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STATE OF UKRAINE'S ECONOMIC SECURITY AND WAYS TO STRENGTHEN IT IN THE CONTEXT OF GLOBALIZATION

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The article provides a comprehensive analysis of the current state of Ukraine's economic security in the context of the growing challenges of globalization. The key threats affecting the stability of the national economy, including structural imbalances, energy dependence, foreign economic pressure, and the consequences of a full-scale war, are considered. The purpose of the article is to carry out a comprehensive assessment of the current state of economic security of Ukraine, in particular, to identify key internal and external threats, and also to determine effective ways to improve the State policy in this area, taking into account the challenges of globalization and the European integration vector of the country's development. The methodological basis of the study involves a combination of statistical analysis, integral index methodology of the Ministry of Economy of Ukraine, and comparative review of literature and policy documents. Particular attention is paid to assessing the effectiveness of Ukraine's policy in the field of economic security, as well as identifying strategic directions for its strengthening. The author emphasizes the need for institutional strengthening, enhancing the resilience of the financial system, diversifying foreign economic relations, and forming an adaptive risk management model in the context of global transformations.

Keywords: economic security of the country, globalization, macroeconomic policy, threats to economic security, socio-economic risks, state regulation.

Ukrainas ekonomiskās drošības stāvoklis un tā stiprināšanas veidi globalizācijas kontekstā

Rakstā sniegta visaptveroša analīze par Ukrainas ekonomiskās drošības pašreizējo stāvokli, ņemot vērā pieaugošos globalizācijas izaicinājumus. Tiek aplūkoti galvenie apdraudējumi, kas ietekmē valsts ekonomiskas stabilitāti, tostarp strukturālie disbalansi, enerģētiskā atkarība, ārējais ekonomiskais spiediens un pilna mēroga kara sekas. Raksta mērķis ir veikt visaptverošu Ukrainas ekonomiskās drošības pašreizējā stāvokļa novērtējumu, īpaši identificēt nozīmīgākos iekšējos un ārējos draudus, kā arī noteikt efektīvus valsts politikas pilnveides virzienus šajā jomā, ņemot vērā globalizācijas izaicinājumus un valsts attīstības Eiropas integrācijas virzienu. Pētījuma metodoloģiskais pamats ietver statistiskās analīzes kombināciju, Ukrainas Ekonomikas ministrijas integrālā indeksa metodoloģiju un literatūras, kā arī politikas dokumentu salīdzinošu izvērtējumu. Īpaša uzmanība veltīta Ukrainas ekonomiskās drošības politikas efektivitātes novērtēšanai un stratēģisko virzienu identificēšanai tās stiprināšanai. Autors uzsver nepieciešamību stiprināt institucionālo ietvaru, palielināt finanšu sistēmas noturību, diversificēt ārējo ekonomisko sadarbību un izveidot adaptīvu risku vadības modeli globālo transformāciju apstāklos.

Atslēgvārdi: valsts ekonomiskā drošība, globalizācija, makroekonomiskā politika, draudi ekonomiskajai drošībai, sociālekonomiskie riski, valsts regulējums.

Introduction

In today's era of globalization, accompanied by growing international interdependence, structural shifts in the economy, geopolitical conflicts, and the transformation of the global security architecture, the issue of economic security is coming to the fore both for individual states and for the world community as a whole. For Ukraine, which is simultaneously experiencing profound socio-economic transformations, resisting external aggression and seeking integration into the European economic space, economic security is not only a prerequisite for survival, but also a key factor of development and sovereignty.

Security in the economic dimension is not only protection against threats, but also the ability of the state to create conditions for sustainable growth, self-reproduction of resources, and improvement of the population's welfare. In the context of multi-vector pressure, including critical dependence on

imports, shadow economy, high level of corruption, foreign economic risks, and political instability, the formation of an effective model of economic security is of paramount importance.

The essence of the problem lies in the need not only to respond to existing threats but also to develop a proactive policy that can take into account both internal structural weaknesses and external challenges. This requires a deep scientific understanding of the theoretical and methodological foundations for assessing the level of economic security, a comprehensive analysis of the existing state policy in this area, and the identification of strategic directions for its improvement, taking into account globalization processes and Ukraine's European integration course.

In the light of the growing complexity and urgency of the subject, authors should elaborate more thoroughly on the current state of research concerning Ukraine's economic security in the Introduction. It is essential to present a well-structured overview of existing academic contributions and identify the key gaps that the present study seeks to address. This not only demonstrates the relevance of the research but also situates it within a broader scholarly context.

