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SUBSTANTIATION OF STRATEGIC MANAGEMENT DECISION DIRECTIONS FOR ENSURING SOCIO-ECONOMIC SECURITY IN THE GLOBAL ECONOMY

The research object is Ukraine's socio-economic security system. The research problematic is related to the necessity of selecting effective strategic decisions under conditions of increasing risks and limited institutional resources. The research is devoted to identifying directions for strategic management decisions to strengthen the state's socio-economic security during the period of global economic and social transformations. Specifically, institutional decisions aimed at increasing investment attractiveness, regulating migration processes, and liberalizing foreign economic activity are analyzed.

The methodological foundation of the research comprised regression analysis using an additive algorithm for aggregating indicators to assess the subsystems of economic security and social welfare, and a multiplicative aggregation algorithm for forming an integral indicator of socio-economic security. Identification of structural breaks of exogenous nature and empirical verification of the integral indicator's sensitivity to macroeconomic factors were performed by introducing a binary variable following the analytical approach of time series analysis with a fixed break point.

Based on the results of multi-criteria analysis, a strong moderate positive relationship was established between the level of socio-economic security and strategic decisions aimed at enhancing the state's investment attractiveness (correlation coefficient r = 0.638), and a moderate strong positive relationship with strategic decisions aimed at liberalizing foreign economic activity (r = 0.737). The obtained results are explained by the dominant influence of institutional and economic factors on the formation of national resilience in the pre-war period and the limited role of migration processes in the short-term dynamics of macroeconomic indicators. The integration of quantitative assessment of socio-economic security with analysis of strategic management decisions enabled justification of priority directions for state policy.

The theoretical significance of research is determined by the development of an approach to assessing the state's socio-economic security that combines integral diagnostics of its condition with analysis of the impact of strategic management decisions through a system of relevant macroeconomic indicators. The practical significance is determined by the identification of strategic guidelines for state policy aimed at strengthening socio-economic security through coordinated use of instruments for investment stimulation, regulation of migration processes, and development of foreign economic cooperation.

Keywords: socio-economic security, strategic management decisions, investment attractiveness, foreign economic activity, structural break, global economy.

1. Introduction

In Ukraine, social and economic security (SES) is implemented in accordance with the Constitution of Ukraine, norms of international law, and the laws and regulatory acts of Ukraine [1]. It is institutionally ensured within the framework of the National Security Strategy of Ukraine [2], which is based on the following principles:

1) deterrence – development of defense and security capabilities;

2) resilience – the ability to adapt to changes in the security environment and maintain functioning by minimizing external and internal vulnerabilities;

3) interaction – development of strategic relations with key foreign partners, primarily with the EU and member states, the USA, and prag-

matic cooperation with other states and international organizations based on Ukraine's national interests.

In the context of geopolitical, economic, and social risks, the problem of finding optimal strategic decisions to achieve socio-economic development priorities is global. Meanwhile, global experience shows that each country uses its own strategic approaches to eliminate vulnerabilities and ensure sustainable development. Thus, the COVID-19 pandemic revealed the risks of concentrated supply chains, while Russia's war against Ukraine negatively affected the strategic capabilities of EU countries through the costs of economic coercion against the aggressor. New geopolitical realities require adaptive strategies while preserving high-value economic connections between countries worldwide, ensuring the overcoming of socio-economic risks.

Countries with developed economies actively implement economic security strategies. For instance, the U.S. government's strategic economic security instruments focus on trade and investment, including tariffs, export controls, and sanctions [3]. Japan's social and economic security policy is determined by pillars of supply chain resilience, infrastructure security, critical technology development, and patent nondisclosure in conjunction with plans to promote and protect industry and develop partnerships with foreign states [4]. Developing countries are also seeking strategic solutions to overcome socio-economic problems by diversifying economic ties to reduce dependencies and increase local production. China's economic security strategy focuses on using economic means for geopolitical purposes, employing protectionist measures (including tariffs, quotas, and WTO obligations) within the free trade regime [5].

The effectiveness of ensuring the state's socio-economic security directly depends on the quality of strategic management decisions aimed at regulating key macroeconomic determinants of the national economy's long-term sustainability. It is institutional strategies that shape the national economy's ability to adapt to structural changes, minimize destabilization risks, and maintain a sustainable development trajectory under conditions of heightened uncertainty.

The necessity of creating secure conditions for Ukrainian economy functioning and human potential development in international space, activating innovation processes, and ensuring environmental security determines the main purpose of this article – to substantiate strategic directions of management decisions for ensuring Ukraine's socio-economic security. The specific objectives are to identify the possible impact on Ukraine's SES status of SMD regarding strengthening institutional support for the state's investment attractiveness, reducing migration flows and returning citizens to Ukraine, as well as liberalizing Ukraine's foreign economic activity.

Strategic management decision-making (SMD) encompasses both comprehensive processes and narrower volitional selections among alternatives. It is a sequential process including information gathering, problem identification, and solution evaluation [6]. Other scholars emphasize the managerial selection process itself [7], while a balanced perspective defines SMD as a deliberate choice that creates opportunities for achieving optimal results [8].

When examining methodologies, attention is drawn to programmed and non-programmed decisions as well as rational and intuitive methods [9]. Some approaches argue that organizations pursue rationality through utility maximization [10]. However, this view is challenged by prospect theory, which questions fully rational behavior under conditions of risk and uncertainty [11]. Other perspectives emphasize that clear delimitation of management functions serves as a fundamental condition for strategic success [12].

Strategic decisions are also conceptualized within structured frameworks of interacting elements designed to achieve specific objectives [13]. This approach is further valued for its ability to create dynamic scenarios that accommodate changing environments [14].

Economic security was initially framed around individual economic rights and later evolved within the context of international initiatives such as the UN Resolution on International Economic Security [15]. Socio-economic security (SES) is characterized as a complex systemic phenomenon derived from state policies responding to socio-political challenges [16].

Institutional regulation plays a critical role in shaping interactions among economic actors under conditions of uncertainty [17]. Attention is also drawn to the fact that threats to SES often emerge from insufficient efficiency of public authorities [18]. In Ukraine, economic growth is hindered by structural inconsistencies, incomplete reforms, and corruption, which also contribute to migration challenges.

Ukraine's strategic decisions are aimed at safeguarding national interests through international partnerships. Official state documents highlight the integration of the energy market with EU systems through Ukraine's inclusion in the ENTSO-E and ENTSO-G networks [2]. Comprehensive SES criteria are considered to include guarantees of rights, economic stability, and human capital development [19].

Key institutional determinants of SES include principles of public administration, legislative frameworks, and financial management systems [20]. The state SES mechanism is designed to neutralize threats through legislatively defined security norms. At the same time, it is cautioned that security systems focused primarily on economic factors may underestimate socio-cultural risks, thereby undermining the effectiveness of institutional regulation [21].

