management of export-import potential should be viewed as a multi-stage transformation process. The strategies for each stage should be selected in a way that generates long-term effects and minimises the risk of reverting to old, less effective practices.

DISCUSSION

The findings presented align with previous research on the impact of Russia's full-scale invasion on Ukraine's export-import performance. S. Steinbach (2023) emphasised that Russia's military aggression was a key factor in the decline of Ukraine's export potential. According to the researcher, the primary reason for the decline in exports was the blockade of export routes for certain products, including agricultural goods. A.M. Countryman *et al.* (2024) highlighted that the decline in Ukraine's export potential triggered a global crisis, leading to significant losses. The data presented by these experts indicate that the blockade of Black Sea export routes resulted in losses in global net welfare ranging from USD 5 billion to USD 20 billion. These losses are attributed to Ukraine's leading position in the global export of certain goods, including agricultural products. According to A. Sadlowski & A. Zajac (2024), before the full-scale invasion, Ukraine accounted for approximately 50% of global sunflower oil production, 20% of barley, and 10% of wheat. Until February 2022, nearly half of the wheat purchased under the United Nations World Food Programme came from Ukraine. V.P. Kalenska (2023) also noted a significant decline in import potential, emphasising that negative trends were already evident in 2020 due to COVID-19 restrictions and rising energy prices. The full-scale invasion accelerated these negative trends: while imports amounted to USD 89,774.6 million in 2019, before the pandemic, they halved to USD 44,000.6 million in 2022. The cited sources clearly demonstrate that the full-scale war significantly reduced Ukraine's overall export-import potential, as well as that of individual enterprises, corroborating the findings of this study.

Previous research corroborates the thesis presented in this article regarding the need for continuous analysis of the realisation of an enterprise's export-import potential. P. Heine *et al.* (2024) argued that a key objective of such monitoring is to identify risks to the utilisation and development of export-import potential, assess their likelihood and potential losses, and analyse the consequences of specific strategic decisions. These arguments resonate with the monitoring technology presented in this research, a core element of which is continuous observation and analysis of the results.

The importance of certain elements of the proposed evaluation technology, such as innovation and competitiveness, has been supported by previous research, particularly by Z. Najafi-Tavani *et al.* (2023). Based on data from 263 managers and executives of 194 exporting companies, the researchers concluded that there is a direct link between the use of innovative business models and the differentiation of exporters. According to the experts, this link is most noticeable in moderately competitive environments, where the use of technology becomes a crucial condition for an enterprise's differentiation. The link between innovation and enterprise competitiveness was also confirmed in a study by L.C. Ortigueira Sanchez *et al.* (2022), who analysed the experiences of 237 small and medium-sized enterprises in Peru. The researchers concluded that government programs supporting innovation are a driving force behind enterprise competitiveness at both regional and international levels. I. Ahmad *et al.* (2023) demonstrated that neglecting to assess innovative transformations and other aspects of import-export potential can lead to significant financial losses for economic entities. By analysing the experiences of Pakistani enterprises, the researchers estimated that losses from misjudging the export potential of national enterprises could range from USD 2 billion to USD 5 billion. Such losses can significantly reduce the efficiency of economic entities of the state sector and even lead to the liquidation of some. The cited studies support the idea presented in this article regarding the importance of assessing an economic entity's competitiveness as a component of its export-import potential.

Furthermore, the findings of this study align with previous research regarding the importance of assessing and developing a firm's export-import potential. D.N. Coudounaris & P. Björk (2023), in their analysis of Estonian small and medium-sized economic entities, highlighted the significance of internal factors such as employee qualifications, motivation, and commitment to long-term cooperation. The need to analyse human capital as a key element of a firm's export-import capacity was also emphasised by K. Amit *et al.* (2024), who studied the impact of the brain drain on enterprise competitiveness and assessed the prospects for labour force recovery to support sustainable export-import development. They argued that the return of skilled workers is possible after the cessation of hostilities, and many internally displaced persons have already returned to their home regions due to instability. In support of this argument, the researcher cited changes in export routes and the emergence of new export centres in Ukraine since the full-scale invasion. Regions such as Vinnytsia, Volyn, Zakarpattia, Lviv, Rivne, Ternopil, Cherkasy, and Chernivtsi have become new export hubs. The emergence of new logistical solutions and the reorientation of certain regions indicate opportunities for the sustainable development of the country's and individual enterprises' export-import potential. This aligns with the findings presented in this study, which suggest that continuous monitoring can contribute to the restoration and enhancement of the export-import capabilities of state-owned enterprises. These findings are encouraging, considering the relatively small percentage of operating and profitable economic entities of the state sector in Ukraine.