This study has approached the issue from diverse perspectives, ranging from macroeconomic stability and sectoral resilience to institutional integrity and energy independence. For example, Bilokon and Smahliuk (2024), as well as Gbur (2023), analyze how hybrid warfare and martial law expose critical vulnerabilities in Ukraine's economy. Dotsiak and Plets (2025) explore fiscal and financial resilience under wartime conditions, while Bokov (2023) emphasizes the strategic role of energy security in sustaining economic sovereignty. Furthermore, Bazylyuk (2024) provides a comprehensive macroeconomic analysis in the context of protracted conflict, while ongoing debates around methodological approaches are rooted in both academic and governmental frameworks, such as those by the Ministry of Economic Development and Trade of Ukraine (2013).

Although this topic has been widely studied, most existing works either focus on individual subsystems (such as energy or investment security) or provide descriptive overviews without integral assessment. Therefore, there is a research gap in developing a comprehensive evaluation of Ukraine's economic security using a systematic methodology that allows to compare dynamics before and after major shocks.

The purpose of the study is to carry out a comprehensive assessment of the current state of economic security of Ukraine, in particular, to identify key internal and external threats, and also to determine effective ways to improve the State policy in this area, taking into account the challenges of globalization and the European integration vector of the country's development.

Given Ukraine's complex geopolitical positioning and the intensification of global economic instability, the imperative to develop a robust and adaptive economic security strategy has grown considerably. The war-induced disruptions have laid bare the vulnerabilities of critical economic sectors, from energy and transport to agriculture and manufacturing, while simultaneously underscoring the strategic importance of fiscal sustainability, foreign investment protection, and resilient infrastructure. At the same time, the overlapping effects of war and global economic shifts have accelerated the need for Ukraine to adopt more integrated and forward-looking approaches to security policy, ones that bridge macroeconomic planning, institutional reform, and external cooperation.

Moreover, as Ukraine aspires to align itself with European Union standards, the harmonization of its economic security framework with EU regulatory mechanisms becomes a strategic necessity. This includes convergence in areas such as anti-corruption policy, customs regulation, financial transparency, and supply chain resilience. The adoption of best practices from European partners, particularly in the domains of risk management, cybersecurity, and digital governance, offers promising avenues for enhancing national competitiveness and ensuring long-term sustainability.

In this context, the analysis of Ukraine's economic security must move beyond a reactive model toward a systemic, data-driven, and strategically integrated approach. This entails not only identifying

and neutralizing threats but also creating an enabling environment for economic recovery, reintegration of displaced populations, and reconstruction of affected regions. By grounding security strategies in both empirical evidence and international experience, Ukraine can better position itself to withstand current shocks and chart a stable course toward inclusive and secure development.

Methods and materials

The information base of the work was based on the scientific works of Ukrainian and foreign scholars, methodological developments, statistics data, and Internet sources.

The issue of Ukraine's economic security has garnered significant attention in recent years due to intensifying hybrid threats, the full-scale war, and broader global challenges. A range of Ukrainian scholars have explored this multidimensional topic from various analytical angles. In particular, Bilokon and Smahliuk (2024), as well as Gbur (2023), examine the vulnerabilities of Ukraine's economy in the face of hybrid warfare and martial law, identifying key risk areas and proposing frameworks for resilience. Bazylyuk (2024) provides an in-depth analysis of the prolonged impact of war on Ukraine's macroeconomic indicators and policy tools, emphasizing the need for long-term strategies for economic stabilization.

In the context of financial security during wartime, Dotsiak and Plets (2025) assess fiscal stability, banking sector performance, and the resilience of national financial institutions under conditions of military aggression. Energy security, a vital component of economic sovereignty, is analyzed by Bokov (2023), who underscores the strategic importance of energy infrastructure, diversification of supply sources, and national energy independence in wartime.

Sectoral aspects of economic security, including agriculture and service industries, are examined by Kozlovskyi, Zuiev, Panochyshen (2024), who propose an updated paradigm for ensuring the stability of Ukraine's agro-industrial complex under globalization pressures. The challenges of institutional integrity and anti-corruption measures are highlighted in the works of Krymchak, Slobodianiuk, and Krymchak (2024), who stress the importance of transparent governance mechanisms for protecting economic sovereignty. Similarly, Obikhod and Bilenchuk (2023) focus on the legal and administrative foundations necessary for safeguarding economic sectors under conditions of uncertainty.

Finally, methodological approaches to measuring and monitoring economic security remain a focal point of scholarly discourse. Official frameworks, such as those developed by the Ministry of Economic Development and Trade of Ukraine (2013), rely on composite indicators to assess economic vulnerabilities, though scholars increasingly call for more dynamic and adaptive evaluation models that can account for real-time risks and shocks.

Thus, scientific research confirms the relevance of the issue, contributes to the formation of an analytical framework for state policy in the field of economic security, but at the same time points to the need for further systematization of knowledge, development of integrated strategies and practical mechanisms to improve the level of economic security in the context of dynamic globalization processes.