Despite the significant contribution of existing research to understanding strategic management decision-making and socio-economic security, the literature reviewed focuses primarily on conceptual interpretations, institutional frameworks, or individual policy instruments. At the same time, insufficient attention has been paid to the quantitative assessment of the impact of specific strategic management decisions on the socio-economic security of the state, as well as to the development of integrated criteria that would allow comparing the strength and effectiveness of such decisions in conditions of global economic instability. In particular, unresolved issues include the differentiated impact of strategic decisions aimed at increasing investment attractiveness, regulating migration processes, and liberalizing foreign economic activity on the socio-economic security of the state. These gaps require a comprehensive empirical assessment of strategic management decisions based on multi-criteria analysis.

With this in mind, the *object of research* is the system of socio-economic security of Ukraine in the context of global economic transformations.

The aim of research is to develop and empirically substantiate the criteria for making strategic management decisions aimed at strengthening the socio-economic security of Ukraine. To achieve this aim, the following research objectives were identified:

1. To assess the level of Ukraine's socio-economic security in 2015–2024.

2. To substantiate the feasibility of including in the analysis the impact on socio-economic security of strategic management decisions aimed at:
  – enhancing investment attractiveness;
  – regulating migration processes;
  – liberalizing foreign economic activity.

3. To evaluate the strength and direction of the impact of strategic management decisions on ensuring socio-economic security through the analysis of macroeconomic indicators.

2. Materials and Methods

Systematic risk analysis examines interconnected components (production, HR, organizational, scientific-technical, intellectual, investment, financial), determining integrated indicators for forecasting and mitigating investment risks. Investment analysis principles include cost-benefit assessment to offset risks [22], applied to evaluate Ukraine's SES. Applying this approach, it is possible to analyze aggregated metric values using an additive aggregation algorithm that considers their weights and impact directions

$$A_s = \frac{1}{m_i}\sum_{j=1}^{m_i} W_j \cdot X_j, \qquad (1)$$

where m_i – the number of indicators, W_j – the weighting factor of the indicator for calculating the metric, and X_j – the calculated value of the j-th indicator based on the selected metric. Economic security assessments covered banking, non-banking, debt, budget, currency, and monetary subsystems [23]. Social security evaluated material wellbeing, employment, demographics, health, protection, exclusion, and wellbeing [24].

The integral indicator of socio-economic security was formed through multiplicative aggregation of the economic and social component indices, which allows for accounting for their complementarity and avoiding the mutual compensation effect

$$I_{mult} = \sqrt{E \cdot C}. \tag{2}$$

Heterogeneous dimensional data required indicator normalization

$$I_n = \frac{I_a - I_{min}}{I_{max} - I_{min}}, \tag{3}$$

where I_n – the normalized indicator value, I_a – the actual value, and I_{min} and I_{max} – the minimum and maximum values of the indicator over the analyzed period.

The driving factors for SMD to ensure Ukraine's socio-economic security (SES) in the global economy are socio-economic and socio-political priorities. Methodological objectivity is ensured by multicriteria selection of priority indicators with analysis of acceptable boundaries for secondary criteria [25]. Pre-war SES trends influenced by managerial interventions cannot unambiguously indicate the sufficiency of strategic decisions during wartime and post-war recovery. Objective socio-economic risks restrict investment inflows due to the danger of renewed hostilities, reducing Ukraine's investment attractiveness internationally.

To assess the impact of strategic management decisions on the fundamental components of socio-economic security, the following key strategic directions were selected: investment attractiveness, which determines the national economy's ability to attract domestic and foreign investment resources; migration dynamics, which determines social risks associated with population outflow and labor market changes; foreign economic activity, which determines the degree of the national economy's integration into global economic processes.

The described factors were analyzed through empirical verification of the socio-economic security level's sensitivity to key macroeconomic factors. This approach involves identifying indicators, which changes are statistically related to the transformation of the system's state, allowing them to be considered as relevant benchmarks for strategic regulation.

The analytical base was formed from time series data for 2015–2024, covering both the period of relative macroeconomic stabilization and the phase of full-scale war, which necessitated accounting for a structural break of exogenous nature that altered the operating conditions of the national economy and the trajectories of most socio-economic processes. A structural break analysis approach with a fixed break point was employed [26], implemented through the introduction of a binary variable, which enables assessment of dependencies over a unified time interval while accounting for changes in the system's operating regime without artificially splitting statistical series

$$Dt = \begin{cases} 0, t = 2015 - 2021, \\ 1, t = 2022 - 2024. \end{cases} \tag{4}$$

Defining the factors for forming effective SES strategies for Ukraine will create a tool for effective SMD-making, considering all possible parameters of influence. To confirm the necessity of incorporating these criteria into the SES system formation, it is possible to analyze the pre-war hypotheses regarding the dependencies between the dynamics of SES in Ukraine (Y) and the adoption of SMD aimed at:

– improving the investment attractiveness of the state (H_1);
– reducing migration flows (H_2);
– liberalizing foreign economic activity (H_3).

The regression analysis method was chosen for this analysis, as it aims to identify the relationship between a set of variables, described by the formula

$$y_i = \beta_{\frac{3}{4}} + \beta x_i + ... + \beta_n x_{ni} + \varepsilon_i, \tag{5}$$

where y_i – the independent variable; $\beta_0, \beta_1, ..., \beta_n$ – the correlation coefficients of dependent variables $x_{1i}, ..., x_{ni}$; ε_i – the error reflecting the influence of parameters not included in the analysis.

Correlation coefficients were determined using the least squares method [27]

$$\beta = (X'X)^{-1} X'Y, \tag{6}$$

where β – the vector of coefficients $\beta_0, \beta_1, ..., \beta_n$ ($\beta = -1$ – perfectly negative correlation, $\beta = 0$ – no correlation, $\beta = +1$ – perfectly positive correlation); X – the design matrix of independent variables; X' – the transposed matrix of X.

The multicriteria analysis model requires a clear definition of the attributes of influence, therefore, the indicators of the level of Ukraine's security for the period 2015–2021 were chosen as the output (independent) variable.

The dependent variables were the investment attractiveness index of Ukraine (x_1), the dynamics of migration (x_2) and the balance of goods and services in Ukraine's international trade (as a percentage of GDP) (x_3) as a result of the relevant SMD to ensure the SES in the global economy.

3. Results and Discussion

3.1. Assessment of Ukraine's socio-economic security level

The level of socio-economic security is considered an integral characteristic that combines economic and social components. For its assessment, a system of indicators was used that reflects the state of economic efficiency and social welfare, with subsequent aggregation into corresponding integral indices, which enabled a quantitative and temporally comparable evaluation.

Ensuring Ukraine's socio-economic security (SES) corresponds to the Constitution, norms of international law, and national legislation [1]. SES is characterized by increasing variability of strategic management decisions (SMD) regarding socio-political and economic development.

Analysis of the structural dynamics of economic risks in regulating Ukraine's socio-economic processes at the international level was conducted based on an integral system of indicators, which allowed for an objective assessment of the economic security level in the pre-war period and determination of the necessity to account for these risks when formulating SMD to ensure economic security during post-war reconstruction.