Understanding the factors influencing the development of export-import potential can be achieved through qualitative analysis methods such as observations, interviews, focus groups, and case studies. These methods and tools have also been proposed in this study as elements of assessing the strategic planning of a firm's export-import activities. The importance of a comprehensive approach to assessing export-import potential was also explored in the research of N. Sharkasi *et al.* (2023), who studied the export-import potential of Vietnamese economic entities. Using two rating models, the researchers compiled a list of factors that influence the utilisation and development of an economic entity's export-import potential. A multi-factor model for assessing export-import potential was also developed by A.K. Dissanayake & U.D. Udari (2023), proposed analysing external factors in terms of whether they facilitate or hinder the utilisation and development of export-import potential. Despite the differences in the cited analytical models, they converge on the idea that an economic entity's export-import potential is a multi-component structure shaped and developed by numerous variables. Based on this, a combination of quantitative and qualitative tools is essential for a comprehensive assessment of an economic entity's potential and a deep understanding of strategies for its development. This assumption resonates with the monitoring technology proposed in this study, which includes several dozen quantitative and qualitative evaluation criteria.

A significant distinction of this study from previous research lies in its context, which is characterised by two key features. Unlike prior studies, this research focuses on the utilisation and development of export-import potential in a country at war. This implies that Ukrainian economic entities are developing their export-import potential within a more complex context and under the influence of a greater number of factors compared to enterprises in countries not experiencing armed conflict. The uniqueness of this study is also attributed to its focus on economic entities of the state sector, which are generally less competitive and more vulnerable to contextual changes.

CONCLUSIONS

A multi-level framework has been developed to assess the effectiveness of realising export-import opportunities for state-owned enterprises. This framework incorporates both quantitative and qualitative aspects of enterprise operations, which is essential given the numerous external and internal factors influencing businesses, particularly in the context of a full-scale war. Implementing this framework supports strategic management of exports and imports in the state sector of the economy, helping to mitigate the risks posed by the war.

Through the contextual analysis, key factors influencing the export-import potential of economic entities were identified: political, economic, social, technological, environmental, and legal. Among the analysed factors, the most significant is the development of export-import opportunities for enterprises in the context of large-scale military aggression against Ukraine, the reduction of resources for business operations, support for state-owned enterprises at the national and international levels, and the social demand for stability.

Based on the contextual analysis of the factors influencing the formation of export-import potential, a 17-step technology for monitoring the effectiveness of its use and development by economic entities was developed. The proposed technology encompasses a comprehensive approach to analysing the implementation of export-import capacity within an economic entity. This approach involves the use of both quantitative and qualitative tools to assess specific components of the economic entity's potential implementation.

By analysing trends in the recovery of the country's export-import potential to pre-war levels, it was concluded that developing the export-import potential of individual state-owned economic entities is feasible. It was recommended to view the development of this potential, including the continuous monitoring of employed strategies, as a multi-stage transformation process. Kurt Lewin's change model can facilitate the effective implementation of these proposed transformations. The presented results and recommendations can serve as a foundation for developing strategies to manage the export-import potential of

economic entities in the face of external and internal challenges. The recommendations can also be useful for improving the performance of state-owned economic entities by increasing their profitability and competitiveness.

Future research could include a comparative analysis of state-owned and privately-owned entities, as well as expanding the analytical base for studying the export-import potential of private enterprises. Integrating cutting-edge digital tools, such as artificial intelligence and robotics, could improve the accuracy and efficiency of monitoring and exploring the long-term social and economic implications of implementing the proposed monitoring technology.