The study is based on a comprehensive approach that combines literature analysis, practical observations, and economic surveys. The methodological basis of the study involves statistical analysis of official data, application of the integral-index methodology, and a comparative review of scholarly and policy documents.

For calculations, the authors applied the official Methodology of the Ministry of Economic Development and Trade of Ukraine (2013), which includes over 130 statistical indicators grouped into integral indices of key economic security subsystems, namely production, investment, financial, foreign economic, demographic, and social components. The empirical data were sourced primarily

from the official databases of the Ministry of Economy of Ukraine, supplemented by publicly available reports from the State Statistics Service to ensure data completeness and consistency. The time frame of the data spans from 2010 to 2021.

The calculation procedure involved several key stages. First, raw statistical data were collected from the State Statistics Service and systematized across the selected indicators. Second, all indicators were normalized using a min-max scaling approach to ensure comparability across different units of measurement. In the third stage, normalized values were aggregated into subsystem-level indices using weighted summation, with weights assigned in accordance with methodological guidelines or expert judgment where not predefined. Finally, a composite integral index of economic security was calculated as an average of the subsystem indices, allowing for the identification of critical vulnerabilities and temporal trends in Ukraine's economic security profile. This multi-step approach ensured methodological rigor and consistency in the assessment of complex, multidimensional risks under conditions of systemic instability.

Theoretical background: concept of economic security

Economic security is a fundamental component of national security, determining the ability of the state to ensure the stable functioning and development of its economic system as well as to protect national economic interests under conditions of internal and external threats. In contemporary scholarship, economic security is regarded as a complex, multidimensional phenomenon that encompasses both macro- and micro-economic levels, integrating political, social, financial, technological, and institutional aspects. In general terms, economic security is defined as a state of the national economy that guarantees economic sovereignty, sustainable socio-economic development, preservation of national potential, financial resilience, and competitiveness in global markets.

The essence of economic security lies in achieving and maintaining such a condition of the economy in which the state can effectively withstand destabilizing factors and threats that may disrupt normal economic activity. This involves stability against shocks, capacity for self-reproduction, development of strategically important industries, protection of the interests of economic actors and citizens, and sufficient state control over key economic processes.

Scholars offer diverse interpretations of the concept. For example, Golovko (2019) defines economic security as a state of the national economy ensuring a high level of protection of interests of all subjects from internal and external threats. Bryk and Petruk (2023) emphasize that it is not only a component of national security but also acquires priority significance under global transformations such as pandemics, armed conflict, and energy crises, interpreting it as a dynamic state requiring scientifically grounded methods of neutralizing threats. Other authors, including Morhun N., Shevchuk O., Marchevskyi S. (2023), conceptualize economic security as a system of functions enabling self-organization and reproduction.

The structure of economic security is equally multifaceted. Different authors distinguish between its core components, usually including financial, social, demographic, investment, innovation, macroeconomic, energy, food, and external economic security, although the degree of detail varies by methodology. The functional approach highlights protective, regulatory, preventive, informational, and control functions of the state (Morhun, Shevchuk, Marchevskyi 2023).

Thus, economic security should be viewed as an adaptive, strategically managed, and integrative category that ensures balance between development, sovereignty, resilience to risks, and realization of national economic interests. Its systemic nature requires a complex policy response, coordination at national and international levels, and continuous revision of approaches under conditions of war, global crises, and technological change.

Analysis of level of economic security of Ukraine

The article involves analyzing the complex state of the national economy through the prism of key indicators that shape its resilience to internal and external threats. This study uses the methodology for determining the level of economic security developed by the previous Ministry of Economy of Ukraine. This approach is based on an integral assessment that includes the analysis of more than 130 indicators, grouped into nine main sub-indices of economic security (Ministry of Economic Development and trade of Ukraine 2013).

The main components of Ukraine's economic security include: production security (efficient use and modernization of production capacity) demographic stability (protection of society and the labor market from demographic threats) energy independence (reliable and diverse supply of energy resources) security of foreign economic activity (alignment of foreign economic processes with national interests), innovation and investment stability (a favorable climate for investment and the development of high-tech production), macroeconomic balance (stability of key macroeconomic indicators), food security (the ability of domestic production to meet the population's needs for quality food), social protection of the population (ensuring a decent standard of living and human capital development), and financial security (the resilience of the financial system to crises and its ability to support development). The combination of these factors forms a comprehensive view of the level of economic security of the state in the context of globalization challenges and determines the vectors of strategic development.

The methodology allows not only to record the actual state of economic security, but also to identify potential threats in various areas of economic activity, which makes it an effective tool for making informed management decisions. Calculations are made on the basis of official statistics and expert assessments, which ensures the comprehensiveness and objectivity of the analysis results (Stavytskyi 2019).