Starting from 2022, most indicators of Ukraine's economic security experienced structural impact from war shocks (Fig. 1). Ukraine's banking system underwent stress tests, manifested in liquidity reduction and increased insolvency risk for individual institutions. Subsequent measures by the National Bank aimed at supporting liquidity and controlling risks contributed to gradual stabilization of the financial sector. Non-banking financial institutions demonstrated significant activity decline, investment turnover contracted, and some markets temporarily suspended operations. Subsequently, partial recovery occurred; however, development remained limited, maintaining high sensitivity to external and internal shocks.
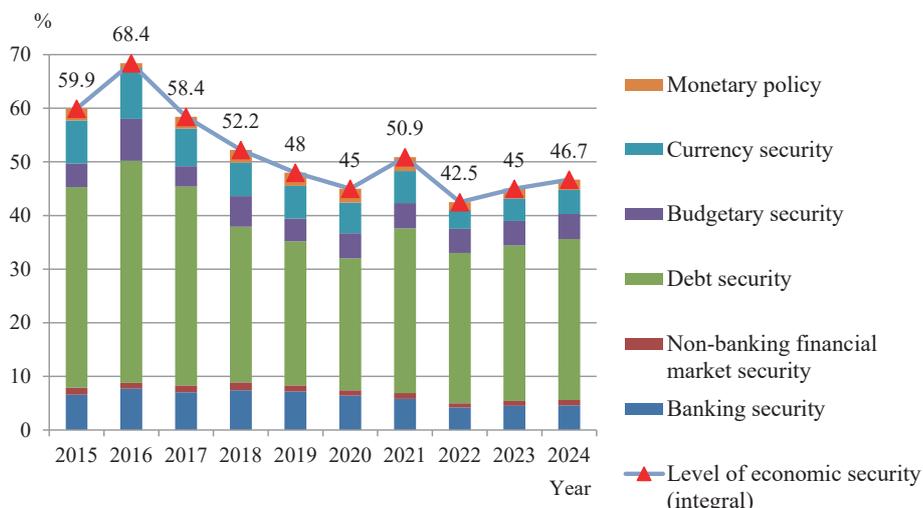
Fig. 1. Dynamics of sub-indices and the integral indicator of economic security level for 2015-2024 (compiled based on [28, 29])

Military and economic shocks led to significant deterioration of debt security in 2022, accompanied by budget deficits and high currency risks. However, due to international financial assistance and external borrowing, the situation stabilized, although a high level of debt burden remained a characteristic feature of the financial system. In 2022–2024, the budget system was maintained primarily through international transfers and special expenditure financing mechanisms. After the stress-induced decline, relative stability of revenues and expenditures was observed; however, a significant portion of financing remained dependent on external sources, which determined the structure of budgetary risks. International reserves contracted significantly in the first year of war, and the national currency exchange rate experienced substantial fluctuations. Gradual stabilization was ensured through support from international financial organizations and NBU measures, although currency and financial instability risks remained high. Under these conditions, monetary policy instruments operated under conditions of significant economic volatility, necessitating adjustments to maintain financial system stability and moderately contain inflationary pressure.

Thus, the experience of the last decade demonstrates that Ukraine's economic security is shaped by a complex combination of banking, budgetary, debt, and currency factors. The observed structural break in 2022 revealed a high level of vulnerability of the financial system and the economy as a whole, while simultaneously emphasizing the necessity of adaptive management decisions and external support.

The subsequent stabilization period confirms that ensuring socio-economic security requires a systemic approach oriented toward balancing short-term resilience and long-term stability.

The assessment of the state's social security in the global economy was conducted across key manifestation spheres using an integral system of indicators, which enabled calculation of the integral indicator of social security (Fig. 2).

The analysis results indicate a relatively stable dynamics of the social dimension of security in the pre-war period, characterized by a gradual increase in the integral indicator in 2017 followed by stabilization. The main factors supporting this state were moderate economic activity, controlled social risks, and gradual reduction of negative trends in the labor market, which ensured a baseline level of social stability and a reference point for assessing the effectiveness of strategic management decisions.

Starting from 2022, the social dimension of security underwent a radical structural break of exogenous nature caused by full-scale military aggression. During this period, the integral indicator reflects the system's transition from evolutionary development to a regime of shock transformation. Thus, the sharp deterioration of the population's material condition in 2022 was combined with economic activity contraction, job losses, and mass migration, which transformed the labor market and the country's social structure. A paradoxical state of simultaneous unemployment and labor shortage emerged, reflecting a profound restructuring of social and labor relations. Demographic losses, including increased mortality and declining birth rates, create long-term risks for restoring the social dimension of security.

The social protection and healthcare system demonstrated relative resilience, ensuring minimum living standards through the transformation of state transfers and international aid into a mechanism for anti-crisis maintenance of the social system. Full-scale war led not only to increased social isolation but also to growing significance of collective societal resilience.

Thus, the determined dynamics of the integral social security indicator for 2015–2024 demonstrate that strategic management decisions in the sphere of social policy must consider both pre-war stability benchmarks and the consequences of structural shock, which form new criteria for the effectiveness of strategic institutional regulation.
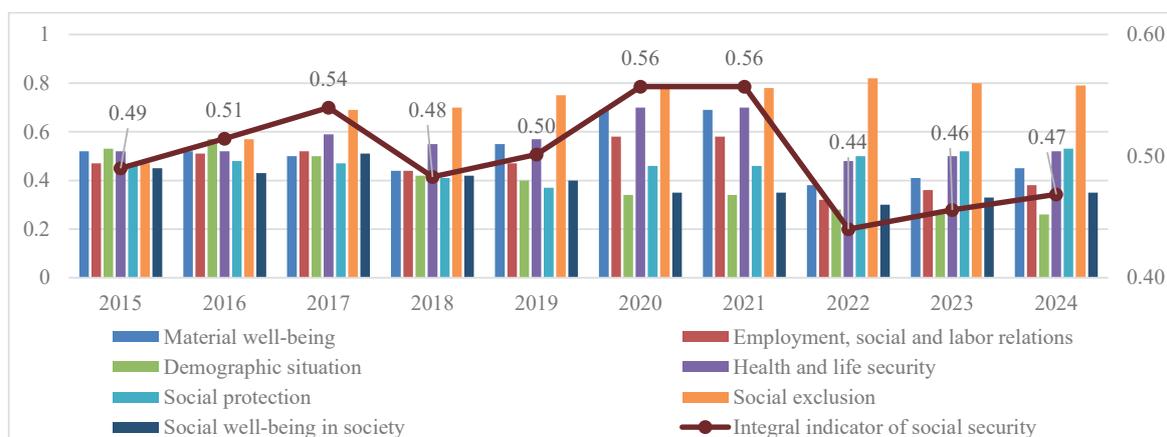

Fig. 2. Dynamics of sub-indices and the integral indicator of social security level for 2015-2024 (compiled based on [28])