ACKNOWLEDGEMENTS

None.

CONFLICT OF INTEREST

None.

REFERENCES

[1] Ahmad, I., Ahmad, M., Qadir, G., & Afridi, A.K. (2023). Pakistan's export potential assessment at intensive and extensive margins. *Review of International Business and Strategy*, 34(1), 152-169. doi: 10.1108/RIBS-05-2023-0039.

[2] Alimova, S.A., & Khalilova, M.N. (2022). State management of foreign economic activity of enterprises. *Galaxy International Interdisciplinary Research Journal*, 10(10), 364-369.

[3] Amit, K., Jelinkova, M., Slezak-Belowska, E., & Bielewska, A. (2024). The migration decision-making process among Ukrainian refugees: Different contexts of reception. *Journal of Immigrant & Refugee Studies*. 1-16. doi: 10.1080/15562948.2024.2425008.

[4] Baki, R. (2024). Evaluating and classifying market alternatives using the CAPMA technique to assess potential export volume: An application for Turkey's fig exports. *British Food Journal*, 126(8), 3301-3315. doi: 10.1108/BFJ-03-2024-0266.

[5] Coudounaris, D.N., & Björk, P. (2023). Export performance and international resources and capabilities: A quantitative study on born globals. *Review of International Business and Strategy*, 34(2), 264-291. doi: 10.1108/RIBS-06-2023-0064.

[6] Countryman, A.M., Litvinov, V., Kolodiazhnyi, I., Bogonos, M., & Nivievskyi, O. (2024). Global economic effects of war-induced agricultural export declines from Ukraine. *Applied Economic Perspective Policy*. doi: 10.1002/aepp.13468.

[7] Devadoss, S., & Ridley, W. (2024). Impacts of the Russian invasion of Ukraine on the global wheat market. *World Development*, 173, article number 106396. doi: 10.1016/j.worlddev.2023.106396.

[8] Dissanayake, A.K., & Udari, U.D. (2023). Sri Lanka fruit exporters: Potentials, barriers and prospects. *Colombo Economic Journal*, 1(1), 87-101.

[9] Draft Law of Ukraine No. 2142a "On Ensuring Large-Scale Export Expansion of Ukrainian Producers by Insurance, Guaranteeing and Reducing the Cost of Export Lending". (2015, June). Retrieved from https://ips.ligazakon.net/document/GH1NI68A.

[10] Grant, J., Arita, S., Xie, C., & Sydow, S. (2023). Russia's invasion of Ukraine: The war's initial impacts on agricultural trade. *Choices*, 38(2), 52-64.

[11] Heine, P., Blackburn, T., & Hamling, H. (2024). A strategic trade control systems model. *Strategic Trade Review*, 10(11), 5-16. Retrieved from https://strategictraderesearch.org/wp-content/uploads/2024/02/A-Strategic-Trade-Control-Systems-Model.pdf.

[12] Hung, N.T., Oanh, T.T., & Thanh Trang, C.C. (2024). The impact of economic freedom on economic growth in countries with high and low regulatory quality – lessons from Viet Nam. *Humanities & Social Sciences Communications*, 11, article number 1237. doi: 10.1057/s41599-024-03741-8.

[13] International Organization for Migration. (2024). *Report on internal displacement in Ukraine*. Retrieved from https://dtm.iom.int/sites/g/files/tmzbdl1461/files/reports/IOM_UKR_GPS_Internal%20Displacement%20Report_Round%2016_UA_June%202024.pdf.

[14] Jia, N., Li, Y., Yu, X., Wu, X., Li, Y., Su, R., Wang, M., Chen, R., & Liu, J. (2024). The Russia-Ukraine war reduced food production and exports with a disparate geographical impact worldwide. *Communications Earth & Environment*, 5, article number 765. doi: 10.1038/s43247-024-01915-5.

[15] Kalenska, V.P. (2023). The commodity structure of export and import of Ukraine during the war – a legacy. *Global Prosperity*, 3(1), 26-33. doi: 10.5281/zenodo.7701951.