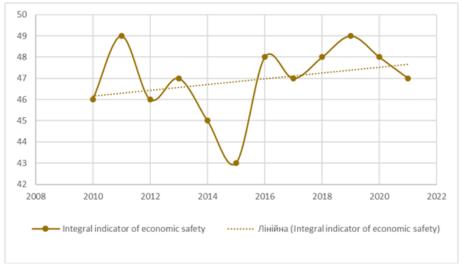
Table 1
The level of Ukraine's economic security, integral and by individual components, % (2010-2021)

Components of economic security	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Production	50	55	49	49	51	47	58	59	58	60	56	56
Demographic	47	56	45	46	45	43	46	41	41	39	40	37
Energetic	35	30	34	38	45	45	58	54	54	51	49	52
Foreign economic	35	30	24	29	32	34	35	36	36	39	41	42
Investment and innovation	34	35	36	35	30	33	30	29	31	28	30	26
Macroeconomic	38	48	39	39	33	30	39	37	39	45	44	41
Food	90	92	93	86	94	92	92	91	90	89	86	88
Social	57	59	64	62	57	55	56	59	59	60	63	61
Financial	42	47	47	50	40	33	38	40	44	42	40	41
Integral indicator	46	49	46	47	45	43	48	47	48	49	48	47

Source: elaborated by the authors based on data from Ministry of Economic Development and trade of Ukraine 2013.

Figure 1

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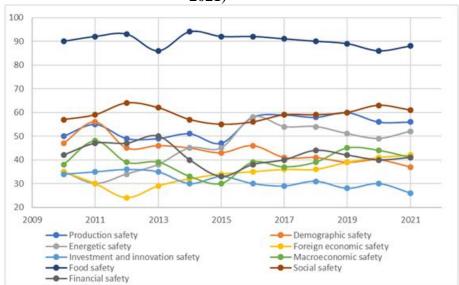
Source: elaborated by the authors based on data from Ministry of Economic Development and trade of Ukraine 2013, Ukrainian State Statistics Service 2025

The analysis of the data on the dynamics of the components of Ukraine's economic security in 2010-2021 allows us to assess the state of the main subsystems of economic security and to trace the general trends that laid the foundation for the current situation during a full-scale war (2022-2025) (Table 1).

All numerical indicators and trends reported in Table 1 and in the following analysis are calculated according to the official Methodology of the Ministry of Economic Development and Trade of Ukraine (2013), using data provided by the Ukrainian State Statistics Service (2025).

The overall integral indicator of economic security fluctuated between 43-49%, and in 2021 it amounted to 47%, which is not a high level. Compared to 2010, it increased by only 1 point, and its dynamics indicate instability: in 2015, there was a drop to 43% (-2% from 2014), an increase in 2016 (+5%), but then fluctuations within one point in both directions. The lack of sustainable growth indicates the weak structural stability of the economy and its high vulnerability to external and internal shocks.

Figure 2 Integral indicator of economic security of Ukraine by individual components, % (2010-2021)



Source: elaborated by the authors based on data from Ministry of Economic Development and trade of Ukraine 2013.

Food security remains the leading component, retaining the highest values throughout the period (86-94%). Despite some fluctuations, this area demonstrates resilience. Such results can be explained by Ukraine's agricultural specialization, significant export potential of agriculture, and relatively lower dependence on external factors in this area. However, it is also worth paying attention to the downward trend after 2014 (from 94% to 88% in 2021), which may be due to the loss of control over some territories, infrastructure degradation, rural migration, and food logistics risks (Parkhomenko-Kutsevil 2024, Kozlovskyi, Zuiev, Panochyshen 2024).

In 2010-2021, Ukraine's food security remained generally stable, as evidenced by the high level of self-sufficiency in basic foods. In particular, meat production per capita increased from 86.1% in 2010 to 111.2% in 2021, vegetables - from 134.5% to 152.1%, potatoes - from 315.7% to 390%, and oil production in 2020 exceeded domestic consumption by 14.7 times (1470.2%). At the same time, there was a decrease in daily caloric intake - from 2933 kcal in 2010 to 2674 kcal in 2020 (-8.7%), which may indicate a decrease in the purchasing power of the population. The share of imported food products in sales increased from 11.8% in 2010 to 22.4% in 2021, indicating increased import dependence. Milk production showed a decline: from 118.6% in 2010 to 104.5% in 2021, which creates risks of shortages. On the other hand, the country's grain potential has increased - from 0.86 tons per capita in 2010 to 2.1 tons in 2021, and the level of grain reserves has increased from 57.3% to 158.1%, forming a strategic reserve (Ukrainian State Statistics Service 2025). In 2022, the war put food security under severe pressure: the destruction of agricultural infrastructure, blocked ports, and disrupted supply chains increased dependence on imports, but the stockpiles and export potential helped to avoid a catastrophe. To further strengthen food security, support for domestic agricultural production, investment in infrastructure, decentralization of food chains, and reduced import dependence are needed.