To account for the mutually reinforcing nature of economic security and social protection of the population, an integral indicator of Ukraine's socio-economic security was formed through multiplicative aggregation of their components (Fig. 3).
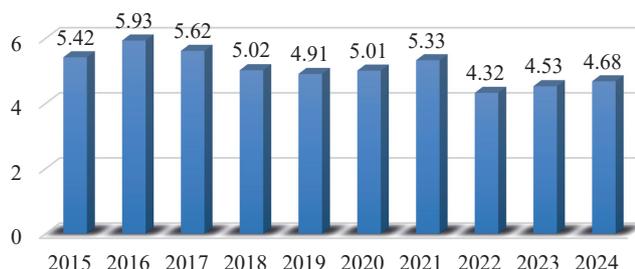
Fig. 3. Dynamics of the integral indicator of Ukraine's socio-economic security (2015–2024) (compiled based on [28, 29])

The obtained results confirm the presence of a structural break of exogenous nature in the dynamics of Ukraine's socio-economic security since 2022. The full-scale military aggression by the Russian Federation caused synchronous deformation of both economic and social components, in response to which a qualitatively new development trajectory of the socio-economic system formed in 2022–2024, determined by both war shocks and the compensatory role of institutional support mechanisms.

3.2. Determining the importance of strategic directions of management decisions for ensuring socio-economic security
3.2.1. Investment attractiveness

The full-scale military aggression by the Russian Federation caused a systemic transformation of Ukraine's socio-economic environment, manifested in the loss of production capacity, infrastructure destruction, disruption of logistics chains, contraction of domestic demand, and intensification of demographic imbalances. Simultaneously, it became evident that the national economy's vulnerability was largely determined by accumulated structural problems that had formed in the pre-war period as a result of insufficiently coordinated strategic management decisions in various spheres of investment, industrial, and social policy.

Low assessments of Ukraine's investment climate, recorded by international business associations in previous years, indicate the presence of institutional barriers that constrained the realization of economic potential (Fig. 4). Macroeconomic instability, growing debt burden, and budget deficits created additional risks for the state's socio-economic security, as they limited the state's capacity to finance reconstruction, maintain employment, and ensure social standards.
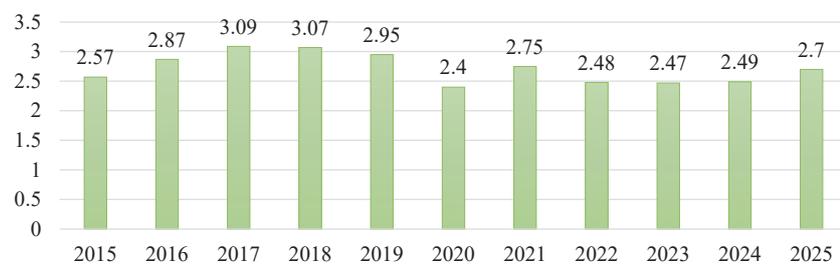
Fig. 4. Dynamics of Ukraine's investment attractiveness index for 2015–2025 (compiled based on [30])

Thus, strategic institutional decisions aimed at forming and maintaining investment attractiveness acquire the significance of a key instrument for ensuring socio-economic security, as investments determine production recovery, job creation, labor resource restoration, and tax base growth. Economic openness to investment is a necessary prerequisite for ensuring the state's competitiveness and sustainable development, as confirmed by contemporary European economic policy [31]. However, excessive regulatory or subsidy distortions may limit the effectiveness of traditional economic policy instruments and create cross-border imbalances [32]. Moreover, EU regulations have introduced foreign investment screening procedures and cooperation mechanisms [33]; therefore, establishing interaction in the international arena requires the Ukrainian government to implement European investment screening mechanisms.

Therefore, the first research hypothesis (H1) posits that strategic management decisions directed toward increasing the state's investment attractiveness exert a statistically significant positive effect on socio-economic security levels (empirical indicator: investment attractiveness index).

3.2.2. Regulation of migration processes

Consideration of migration processes and their economic impact constitutes an integral component of socio-economic security assessment. For comparative analysis, it is appropriate to examine the experience of countries with similar initial conditions of economic transformation and security challenges – Moldova and Georgia. Moldova, which economy demonstrates the features of a small open economy, has encountered large-scale labor migration, energy dependence, and domestic market constraints. Moldova's net migration over the past decade has remained consistently slightly negative (averaging -0.344 per 1,000 population), yet this factor's impact on the country's GDP dynamics proved negligible (Fig. 5).
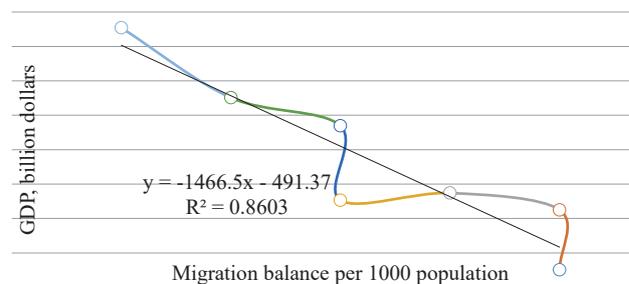
Fig. 5. Statistical relationship between Moldova's GDP and immigration flow dynamics

The strategic national security policy of this country regarding migration has traditionally focused on both utilizing foreign policy opportunities and addressing political imperatives of the domestic socio-economic situation. Thus, despite persistent population outflow, Moldova's economy was able to partially compensate for losses through attracting external capital, migrant remittances, and development of export-oriented sectors, which indicates an indirect but positive impact of strategic decisions on socio-economic resilience, consistent with assessments of this country's migration policy [34].

A similar approach was implemented by Georgia, where state policy focused on creating a favorable investment environment, harmonizing the regulatory system with European standards, and actively utilizing migration potential as a financial resource for development. According to Geostat data, in 2023 the number of emigrants from Georgia amounted to 245.1 thousand persons [35].

