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# ECONOMIC SECURITY OF BUSINESS THROUGH THE PRISM OF RESILIENCE IN THE CONTEXT OF WAR AND POST-WAR RECOVERY: EVIDENCE FROM UKRAINE

## ABSTRACT

The article examines the transformation of approaches to ensuring the economic security of enterprises in conditions of prolonged systemic, military, and post-crisis challenges. It is argued that traditional risk-oriented and adaptive models of economic security are conceptually limited in explaining the nonlinear, asymmetric, and structurally determined processes of business functioning in an environment of chronic uncertainty.

The purpose of the study is to theoretically substantiate a resilient approach as the dominant conceptual basis for enterprise economic security and to develop a structural-logical model that integrates risk management, adaptability, and resilience within a single business viability management system.

The methodological basis of the study consists of systemic and structural-functional approaches, trend and structural analysis methods, as well as conceptual modeling. The empirical base is formed on the basis of official statistical data for 2021–2024, covering the pre-war period, the phase of systemic shock, and the stages of adaptive business restructuring in the context of full-scale war. Ukraine is considered an extreme case of prolonged systemic disruption, which allows us to identify universal mechanisms of resilience relevant to economies facing geopolitical, institutional, or structural crises.

The study identified phenomena of structural business restructuring without a return to the pre-war configuration, decoupling between the dynamics of entrepreneurial activity and employment, as well as financial resilience, manifested in the growth of aggregate financial results against the backdrop of a reduction in the entrepreneurial and labor base. On this basis, a conceptual model of economic security for enterprises is proposed, in which resilience emerges as an integrative core that determines the stability, adaptability, and transformational potential of businesses in conditions of prolonged shocks.

The scientific novelty of the study lies in rethinking resilience not as an auxiliary characteristic, but as a dominant principle of organizing an enterprise's economic security system, which broadens theoretical ideas about business security in conditions of chronic uncertainty and creates practical prerequisites for the formation of resilience-oriented strategies for business continuity.

**Keywords:** resilience, economic security, financial stability, strategic stability, military challenges, post-crisis recovery, business continuity, financial performance, human capital, human resources, risk management, adaptability

**JEL Classification:** G32, D81, H56, O16, L25

## INTRODUCTION

During this time of full-scale war, Ukrainian businesses are dealing with a crazy mix of military, economic, logistical, financial, and social challenges that are really changing the traditional business landscape. The loss of physical assets, destruction of infrastructure, reduction in the workforce, financial market instability, and regulatory turbulence necessitate a rethinking of the role of economic security for enterprises, which is no longer exclusively a protective mechanism against specific threats but has taken on a

strategic character aimed at ensuring the ability of businesses to function, recover, and transform in conditions of prolonged instability.

These circumstances significantly expand the scope of economic security tasks for enterprises, which are no longer limited to forming a protective barrier against business risks. During wartime, priority is given to ensuring the physical and social security of personnel, preserving critical assets, diversifying supply chains, maintaining solvency in conditions of high financial volatility, and ensuring the ability of the enterprise to quickly adapt to changes in demand, logistics routes, and market conditions. Together, these tasks form a new logic of economic security, focused not only on protection but also on maintaining business viability in the face of systemic shocks.

In this context, the concept of resilience, which is interpreted in economic research from two interrelated perspectives, takes on particular significance. On the one hand, resilience is seen as the ability of an economic system to recover relatively quickly after crises and shocks, and on the other hand, as its ability to absorb negative disturbances, carry out internal restructuring and transformation of business processes, while maintaining functional integrity, identity, and development potential. This duality of resilience allows us to view it not as a derivative characteristic but as a conceptual basis for the formation of modern approaches to the economic security of an enterprise. Accordingly, the functional content of enterprise economic security is also being transformed. Along with preventive and protective functions, the importance of the adaptive function is growing, which determines the ability of an enterprise to quickly adjust its strategy, business processes, and organizational structure in response to changes in the external environment, as well as the recovery function, aimed at preserving key business processes and ensuring continuity of operations in conditions of crisis and shock impacts.

Thus, in modern conditions, there is a transformation of approaches to ensuring the economic security of enterprises: from narrowly functional ones, focused on individual tactical protective measures, to a comprehensive, resilient approach. Within this approach, the priority is not only to neutralize threats, but above all to maintain the viability of the business, ensure its continuity, and build capacity for sustainable recovery and long-term development in a dynamic and crisis-ridden external environment.