Industrial safety shows mixed dynamics. After falling to 49% in 2012, it rose to 60% in 2019, but dropped to 56% in 2020-2021. Such volatility (in particular, +11% in 2016, -4% in 2020) indicates the industry's dependence on foreign economic and political factors. The conditional stabilization in 2021 does not indicate recovery, but rather stagnation, and this trend continued during the war, when industrial production was hit hard by destroyed facilities, reduced production, energy shortages, and the evacuation of enterprises.

In 2010-2022, Ukraine's industrial security remained low, due to high depreciation of fixed assets, technological lag, weak innovation, and unstable profitability of enterprises. In the industrial sector, the share of GVA compared to European countries decreased from 16.4% in 2010 to a critical 4.4% in 2022, profitability fell from 11.2% in 2021 to 0.8% in 2022, and depreciation of fixed assets remained at 60-76%. The share of high-tech products in industry did not exceed 3.2%, indicating an innovation lag. In construction, the volume of work in 2022 fell to 4% of the 1990 level (maximum - 11.3% in 2021), profitability fell to -2.4%, and depreciation of fixed assets in 2021 amounted to 45.5%. In the transportation sector, depreciation exceeded 94% in 2010-2014, although by 2021 it decreased to 48.2%, and profitability decreased from 5.8% in 2021 to 2.7% in 2022. In the agricultural sector, grain yields increased from 26.9 c/ha in 2010 to 53.9 c/ha in 2021, but fell to 45.8 c/ha in 2022; the degree of depreciation remained consistently high at 41.1% in 2021 (Ukrainian State Statistics Service 2025). Energy vulnerability increased: in 2021-2022, the price of imported gas was 1.9 times higher than in Europe. The full-scale war has only exacerbated all these problems, causing losses of production capacity, logistical disruptions, and financial instability, which underscores the need for a new state policy of modernization and recovery.

Demographic security has been deteriorating systematically: from 47% in 2010 to 37% in 2021, a decline of 10 points. The decline was particularly marked after 2013. This decline is due to ongoing negative demographic processes: population decline, high emigration, aging population, and low birth

rates. The war has only exacerbated these problems, as millions of Ukrainians have moved abroad, and the mortality rate is driven by both direct losses and worsening access to health and social services.

In 2010-2021, Ukraine's demographic security deteriorated significantly: the size of the current population decreased from 88.1% to 79.4% of the 1990 level, indicating a systemic decline due to high mortality, low fertility, and external migration. Life expectancy increased to 72 years in 2017-2019, but decreased to 70.0 in 2021, indicating the vulnerability of the health care system, in particular due to the impact of the COVID-19 pandemic. Although the infant mortality rate decreased from 9.1 to 6.8, the natural increase rate deteriorated from -4.5 to -11.2, indicating a deep demographic crisis. The share of the elderly population grew from 20.8% to 24.8%, and the demographic burden increased from 42.1% to 48.3%, indicating an aging nation and an increased burden on the social system. Migration growth remained positive, albeit unstable (from +2.5 to +15.3 per 10 thousand people), showing periodic bursts of a compensatory nature. In general, the demographic situation in Ukraine is characterized by a steady decline and growing structural risks, which are only partially mitigated by some positive trends.

Energy security in 2010-2015 remained low (30-45%), but since 2016, it has increased significantly to 58% and has remained at a relatively high level (49-54%). This positive development can be attributed to the diversification of energy supplies, reduced dependence on Russian gas, energy market reforms, and the development of renewable energy. However, the war has again upset this balance, with massive strikes on energy infrastructure, power outages, and reduced stability of the energy system.

In 2010-2021, the dynamics of Ukraine's energy security was controversial: on the one hand, the share of domestic sources in the energy balance increased from 61.1% to 64.4% (+3.3%), import dependence decreased from 53.5% to 22.5% (-31%), and the concentration of imports from one country decreased from 75.5% to 8.9% (-66.6%), indicating gradual energy independence and diversification of supply sources. Natural gas reserves increased from 4.3 to 8.7 months (+4.4 months), and the share of renewable sources increased from 2.0% to 6.6% (+4.6%), demonstrating a gradual increase in energy sustainability. At the same time, negative trends were observed: depreciation of fixed assets in the fuel and energy sector increased from 60.7% to 68% (+7.3%), investments in the sector decreased from 0.9% of GDP in 2010 to 0.7% in 2022 (-0.2%), coal reserves decreased from 1.34 to 0.4 months (-0.94 months), and energy losses during transportation increased from 2.7% to 4.2% (+1.5%), indicating a chronic lack of infrastructure modernization.