The significant share of remittances in the country's GDP ensured maintenance of domestic demand, financial stability of households, and small business development, which enabled transformation of the migration challenge into a factor of economic adaptation (Fig. 6).
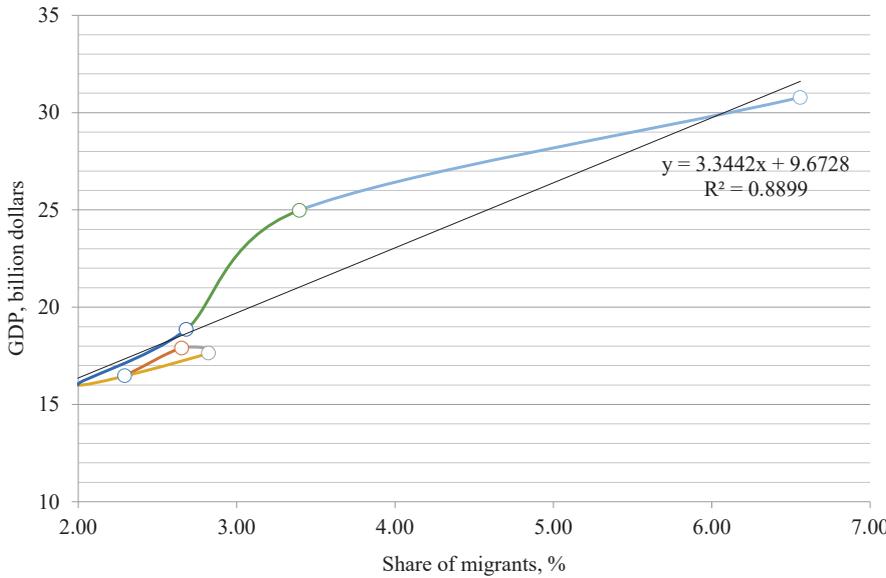
$$y = 3.3442x + 9.6728$$
$$R^2 = 0.8899$$

Fig. 6. Statistical relationship between Georgia's GDP and immigration flow dynamics

Ukraine (Fig. 7); migration processes acquired a forced, crisis character, and their scale proved so significant that traditional statistical measurement instruments were insufficient for operational assessment of population movements. Mass population exodus and internal displacement became one of the key characteristics of the country's humanitarian and economic transformation.

Thus, if in the pre-war period migration was predominantly economic in nature, after 2022 it transformed into a factor of systemic demographic loss that directly affects labor potential and the state's long-term socio-economic resilience. Population return serves as a factor for strengthening socio-economic security. The mechanism of such impact has a sequential character: strategic management decisions → formation of a predictable institutional environment → reduction of investment risks → growth of capital inflow → restoration of employment and production → stabilization of social parameters → strengthening of socio-economic security, which corresponds to contemporary approaches to management decision-making based on causal relationships [37, 38].

Thus, the second research hypothesis (H2) posits that strategic management decisions directed toward regulating migration processes exert a statistically significant positive effect on Ukraine's socio-economic security level (empirical indicator: migration balance).

3.2.3. Liberalization of foreign economic activity

Strategic management decisions aimed at liberalizing foreign economic activity influence macroeconomic stability, investment attractiveness, and export opportunities to world markets.

It is advisable to compare the characteristics of strategic management decisions' impact on socio-economic security across different countries (Table 1).

Thus, the experience of Moldova and Georgia demonstrates that strategic management decisions can transform the nature of migration processes' impact from destabilizing to stabilizing, provided their institutional coherence.

In 2015-2021, Ukraine's migration balance remained relatively stable and fluctuated within moderate values, reflecting primarily labor migration and cyclical economic factors. Such movements were not systemic in nature and did not create critical threats to demographic or socio-economic security. The full-scale invasion by the Russian Federation provoked a catastrophic increase in migration flows from

Table 1

Comparative assessment of strategic management decisions' impact on socio-economic security

| Country	Main strategic decisions	Impact effectiveness	Strength and direction of impact
Ukraine	Enhancing investment attractiveness, restoring production, stimulating population return	Partial compensation for war losses and crisis phenomena	Weak +
Moldova	Movement toward the EU, business deregulation, stimulating foreign investment	Attracting external capital and citizen remittances	Moderate +
Georgia	Harmonization of regulatory system with the EU, utilizing migrant remittances	Reducing losses from population outflow and stimulating economic growth	Moderate +
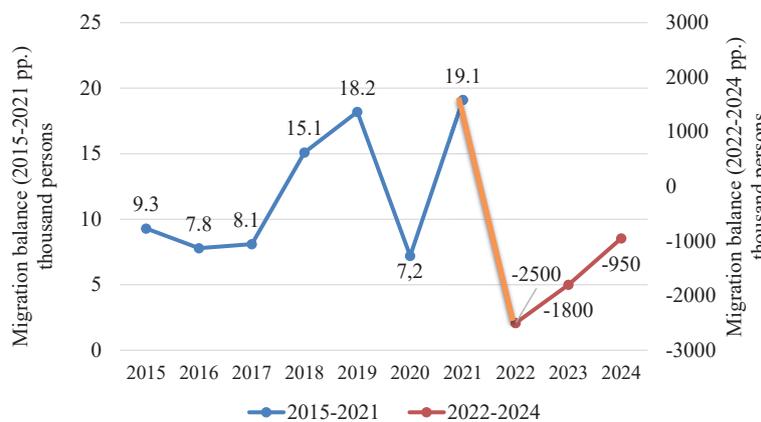
Fig. 7. Dynamics of Ukraine's migration balance in 2015-2024: impact of war shock and adaptation processes (compiled based on [28, 36])

Liberalization of foreign economic activity involves simplifying foreign trade procedures, deregulating investment activity, and stimulating foreign capital attraction.

The World Trade Organization defines four main modes of international trade that can be realized through investment: cross-border supply, consumption abroad, commercial presence, and temporary physical presence. Liberalization of foreign investment in the service sector and creation of a favorable investment climate enable Ukrainian enterprises to integrate into global production chains, stimulating exports and partially compensating for the negative demographic and economic consequences of war [39].

In the pre-war period, Ukraine's export-import operations were characterized by relative stability, with moderate foreign trade balance deficits and moderate fluctuations in GDP share. These indicators demonstrate that strategic decisions regarding deregulation and stimulation of foreign economic activity had a positive impact on Ukraine's socio-economic security, particularly through supporting the economy's financial self-sufficiency and stabilizing the labor market.

Starting from 2022 (Fig. 8), a sharp deterioration of the trade balance is observed; the war caused a structural break in foreign economic activity. The main cause of the negative trade balance remains logistical constraints and the imbalance between imports and exports. In 2022–2023, the war caused a sharp increase in imports and contraction of exports, reflected in the balance of goods and services and structural-technological imbalance: imports of high-tech products from the EU exceed reverse flows of raw material and low-tech product exports [39].
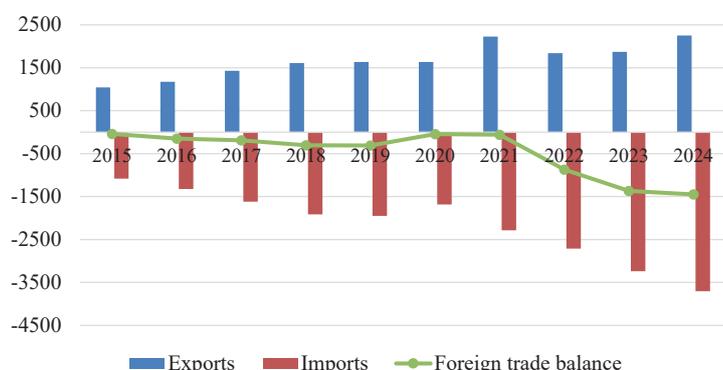

Fig. 8. Ukraine's foreign trade balance in 2015–2024 (UAH billion) (compiled based on [40])

Thus, the third research hypothesis (H3): strategic management decisions regarding the liberalization of foreign economic activity and integration into world markets have a statistically significant positive impact on the level of Ukraine's socio-economic security (empirical indicator: balance of foreign trade in goods and services, as % of GDP).