Despite the growing number of scientific studies devoted to the economic security of enterprises, risk management, and adaptive business models, most of them consider resilience as an auxiliary or industry-specific characteristic rather than a system-forming principle of economic security in conditions of prolonged shocks. Such a fragmented approach significantly limits the ability to explain nonlinear structural transformations in business, the decoupling effect between the recovery of entrepreneurial activity and employment, and the phenomenon of financial resilience observed in war-torn economies. This necessitates a rethinking of economic security through the prism of a resilient approach capable of explaining business viability in conditions of chronic uncertainty.

## LITERATURE REVIEW

An analysis of scientific research shows that the issue of economic security of enterprises in the context of systemic challenges and shocks is mainly interpreted through the prism of risk orientation, financial stability, and business adaptability, which form the methodological framework of modern approaches to security management.

Within the risk-oriented approach, Kalashnikova E., Tatarovskaya T., and Tselniker G. (Kalashnikova et al., 2019) emphasize the need to integrate risk management tools into the system of strategic management of enterprise economic security. The authors emphasize that such integration ensures timely identification of threats, minimization of potential losses, and the formation of prerequisites for sustainable business development in the face of global challenges.

Diem C., Borsos A., Reisch T., Kertész J., Thurner S. (Diem et al., 2021) propose an approach to quantitative analysis of systemic risks of an enterprise, taking into account its positioning in global production and supply chains. This approach significantly increases the reliability of economic security assessments by allowing for cascading effects and the multiplicative nature of crisis impacts.

Von der Assen J., Franco M., Dong M., Stiller B. (Von der Assen et al., 2024) present a model for prioritizing threats with a focus on the business consequences of their realization within the framework of risk-oriented economic security management. Research in the same scientific direction was carried out by Hnylytska L. (Hnylytska et al., 2022), which resulted in the formation of a security-oriented model of entrepreneurial risk management. The proposed model combines risk management tools with mechanisms for ensuring economic security, which allows risk management to be viewed not only as a tool for minimizing losses but also as a strategic means of increasing the stability and resilience of an enterprise.

Within the framework of a security-determined approach, which treats economic security as a prerequisite for the formation of financial stability of an enterprise, Daadmehr E. (Daadmehr, 2024) proposed an integral indicator of financial resilience, which is used as a generalized indicator of the level of economic security. It provides a comprehensive assessment of an enterprise's ability to withstand financial shocks, adapt to changes in the external environment, and maintain stability in conditions of growing uncertainty.

In turn, Zhao Y., Du H., Li Q., Zhuang F., Liu J., Kou G. (Zhao et al., 2025) identified and assessed the financial risks of an enterprise using Big Data technologies, which increases the accuracy of analytical procedures and expands the possibilities for early detection of crisis phenomena. The use of digital tools expands the methodological basis for assessing the economic security of an enterprise.

Complementing these approaches, Plysa V., Tsyпка A., and Muntian B. (Plysa et al., 2025) substantiate the decisive role of financial stability as a key factor in restoring and strengthening the economic security of enterprises in the post-war period. The authors emphasize that a stable financial condition is a basic prerequisite for the restoration of operational activities, the growth of investment attractiveness, and the formation of long-term business competitiveness.

Within the framework of an adaptive approach, Kovalchuk A. (Kovalchuk, 2020) considers economic security in the context of an enterprise's adaptation to the challenges of the digital environment, emphasizing the need to transform management and protection mechanisms in response to digital threats and technological risks.

Prokhorova V., Krutova A., and Dyachenko K. (Prokhorova et al., 2022) interpret economic security as a key mechanism for the adaptation of Ukrainian enterprises in conditions of destabilizing development, emphasizing its role in ensuring the ability of businesses to respond promptly to crisis challenges, minimize the negative impact of external threats, and maintain the stability and continuity of economic activity. These provisions were further developed in a study by Nazarenko I., Volynets L., Gorobinska I., and Lushchay Y. (Nazarenko et al., 2025), which substantiates an adaptive model of economic security as a methodological basis for forming the anti-crisis resilience of enterprises in conditions of high uncertainty caused by military actions.