[16] Kubiciel-Lodzińska, S., & Solga, B. (2023). The challenges of integrating Ukrainian economic migrants and refugees in Poland. *Intereconomics*, 58(6), 326-332. doi: 10.2478/ie-2023-0067.

[17] Kutsmus, N., Zinchuk, T., Prokopchuk, O., & Usiuk, T. (2024). War in Ukraine: Impact on global agri-food trade. *Scientific Horizons*, 27(3), 130-142. doi: 10.48077/scihor3.2024.130.

[18] Law of Ukraine No. 185-V "On Management of State-Owned Property". (2006, September). Retrieved from https://zakon.rada.gov.ua/laws/show/185-16#Text.

[19] Law of Ukraine No. 549-IV "On State Control over International Transfers of Military and Dual-Use Goods". (2003, February). Retrieved from https://zakon.rada.gov.ua/laws/show/549-15#Text.

[20] Malyarets, L.M., Denysiuk, O.V., Kulikov, O.P., & Fatyanov, D.V. (2023). The strategy for efficiency of using the export-import potential. *Economic Problems*, 55(1), 49-57. doi: 10.32983/2222-0712-2023-1-49-57.
[21] Ministry of Economy of Ukraine. (2024). *Information letter on the development of financial plans of public sector enterprises, submission of reports on their implementation and information on the status of their approval*. Retrieved from https://me.gov.ua/Documents/Detail?lang=uk-UA&id=09a308a0-5645-4c26-94dc-b5b2371ffabe&title=InformatsiiniiListSchodoRozroblenniaFinansovikhPlanivPidprimstvDerzhavnogoSektoruEkonomiki-PodanniaZvitivProYikhVikonanniaTaInformatsiiSchodoStanuYikhZatverdzhennia.
[22] Molepo, E.P., & Jordaan, A.C. (2023). A casual analysis between exports, imports and GDP in the South African Customs Union countries. *Studies in Economics and Econometrics*, 48(2), 168-185. doi: 10.1080/03796205.2024.2343723.
[23] Mu, H., & Zhang, D. (2023). Analysis of factors affecting import and export of underdeveloped regions based on RBF neural network – a case study of Guizhou Province. *BCP Business & Management*, 37, 113-121. doi: 10.54691/bcpbm.v37i.3555.
[24] Najafi-Tavani, Z., Zantidou, E., Leonidou, C.N., & Zeriti, A. (2023). Business model innovation and export performance. *Journal of International Business Studies*. doi: 10.1057/s41267-023-00645-8.
[25] Nehrey, M., & Finger, R. (2024). Assessing the initial impact of Russian invasion on Ukrainian agriculture: Challenges, policy responses, and future prospects. *Heliyon*, 10(21), article number e39208. doi: 10.1016/j.heliyon.2024.e39208.
[26] Ortigueira Sanchez, L.C., Welsh, D.H., & Stein, W.C. (2022). Innovation drivers for export performance. *Sustainable Technology and Entrepreneurship*, 1(2), article number 100013. doi: 10.1016/j.stae.2022.100013.
[27] Quitzow, R., Renn, O., & Zabanova, Y. (2022). The crisis in Ukraine: Another missed opportunity for building a more sustainable economic paradigm. *GAIA – Ecological Perspectives for Science and Society*, 31(3), 135-138. doi: 10.14512/gaia.31.3.2.
[28] Resolution of the Cabinet of Ministers of Ukraine No. 179 "On Approval of the National Economic Strategy for the Period up to 2030". (2021, March). Retrieved from https://zakon.rada.gov.ua/laws/show/179-2021-%D0%BF#Text.
[29] Sadlowski, A., & Zajac, A. (2024). Export of Ukrainian agricultural products through Poland – route restricitons. *Agricultural and Resource Economics: International Scientific E-Journal*, 10(4), 29-46. doi: 10.51599/are.2024.10.04.02.
[30] Shamborovskyi, G. (2024). Condition and prospects of foreign trade of Ukraine. *Agriworld*, 9, 28-35. doi: 10.32702/2306-6792.2024.9.28.
[31] Sharkasi, N., Hien Chau, N.V., & Rajasekera, J. (2023). Export potential analysis of Vietnamese bottled coconut water by incorporating criteria weights of MCDM into the gravity of trade model. *Sustainability*, 15(15), article number 11780. doi: 10.3390/su151511780.
[32] State Statistics Service of Ukraine. (2024*). Ukraine's foreign trade in goods for 9 months of 2024 (express release)*. Retrieved from https://stat.gov.ua/en/node/4078/.
[33] Steinbach, S. (2023). The Russia-Ukraine was and global trade reallocations. *Economic Letters*, 226, article number 111075. doi: 10.1016/j.econlet.2023.111075.
[34] Telnova, H., Kolodiziev, O., Petchenko, M., Yakushev, O., Shulga, N., & Kochetkov, V. (2023). Foreign trade policy and its impact on economic growth. *Financial and Credit Activity: Problems of Theory and Practice*, 4(51), 345-357. doi: 10.55643/fcaptp.4.51.2023.4097.
[35] Wojtowicz, A. (2024). EU energy security after Russia's invasion of Ukraine – substance, strategy and lobbying. *Studies in European Affairs*, 2, 157-171. doi: 10.33067/SE.2.2024.8.
[36] Yli-Kerttula, J., & Varis, K. (2023). Comparison of change management models and suggestions for top management. *Journal of Management and Strategy*, 14(2), 69-74. doi: 10.5430/jms.v14n2p69.