3.3. Assessment of the impact of identified strategic management decision directions on the level of socio-economic security

The initial data for analyzing the impact of the state's investment attractiveness (x1), migration balance (x2), and balance of foreign trade in goods and services (x3) on the level of Ukraine's socio-economic security (y) for 2015-2024 are presented in Table 2.

To account for exogenous shocks that significantly affected socio-economic security dynamics in 2022-2024, a binary structural break variable Dt was introduced into the model ($Dt = 0$ for 2015-2021; $Dt = 1$ for 2022-2024). This enabled formalization of the impact of external shocks and assessment of changes in the strength and direction of strategic management decisions' influence after the structural break.

Table 2

Input data for analysis

Year	Actual indicators				Normalized indicators			
	x_1	x_2	x_3	y	x_1	x_2	x_3	y
2015	2.57	9.3	−2.0	5.41	0.246	0.996	0.955	0.745
2016	2.87	7.8	−6.2	5.91	0.681	0.995	0.742	1.000
2017	3.09	8.1	−6.3	5.61	1.000	0.996	0.737	0.847
2018	3.07	15.1	−8.6	5.01	0.971	0.998	0.621	0.541
2019	2.95	18.2	−7.8	4.89	0.797	1.000	0.662	0.480
2020	2.40	7.2	−1.1	4.79	0.000	0.995	1.000	0.429
2021	2.75	19.1	−1.1	5.09	0.507	1.000	1.000	0.582
2022	2.48	−2500.0	−16.8	3.95	0.116	0.000	0.207	0.000
2023	2.47	−1800.0	−20.9	4.15	0.101	0.278	0.000	0.102
2024	2.49	−950.0	−16.3	4.24	0.130	0.615	0.232	0.148

Pairwise correlation coefficients were estimated using the ordinary least squares method (Table 3). The resulting values demonstrate moderate to strong associations between variables, substantiating their inclusion in the model; no critical multicollinearity ($|r| \geq 0.9$) was identified.

Table 3

Pairwise correlation coefficients

Variable	y	x_1	x_2	x_3
y	1.000	0.638	0.818	0.737
x_1	0.638	1.000	0.564	0.300
x_2	0.818	0.564	1.000	0.847
x_3	0.737	0.300	0.847	1.000

According to the regression coefficient estimates (Table 4), the x_2 variable (migration balance) exhibited no statistically significant impact on Ukraine's socio-economic security level during 2015-2024 ($p = 0.571$), attributable to the extraordinary influence of exogenous shocks and the exogenous structural break occurring in 2022–2024.

Table 4

Calculation of regression coefficients

Variable	Coefficient β	Standard Error ε	t Stat	Lower 95%	Upper 95%	p-value
y	−0.076	0.158	−0.481	−0.462	0.310	0.647
x_1	0.307	0.232	1.324	−0.260	0.874	0.234
x_2	0.261	0.435	0.600	−0.803	1.325	0.571
x_3	0.355	0.389	0.911	−0.598	1.308	0.398

3.4. Discussion

Rational strategic management decisions (SMDs) analyze problems and select optimal actions for economic, social, and ethical objectives. Assessment of economic and social security provided integrated evaluation of Ukraine's socio-economic security (SES).

According to Ukraine's Law "On Foreign Economic Activity" [41], relations between Ukrainian and foreign entities determine SES. Regression analysis confirmed SMD's positive impact on investment attractiveness and foreign economic activities liberalization, aligning with [42]. Results align with the cause-and-effect decision-making model [37, 38] note information encompasses legal, economic, social aspects, internal structure, stakeholder relationships, and external factors. In [17] highlight managing technological, socio-political, and institutional changes.

The hypothesis regarding SMD's influence on reducing migration was rejected. Analysis of Moldova's migration profile [43] and Georgia's migration strategy [44] shows comparable patterns. Wartime dynamics show increased migration from Ukraine.

The wartime dynamics indicate a sharp increase in migration flows in Ukraine, which have critically escalated and currently pose risks of demographic crisis. Comparing the obtained results with the impact of migration flows on GDP dynamics in countries with similar socio-economic conditions (Moldova, Georgia), it is possible to conclude that the trends are similar, as these countries also showed no significant impact of increased migration on macroeconomic indicators. According to [45], Ukrainian migration appears to be predominantly temporary and can be explained by the situational nature of the extraordinarily complex geopolitical character, which will undergo cardinal changes after the end of the full-scale war. Reference [46] proposes an understanding of migrants' decision-making processes. Institutional differences shape divergences in strategic management decision (SMD) adoption criteria [3–5]. This research demonstrates the inclusion of specific SMD factors for improving national socio-economic security (SES), which is consistent with [47].

The research introduces an *innovative framework* for assessing state socio-economic security, combining integral diagnostics of its current condition with an examination of how strategic management decisions shape key macroeconomic indicators, thus achieving coherence between the evaluative and factor-based dimensions of analysis. This enabled a transition from descriptive interpretation of security to its quantitative interpretation as a result of implementing defined directions of state policy.

The practical significance is determined by substantiating the feasibility of considering enhanced investment attractiveness, regulation of migration processes, and liberalization of foreign economic activity as interrelated determinants of ensuring socio-economic security, which impact can be identified through the dynamics of corresponding macro-indicators. The proposed methodological approach enables identification not only of the current security level but also the nature of structural changes within it under the influence of external shocks, particularly under conditions of wartime economic transformation.

State authorities and management structures can directly utilize the research results for monitoring the state of socio-economic security and evaluating the effectiveness of strategic decisions across key directions of economic policy. The developed system of indicators and method of their integral aggregation can be applied as an instrument of information-analytical support during the development of strategic socio-economic development documents, adjustment of state programs, as well as for identifying risks and imbalances during periods of structural breaks. This provides the opportunity for timely substantiation of management priorities based on quantitatively confirmed trends in real time.

Limitations of research: the main limitations include restricted access to complete volumes of statistical information under war conditions. Additionally, the multi-criteria analysis model accounts for a limited set of indicators, which may reduce forecast accuracy in the event of new external risks or structural changes in the economy.

Prospects for further research: further research may focus on assessing the impact of strategic management decisions in the post-war period, taking into account changes in the global economic environment, external risks, and new migration flows. It is also promising to expand the multi-criteria analysis model by including additional social and environmental indicators, as well as to develop recovery scenarios based on forecasts of macroeconomic, investment, and demographic indicators. This will improve the accuracy of management decisions and strengthen Ukraine's national socio-economic stability.