Without denying the scientific value and practical significance of the presented studies, it should be noted that the vast majority of them are based on linear ideas about the processes of recovery and stabilization of enterprise activities. Such a methodological position is conceptually limited in conditions of prolonged, multi-level, and systemic disturbances and necessitates a transition to nonlinear, resilience-oriented models of economic security capable of adequately reflecting the complex and dynamic nature of the modern business environment.

The application of resilience as a conceptual basis for economic security of an enterprise is primarily associated with the works of Lengnick-Hall C. A., Beck T. E., and Lengnick-Hall M. L. (Lengnick-Hall et al., 2011), in which resilience is justified as a strategic organizational capability that ensures not only recovery from crisis impacts, but also active adaptation and transformation of business processes under the influence of destabilizing factors. The authors laid the theoretical foundations for interpreting the resilient core of economic security as an integral characteristic of the stability, flexibility, and innovative capacity of an enterprise.

Further development of these provisions is presented in the study by Duchek S. (Duchek, 2020), in which resilience is interpreted as a dynamic organizational capacity to ensure security, covering three interrelated phases: proactive threat anticipation, effective response to crisis events, and adaptation based on organizational learning and transformation. Resilience is seen not as a one-time recovery outcome, but as a continuous management process aimed at preserving functional integrity, minimizing vulnerabilities, and building capacity for sustainable development in conditions of heightened uncertainty and systemic risks.

At the same time, Martin R. and Sunley P. (Martin & Sunley, 2015) focus on the spatial factor of resilience, arguing that economic systems are characterized by nonlinear dynamics of development, and recovery processes cannot be reduced to a simple return to the previous growth trajectory. Their research emphasizes the need to take into account structural changes, adaptive shifts, and transformational effects in economic security models.

It is advisable to single out a separate group of studies devoted to the experience of business functioning in conditions of military and post-crisis transformations, within which resilience is considered not only as a factor of competitiveness, but as a basic condition for maintaining economic security and the survival of enterprises. In particular, Dligach A. and Stavyt-skyi A. (Dligach & Stavyt-skyi, 2024), based on an analysis of the activities of 696 Ukrainian enterprises, argue that the organizational maturity of a company is a critical factor in its stability and economic security in wartime. The authors argue that enterprises that did not cease operations during the full-scale invasion have a statistically significantly higher chance of remaining viable.

In turn, Komysheva A., Rothe H., and Wessel L. (Komysheva et al., 2025) introduce the concept of “digital bricolage” as the ability of enterprises to recombine existing resources in order to maintain operational activities in wartime conditions. Digital bricolage acts as a mechanism for reducing business vulnerability, ensuring operational continuity, and rapid adaptation to the destruction of traditional business models and logistics chains.

At the same time, Maalouf J., Miklian J., and Hoelscher K. (Maalouf et al., 2025), studying the experience of enterprises in conditions of prolonged crises, emphasize the existence of an “upper limit” of resilience. They argue that constant recovery without structural changes can lead to the depletion of financial, human, and organizational resources, which in the long term undermines the economic security of the enterprise. Along with this, the authors describe the phenomenon of “positive chaos,” in which instability creates opportunities for individual economic agents to earn super profits.

Thus, an analysis of contemporary scientific research, in which resilience is considered as the conceptual basis of economic security of an enterprise, shows that it is a key determinant of business survival and preservation of its economic potential in the long term in conditions of systemic and military shocks. At the same time, the vast majority of existing scientific developments focus on short-term recovery processes or on individual measures of resilience (financial, organizational, or operational), which significantly narrows their analytical horizon for understanding the complex, nonlinear, and asymmetric transformations characteristic of the functioning of enterprises in crisis and war environments.

The range of issues related to the structural transformation of business under the influence of military and post-crisis challenges remains particularly under-researched, in particular:

- the restoration of entrepreneurial activity without returning to the pre-war configuration of economic processes;
- decoupling between business development dynamics and employment levels;
- the paradox of a reduction in the entrepreneurial and labor base against the backdrop of growing financial results.

The existence of such phenomena indicates the limitations of traditional approaches to assessing economic security and highlights the need for their theoretical rethinking based on resilience-oriented, nonlinear models, which necessitates further in-depth research in this area.