Foreign economic security remained low throughout the period (24-42%). A slight improvement in 2020-2021 (up to 42%) does not change the overall assessment - it remains vulnerable. Ukraine is dependent on imports, particularly of energy and high-value-added goods, and its export structure is overly commodity-based. The war has exacerbated these risks, in particular due to the blockade of ports, sanctions, disruption of logistics, and a decrease in export potential.

In 2010-2021, Ukraine's foreign economic security remained one of the most vulnerable: despite a slight increase in the relevant sub-index from 35% to 42%, the situation remained unstable, and in 2022 it deteriorated significantly due to the war. The chronic negative balance of foreign trade was manifested in a low import-export coverage ratio (from 0.84 to 0.97 in 2010-2021, and only 0.69 in 2022), indicating an increase in import dependence. The structure of exports became more and more raw material-based, with the share of low-processed goods increasing from 76% in 2010 to 87.5% in 2022, while dependence on individual partner countries increased (the share of the leading partner in 2022 is 15.1%). Deteriorating global trade conditions (the price index fell from 119.0 in 2021 to 70.9 in 2022) and a sharp decline in gas transmission system utilization (from 50.2% in 2019 to 11.4% in 2022) further deepened vulnerabilities. Despite the increase in economic openness to 87.7%, this does not indicate an increase in export potential, but rather a critical dependence on imports. Stabilization and strengthening of foreign economic security require a reduction in the raw material orientation, an

increase in high-value-added exports, technological modernization, and active participation in global production chains.

The investment and innovation component has consistently declined since 2012 (from 36% to 26% in 2021). This is one of the worst values among all the components. The decline in investment attractiveness is explained by political instability, military risks, weak investor protection, and an underdeveloped innovation infrastructure. Since the start of the full-scale war, these factors have only intensified, with foreign investment falling to a minimum and investment risks increasing.

Between 2010 and 2022, Ukraine's investment and innovation security was critically weak: gross fixed capital formation decreased from 17.0% to 11.6% of GDP, the share of new fixed assets fell from 64.8% to 53.7%, and foreign direct investment fell from 4.1% to 0.2% of GDP. The curtailment of long-term lending (from 9.3% to 0.7% of GDP) and the fall in the investment attractiveness index (from 52.8 to 38.3) indicate that funding sources are drying up. The share of R&D in GDP decreased from 0.75% to 0.41%, and the number of researchers decreased from 8.02 to 3.5 people per 1,000 employees. Industrial innovation activity remained low (the share of innovative products decreased from 3.8% to 1.9%) (Ukrainian State Statistics Service, 2025). The only positive development was the growth of exports of intellectual services (from 0.7% to 4.8% of GDP) and Internet coverage (from 22% to 80%), which creates the potential for a digital breakthrough, but the overall situation requires a deep transformation of public policy.

Macroeconomic security is also characterized by fluctuations. After falling in 2015 (30%), the indicator rose to 45% in 2019, but fell again to 41% in 2021. The indicators in this area are closely related to the debt burden, inflation, currency stability, and budget deficit. As of the pre-war period, the system was relatively stabilized, but remained sensitive to external shocks. The war caused an extraordinary burden on public finances, a rapid increase in the budget deficit, and an increase in inflation.

In 2010-2021, Ukraine's macroeconomic security remained fragile due to internal imbalances and external challenges, and the war in 2022 only exacerbated these problems. The key threats were the gap between wages and labor productivity, which has only shown improvement since 2016; high shadow economy (28-36% of GDP); fluctuations in the balance of payments, with a surplus of +5% in 2022 due to reduced imports and international aid rising unemployment (9.9% in 2021, 25.1% long-term); inflation, which reached 26.6% in 2022; a drop in the share of household income in GDP (from 78.6% to 68.3%) and a decrease in savings (to 0.2%); a high share of informal employment (19.5% in 2021). Despite some improvements by the 2020s, the war undermined the labor market, lowered real incomes, and increased inflationary risks, which together pose a critical threat to macroeconomic stability.

Social security remained relatively stable, at 55-64%, with minor fluctuations. Nevertheless, some changes (a decline in 2014-2015, a slight increase thereafter) indicate the reaction of social processes to political and economic crises. However, this indicator does not fully take into account the depth of social inequality, unemployment, or access to health care, which have deteriorated significantly during the war.