4. Conclusions

1. The research conducted a comprehensive assessment of Ukraine's socio-economic security based on an integrated system of financial, economic, and social indicators. The integral indicator of Ukraine's socio-economic security during the studied period was characterized by unstable downward dynamics. In the pre-war period, a decline in the integral indicator was observed from 5.42 in 2015 to 5.33 in 2021, indicating deterioration of the overall security level. A pronounced structural break of exogenous nature was also identified in 2022, accompanied by sharp transformation of socio-economic parameters, resulting in a temporary decline of the integral indicator to 4.32, followed by gradual adaptive-recovery dynamics. The obtained results revealed the existence of significant structural imbalances between the economic and social components of the socio-economic security system and confirmed the heightened vulnerability of the national economy to external risks and global shocks.

2. The feasibility of including strategic management decisions aimed at enhancing investment attractiveness, regulating migration processes, and liberalizing foreign economic activity in the analytical model as key directions through which state policy impact on the socio-economic security condition is realized has been substantiated. It has been demonstrated that these directions form systemic conditions for economic resilience, determining the possibilities for restoring economic activity, maintaining employment, compensating for demographic losses, and preserving the national economy's inclusion in international economic relations under crisis transformation conditions.

3. A statistically significant and strong positive impact of strategic management decisions aimed at enhancing the state's investment attractiveness on the socio-economic security level has been established. The correlation coefficient between corresponding management decisions and the integral socio-economic security indicator is $r = 0.638$, confirming the key role of institutional support for investment processes in ensuring the state's socio-economic stability. The impact of migration process regulation proved to be indirect and manifests primarily through medium- and long-term social-labor effects ($r = 0.818$), while decisions on liberalizing foreign economic activity demonstrated a moderately positive impact of corresponding strategic management decisions on the socio-economic security condition ($r = 0.737$). The cumulative effect of these directions confirms their function as instruments for enhancing the socio-economic system's resilience under structural break conditions.

Conflict of interest

The authors declare that they have no conflict of interest in relation to this research, whether financial, personal, authorship or otherwise, that could affect the research and its results presented in this paper.

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Data availability

Manuscript has no associated data.

Use of artificial intelligence

The authors confirm that they did not use artificial intelligence technologies in creating the presented research.

Authors' contributions

Irena Svydruk: Conceptualization, Methodology, Supervision; *Orystlava Sydorchuk*: Formal analysis, Investigation, Writing – original draft; *Mariana Myronova*: Validation, Data Curation, Project administration; *Olha Klepanchuk*: Resources, Writing – review and editing, Visualization; *Valeria Kozlova*: Software, Formal analysis, Methodology.

References

1. Barna, M. Yu., Kalnytska, M. A., Klepanchuk, O. I., Korchynskyi, I. O., Pidlypna, R. P., Svydruk, I. I., Semak, B. B., Sydorchuk, O. H., Trut, O. O., Turianskyi, Yu. I. (2020). *Sotsialno-ekonomichni aspekty upravlinnia rozvytkom ta bezpekoiu ekonomichnoi systemy Ukrainy.* Halytska vydavnycha spilka. Available at: https://api.cloudry.com.ua/server/api/core/bitstreams/874eab-9f-b5a4-4eb3-a637-1d2fe34e79c4/content

2. Pro rishennia Rady natsionalnoi bezpeky i oborony Ukrainy vid 14 veresnia 2020 roku "Pro Stratehiiu natsionalnoi bezpeky Ukrainy" (2020). Ukaz Prezydenta Ukrainy No. 392/2020. 14.09.2020. Available at: https://zakon.rada.gov.ua/laws/show/392/2020

3. Benson, E., Mouradian, C., Palazzi, A. L. (2024). Toward a U.S. economic security strategy. Center for Strategic and International Studies. Available at: https://www.csis.org/analysis/toward-us-economic-security-strategy

4. Nishimura, R. (2024). Japan would benefit from an economic security strategy. *The Interpreter. Lowy Institute.* Available at: https://www.lowyinstitute.org/the-interpreter/japan-would-benefit-economic-security-strategy

5. Stoetman, A., Meijnders, M., Martens, M. (2019). Economic security with Chinese characteristics. *Clingendael Institute.* Available at: https://www.clingendael.org/pub/2019/strategic-monitor-2019-2020/economic-security-with-chinese-characteristics/

6. Abubakar, A. M., Elrehail, H., Alatailat, M. A., Elçi, A. (2019). Knowledge management, decision-making style and organizational performance. *Journal of Innovation & Knowledge, 4 (2),* 104–114. https://doi.org/10.1016/j.jik.2017.07.003

7. Svydruk, I. I. (2020). The latest management approaches to the creative motivation of employees. *Scientific Bulletin of Kherson State University. Series Economic Sciences, 38,* 42–45. https://doi.org/10.32999/ksu2307-8030/2020-38-7

8. Shulha, O. (2022). Methodical principles of management decision making. *Entrepreneurship and Innovation, 22,* 54–58. https://doi.org/10.37320/2415-3583/22.9

9. Mescon, M. H., Albert, M., Khedouri, F. (1988). Management. New York: Harper & Row, 777.

10. Savage, L. J. (1951). The Theory of Statistical Decision. *Journal of the American Statistical Association, 46 (253),* 55–67. https://doi.org/10.1080/01621459.1951.10500768

11. Kahneman, D., Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica, 47 (2),* 263–291. https://doi.org/10.2307/1914185

12. Wang, L., Gu, W., Chen, P. (2023). Understanding the synergistic decision-making in Main Function Zoning constraints and regional development: Logic and mechanism. *Journal of natural resources, 38 (6),* 1430. https://doi.org/10.31497/zrzyxb.20230604

13. Barna, M. Yu., Myronova, M. I., Bashnianyn, H. I. (2017). *Intehralna efektyvnist funktsionuvannia ta rozvytku vyrobnychykh system u natsionalnii ekonomitsi: teoretyko-metodolohichni aspekty otsiniuvannia.* Lviv: Liha-Pres, 166.

14. Ma, H., Chu, X., Xue, D., Chen, D. (2017). A systematic decision making approach for product conceptual design based on fuzzy morphological matrix. *Expert Systems with Applications, 81,* 444–456. https://doi.org/10.1016/j.eswa.2017.03.074

15. Roosevelt, F. D. (1934). On moving forward to greater freedom and greater security. Available at: http://docs.fdrlibrary.marist.edu/093034.html

16. Shvedun, V., Hren, L. (2021). The strategic model of ensuring of the social and economic security of the state in the face of modern challenges. *Investytsiyi: Praktyka ta Dosvid, 5,* 52–55. https://doi.org/10.32702/2306-6814.2021.5.52

17. Ahlstrom, D., Arregle, J., Hitt, M. A., Qian, G., Ma, X., Faems, D. (2020). Managing Technological, Sociopolitical, and Institutional Change in the New Normal. *Journal of Management Studies, 57 (3),* 411–437. https://doi.org/10.1111/joms.12569

18. Gryshova, I., Kyzym, M., Hubarieva, I., Khaustova, V., Livinskyi, A., Koroshenko, M. (2020). Assessment of the EU and Ukraine Economic Security and Its Influence on Their Sustainable Economic Development. *Sustainability, 12 (18),* 7692. https://doi.org/10.3390/su12187692