Технологія моніторингу ефективності використання та розвитку експортно-імпортного потенціалу суб'єктів господарювання державного сектору економіки

Людмила Малярець
Доктор економічних наук, професор
Харківський національний економічний університет імені Семена Кузнеця
61166, пр-т Науки, 9а, м. Харків, Україна
https://orcid.org/0000-0002-1684-9805

Олексій Бударін
Аспірант
Харківський національний економічний університет імені Семена Кузнеця
61166, пр-т Науки, 9а, м. Харків, Україна
https://orcid.org/0000-0001-9399-9914

Анотація. Метою дослідження було визначити підходи до оцінювання ефективності використання та розвитку експортного та імпортного потенціалу державних підприємств України, враховуючи вплив зовнішніх і внутрішніх факторів, а також розробити комплексну систему моніторингу, що сприятиме підвищенню конкурентоспроможності та стратегічного планування їхньої діяльності. Методологія дослідження ґрунтувалася на застосуванні кількісних та якісних методів аналізу економічних показників ефективності діяльності державних підприємств та їхнього зовнішньоторговельного потенціалу, а також методі SWOT-аналізу запропонованої багаторівневої системи моніторингу, яка була оцінена також і через модель управління змінами. У дослідженні проведено контекстуалізацію стратегічного планування експортно-імпортного потенціалу суб'єктів господарювання державного сектору економіки. Визначено вплив політичних, економічних, соціальних, технологічних, екологічних та правових факторів на експортно-імпортну діяльність державних підприємств, з акцентом на виклики, спричинені повномасштабною воєнною агресією. Запропоновано 17-етапну технологію моніторингу експортно-імпортного потенціалу, яка поєднує кількісні та якісні методи аналізу, включаючи оцінку рентабельності, конкурентоспроможності, імпортної та експортної залежності. Впровадження запропонованої технології розглянуто крізь призму трансформаційної моделі Курта Левіна, яка передбачає поетапну адаптацію до змін та закріплення нових підходів у стратегічному управлінні. Результати контекстуального дослідження також підтверджують значення міжнародної підтримки, переорієнтації на нові ринки та інновацій для відновлення експортно-імпортного потенціалу. Дослідження було сфокусовано на державному секторі економіки та потребі в адаптації інструментів моніторингу до специфічних умов підприємств. Отримані висновки можуть бути використані для розробки стратегій підтримки державних підприємств, підвищення їхньої конкурентоспроможності та сталого розвитку в умовах зовнішніх і внутрішніх викликів

Ключові слова: контекстуальний аналіз; стратегічне планування; конкурентоспроможність; зовнішньоторговельна діяльність; торговий баланс