In 2010-2021, Ukraine's social security remained unstable, with a combination of positive and negative trends. The share of the population with incomes below 75% of the median level increased from 22.0% to 24.4%, indicating an increased risk of poverty, although the average wage relative to the subsistence minimum increased from 2.5 to 5.6 times, and pensions from 1.63 to 2.2 times. Social inequality decreased slightly, with the decile wealth gap falling from 5.2 to 4.9. The share of expenditures on food decreased from 51.6% to 45.4%, indicating an improvement in consumption patterns. Healthcare spending remained at 4% of GDP, peaking in 2020, while education spending decreased from 7.1% to 5.6%. On a positive note, the tuberculosis rate decreased by 50%, and wage arrears fell from 4.3% to 2.5%. At the same time, employment fell from 58.4% to 55.7%, and the level

of hourly wages remained well below the EU average (the gap decreased only from 15.8 to 14.9 times). Overall, despite some improvements, Ukraine's social sector remains vulnerable to economic and structural challenges.

Financial security fluctuated between 33% and 50% during the analyzed period, with a particularly significant drop in 2014-2015. Despite attempts at financial stabilization after 2016, the indicator remained at 41% in 2021. Financial system instability, hryvnia devaluation, high levels of shadow banking, and banking crises are key threats to this subsystem. With the outbreak of the war, financial security faced new risks: increased external dependence, budget deficits, and the need to finance military spending led to even greater instability.

In 2022, Ukraine's financial security deteriorated significantly under the influence of a full-scale war: the overall index dropped to 31% (-10%). The most critical was budget security - 9% (-40%), reflecting a sharp increase in spending and a drop in revenues. Debt security dropped to 21% (-10%) due to active borrowing and a growing debt burden. Monetary security stood at 35% (-3%), reflecting inflationary pressures and money supply growth. Currency security remained relatively high at 65% (-4%), thanks to currency control and the maintenance of reserves. Banking safety increased to 33% (+7%), a positive development attributed to the system's adaptability and the stability of the regulator. Meanwhile, the non-banking financial market remained weak at 25% (-2%), showing a further decline due to low activity in the insurance and pension sectors. Overall, the structure of financial security has revealed deep imbalances that require comprehensive reform and strategic management in a war economy.

Thus, an analysis of the main components of Ukraine's economic security based on data from 2010-2021 shows structural weaknesses in the economy, low resilience to shocks, ineffective strategic risk management, and insufficient modernization of key sectors. All these problems became the background against which the full-scale war unfolded, and in most cases, they have only intensified. Most areas are in a state of unstable equilibrium or tend to deteriorate. In the future, these trends will require targeted reforms, institutional modernization, and international support.

Ukraine's economic security in the context of globalization and European integration requires a systematic approach and multi-vector reform. One of the key threats is overdependence on imports, particularly in the areas of technology, medicines, and energy. This situation increases the economy's vulnerability to external shocks. Although Ukraine has launched import substitution initiatives, including in the production of drones, pharmaceuticals, and agricultural machinery, these efforts should be accompanied by tax incentives, strategic coordination, and private sector involvement (Lymar, Zveriev 2022).

Building economic security should be seen as a strategic task that goes beyond responding to crises. It is about creating conditions for dynamic development, protecting national interests, and reducing dependence on external factors (Lymar, Zveriev 2022). This requires a transition from a raw material-based to an innovative economy, with an emphasis on the development of mechanical engineering, electronics, biotechnology, and digital industries. It is also important to stimulate the processing industry, form clusters, technology parks, and support research institutes (Lymar, Zveriev 2022, Parkhomenko-Kutsevil 2024, Kozlovskyi, Zuiev, Panochyshen 2024).

European integration requires the harmonization of Ukrainian legislation with EU norms, in particular in the areas of competition, labor rights, and the environment (Lukianenko, Simakhova 2023). At the same time, such adaptation should take into account the peculiarities of the national economy to prevent Ukrainian enterprises from being forced out of the domestic market.

Special attention should be paid to changing the role of the state in the economy. We are talking about the gradual transformation of the state from an active player to an arbitrator that guarantees fair rules in the social life (Menshikov et al. 2017).

Deregulation, financial liberalization, openness of accounts, and simplification of market access should be key tools to stimulate business activity.

Financial security requires the development of the domestic stock market, long-term investment instruments, corporate bonds, and a stronger deposit insurance system.

Successful implementation of economic security policy requires a new quality of public administration, analytical support for decision-making, development of digital risk monitoring tools, and strengthening of public-private partnerships. Without this, even the best strategic documents will remain declarative. In the short term, the key task will be to integrate economic security into the architecture of Ukraine's reconstruction, which will not only preserve sovereignty but also ensure long-term competitiveness on a global level.

The ways to improve Ukraine's economic security in the context of globalization and European integration are to reform the economic system in a multi-vector manner, increase competitiveness, reduce dependence on external influences, and actively develop internal resources and human capital. This requires not only political will, but also in-depth analytical support, strategic vision, and consistent implementation of solutions focused on the sustainability, adaptability, and sovereignty of the national economy in the global context.