19. Sydorchuk, O., Pankova, O. (2020). Formation and Ensuring Multi-Level System of Social Security of Ukraine in the Context of State Regulation. *Herald of the Economic Sciences of Ukraine, 1 (38),* 138–147. https://doi.org/10.37405/1729-7206.2020.1(38).138-147

20. Dobryanskyy, O. (2023). Exogenous determinants of the economic security of the country in conditions of global volatility. *Scientific Notes of Ostroh Academy National University, "Economics" Series, 1 (29 (57)),* 50–54. https://doi.org/10.25264/2311-5149-2023-29(57)-50-54

21. Margalit, Y. (2019). Economic Insecurity and the Causes of Populism, Reconsidered. *Journal of Economic Perspectives, 33 (4),* 152–170. https://doi.org/10.1257/jep.33.4.152

22. Vasyltsiv, T. H., Lupak, R. L., Kunytska-Iliash, M. V., Nakonechna, N. V. (2023). Ekonomichna bezpeka subiektiv hospodariuvannia ta derzhavy: aspekt harantuvannia finansovo-ekonomichnoi bezpeky priorytetnykh haluzei natsionalnoi ekonomiky Ukrainy. Scientific Notes of Lviv University of Business and Law, 37, 22–30. https://doi.org/10.5281/zenodo.7769997

23. Ieleiko, V. I., Myronov, Yu. B., Demchyshyn, M. Ya., Bodnar, R. D. (2016). *Ekonometrychnyi analiz innovatsiinoi diialnosti pidpryiemstv.* Lviv: LTEU, 219.

24. Myronova, M., Svydruk, I., Sydorchuk, O., Trut, O., Klepanchuk, O. (2022). Impact of foreign trade development on the organization of socio-economic security of Ukraine. *Bulletin of Geography. Socio-Economic Series, 57,* 155–168. https://doi.org/10.12775/bgss-2022-0029

25. Baker, S. R., Bloom, N., Davis, S. J. (2016). Measuring Economic Policy Uncertainty*. *The Quarterly Journal of Economics, 131 (4),* 1593–1636. https://doi.org/10.1093/qje/qjw024

26. Perron, P. (2006). Dealing with structural breaks. *Palgrave Handbook of Econometrics, 1,* 278–352.

27. Kvietnyi, R. N., Boiko, O. R., Stepova, T. O. (2011). Multidimensional polynomial approximation of interval data dependences by least squares method. *Visnyk Vinnytskoho politekhnichnoho instytutu, 3,* 103–106.

28. *Derzhavna sluzhba statystyky Ukrainy.* Available at: https://www.ukrstat.gov.ua

29. Indeks Ekonomichnoi Bezpeky Ukrainy. *International Liberty Institute.* Available at: https://www.ilibertyinstitute.org/index/ekonomichna-bezpeka

30. Indeks investytsiinoi pryvablyvosti Ukrainy (2022). European Business Association. Available at: https://eba.com.ua/wp-content/uploads/2022/12/EBA-InvestIndex_2H-2022_UA.pdf

31. Study on due diligence requirements through the supply chain (2020). European Commission. https://doi.org/10.2838/39830

32. Hoekman, B., Nelson, D. (2020). Rethinking international subsidy rules. *The World Economy, 43 (12),* 3104–3132. https://doi.org/10.1111/twec.13022

33. *Regulation (EU) 2019/452 of the European Parliament and of the Council of 19 March 2019 establishing a framework for the screening of foreign direct investments into the Union* (2019). Available at: https://eur-lex.europa.eu/eli/reg/2019/452/oj

34. Ticu, I. (2023). The phenomenon of migration and the national security of the Republic of Moldova. *Revista Moldovenească de Drept Internaţional Şi Relaţii Internaţionale, 18 (1),* 52–59. https://doi.org/10.61753/1857-1999/2345-1963/2023.18-1.05

35. Population and demographics (2024). *Geostat.* Available at: https://www.geostat.ge/ka/modules/categories/316/mosakhleoba-da-demografia

36. Humanitarna sytuatsiia v Ukraini. Kvartalnyi ohliad No. 2 (2024). UVKB OON. Available at: https://www.unhcr.org/ua/wp-content/uploads/sites/38/2024/10/UNHCR-Ukraine-Operational-Update_11-October_UKR.pdf

37. Zhang, Y., Chen, Z. J., Li, H. (2017). Toward a model of risky decisions: Synergistic effect of affect intensity and affective processing on risk-seeking as a function of decision domain. *Journal of Experimental Social Psychology, 73,* 235–242. https://doi.org/10.1016/j.jesp.2017.06.006

38. Yazdani, M., Zarate, P., Kazimieras Zavadskas, E., Turskis, Z. (2019). A combined compromise solution (CoCoSo) method for multi-criteria decision-making problems. *Management Decision, 57 (9),* 2501–2519. https://doi.org/10.1108/md-05-2017-0458

39. Balezhentis, A., Yatsenko, O. (2018). Asymetrii torhovelnoi intehratsii Ukrainy ta YeS. *Mizhnarodna ekonomichna polityka, 1,* 32–62. Available at: http://iep-journal.com/journals/28/2018_2_Basenentius_Yatsenko.pdf

40. Indeksy. Ekonomika Ukrainy. *Ministerstvo finansiv Ukrainy.* Available at: https://index.minfin.com.ua/ua/economy

41. Pro zovnishnoekonomichnu diialnist (2024). Zakon Ukrainy No. 959-XII redaktsiia vid 03.09.2024. Available at: https://zakon.rada.gov.ua/laws/show/959-12

42. Kuzmin, O., Yurynets, O., Yemelyanov, O. (2021). Development of investment attractiveness of enterprises in the conditions of anti-crisis management. *Investytsiyi: Praktyka ta Dosvid, 10,* 5–12. https://doi.org/10.32702/2306-6814.2021.10.5

43. Profilul Migraţional Extins al Republicii Moldova 2017–2021: Raport analitic (2024). *Ministerul Afacerilor Interne al Republicii Moldova.* Available at: https://igm.gov.md/wp-content/uploads/2024/04/PME_RM_2017-2021.pdf

44. *Migration strategy of Georgia 2021–2030* (2020). State Commission on Migration Issues. Available at: https://migration.commission.ge/files/ms30_eng_web2.pdf

45. Levytska, O. (2022). Border migration processes in Ukraine: Developing responses to emerging vulnerabilities. Migration Letters, 19 (2), 159–170.

46. Bogdan, L. (2023). Navigating Migration Risks: The Role of Risk Perception and Information Engagement Among Moldovans. *Journal on Migration and Human Security, 11 (4),* 315–332. https://doi.org/10.1177/23315024231201622

47. Walter, C. (2020). Sustainable Financial Risk Modelling Fitting the SDGs: Some Reflections. *Sustainability, 12 (18),* 7789. https://doi.org/10.3390/su12187789

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