Finally, long-term economic security cannot be ensured without the institutional capacity of the state. Thus, Ukraine's economic security is currently being shaped largely reactively due to limited resources and a difficult security situation. However, in the long run, it should become the foundation for sustainable development. This requires a shift from a raw material model to an innovative one, a reduction in export dependence, and a strengthening of domestic resources and public administration. The key task is to integrate economic security issues into the architecture of Ukraine's post-war reconstruction, ensuring its sovereignty and competitiveness in the global environment.

Conclusions

Ukraine's economic security is an integral part of national security and an important factor in its sovereignty, stability, and long-term development potential. It encompasses a broad system of interconnected elements, ranging from financial, energy, and resource sustainability to social cohesion and institutional capacity.

The analysis confirmed that in 2010-2022, Ukraine's economy remained vulnerable to deep shocks due to imperfect management decisions, lack of structural reforms, and the dominance of the exportoriented raw material model. Quantitative results reinforce these conclusions. The overall integral indicator of economic security fluctuated between 43% and 49% during 2010-2021, remaining below the threshold of economic stability. Within the subsystems, production security fell from above 50% in 2010 to around 37% in 2021, reflecting deindustrialization and technological losses. Demographic security declined from 48% to 31% over the same period, driven by population decrease and migration. Energy security remained volatile, oscillating between 35-45%, highlighting dependence on external energy sources. Investment and innovation security showed a persistent downward trend, decreasing from 36% in 2012 to 26% in 2021. Macroeconomic security weakened significantly, dropping from 55% in 2010 to 39% in 2021. Food security remained relatively stable (52-55%) but showed a slight decline after 2019. Social security fell from 51% to 35%, reflecting wage stagnation and declining living standards. Financial security experienced the sharpest contraction, falling from 47% in 2010 to 33% in 2021. All these subsystem indices clearly demonstrate systemic vulnerabilities that underpin the overall fragile state of Ukraine's economic security. The full-scale war has further exacerbated these challenges, turning economic security from an indirect factor of development into a critical condition for the state's survival. Therefore, the concept of economic security should be viewed not

only in the narrow context of crisis protection but more broadly as a state's ability to develop sustainably, adapt to global transformations, and strengthen internal resilience.

Ukraine's economic security policy is still predominantly reactive, while current challenges require proactive strategic planning. The transition to a new economic model from external dependence to the use of internal potential, from raw material orientation to innovation should be one of the key areas of postwar transformation. In this process, institutional modernization, digitalization in all related areas, the formation of partnerships between the state and the private sector, and the integration of economic security into strategic documents of national development are critical.

Ukraine's path to strengthening economic security must prioritize structural reforms that address systemic weaknesses, including corruption, inefficient governance, and over-reliance on volatile sectors. The war has exposed the urgent need for diversification of the economy, reducing dependence on raw material exports and fostering high-value-added industries such as IT, green energy, and advanced manufacturing. Strengthening domestic production capabilities, particularly in critical sectors like defense, agriculture, and energy, will enhance self-sufficiency and reduce vulnerability to external shocks. Additionally, improving the business climate and attracting foreign direct investment will be crucial for rebuilding infrastructure and modernizing industries.

Another key aspect is social and institutional resilience, which directly impacts economic stability. Strengthening social safety nets, supporting internally displaced persons, and investing in human capital through education and vocational training will ensure a skilled workforce capable of driving innovation. At the same time, digital transformation and the modernization of public institutions can improve transparency, reduce bureaucratic inefficiencies, and foster trust between the state, businesses, and citizens. The integration of EU standards and practices into Ukraine's economic policies will further enhance institutional capacity and align the country with global best practices in governance and risk management.

Finally, Ukraine's economic security strategy must account for hybrid threats, including cyberattacks, economic sabotage, and disinformation campaigns aimed at destabilizing markets and investor confidence. Developing robust risk assessment mechanisms and fostering international cooperation with NATO and the EU will help counter these challenges. The post-war reconstruction process should not only focus on physical infrastructure but also on building a resilient, innovation-driven economy that can withstand future crises. By aligning economic security with national security priorities, Ukraine can ensure sustainable development, strengthen its sovereignty, and secure its place in the European and global economic landscape.

Ukraine's economic security depends on a holistic approach that combines short-term stabilization measures with long-term structural reforms. Only through proactive policymaking, technological advancement, and strong international partnerships can Ukraine achieve lasting stability and prosperity.

In the long run, ensuring a high level of economic security should be viewed as an integral part of Ukraine's European integration course. This will not only create the preconditions for effective postwar reconstruction but also shape a new paradigm of sustainable growth in a globally competitive environment, in which innovation, inclusiveness, and resilience to hybrid threats will play a key role.

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