## AIMS AND OBJECTIVES

The goal of the study is to provide a theoretical justification for the resilient approach as the dominant conceptual basis for economic security of enterprises in conditions of prolonged systemic shocks, as well as to develop an integrated model of economic security capable of explaining the structural restructuring of business, decoupling between business development dynamics and employment levels, and the phenomenon of financial resilience in wartime and post-crisis periods. To achieve the goal, the following tasks were set and solved:

1. Analyze the dynamics of the entrepreneurial structure in Ukraine for 2021–2024 and identify the nature of adaptive business restructuring in the context of full-scale war.
2. Investigate the relationship between the dynamics of the number of enterprises and the number of employees in order to identify the effect of decoupling in conditions of prolonged systemic disturbances.
3. Assess changes in the aggregate financial results of enterprises in conjunction with a reduction in the entrepreneurial and labor base, and substantiate the phenomenon of financial resilience of businesses.
4. Based on the generalization of empirical results, develop a conceptual model of economic security of an enterprise, in which resilience is considered as an integrative core that combines risk management, adaptability, and sustainability within a single system of ensuring business viability.

## METHODS

The methodological basis of the study is a combination of systemic and structural-functional approaches, which allows us to consider the economic security of an enterprise as a dynamic multidimensional system that is sensitive to the impact of prolonged systemic shocks. This approach provides an analysis not only of individual functional components of economic security, but also of their interaction in the context of military and post-crisis transformations of the business environment.

To analyze the dynamics of the entrepreneurial structure in 2021–2024, we used trend and structural analysis methods based on official statistical data. This allowed us to identify the nature of the systemic shock of 2022, as well as the subsequent adaptive restructuring of business without returning to the pre-war configuration.

The relationship between the dynamics of the number of enterprises and the number of employees was studied using comparative and structural analysis of time series, which made it possible to identify the decoupling effect between business recovery and employment in conditions of prolonged systemic turmoil.

The assessment of changes in the aggregate financial results of enterprises in conjunction with a reduction in entrepreneurial activity and labor potential was based on methods of comparison and generalization of statistical indicators, which made it possible to substantiate the phenomenon of financial resilience of business in a war economy.

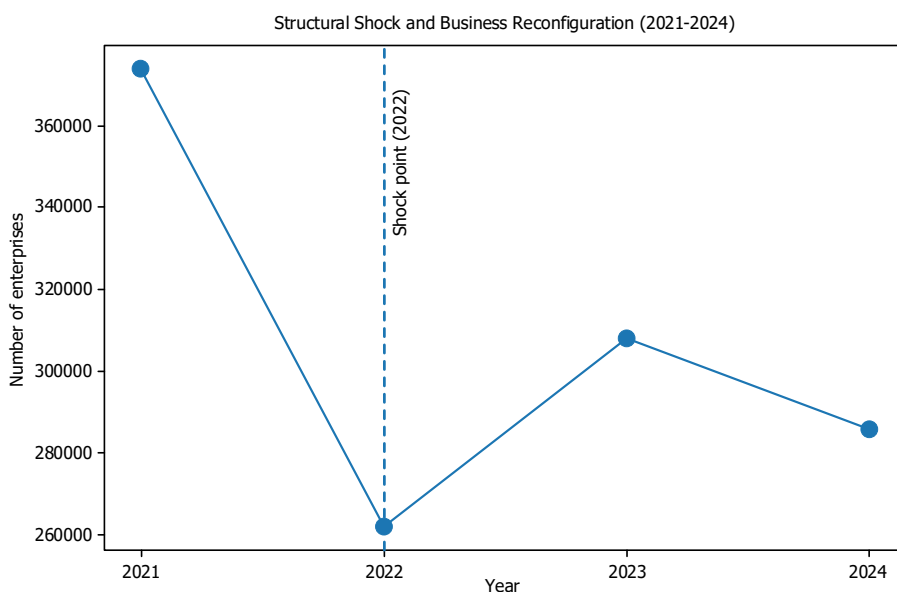
The development of a conceptual model of enterprise economic security based on resilience was carried out using the method of modeling and logical-analytical generalization of the results of empirical research. The proposed model interprets resilience as the integrative core of the economic security system, which synthesizes the mechanisms of risk management, adaptability, and stability and determines the logic of the functioning of key business security subsystems in conditions of prolonged and multi-level systemic shocks.

The empirical basis of the study is formed on the basis of official statistical data for 2021–2024, covering the pre-war period, the phase of systemic shock, and the stages of adaptive business restructuring in the context of full-scale war. Ukraine is considered an extreme case of prolonged systemic disruption, which allows us to identify universal mechanisms of resilience relevant to economies operating in conditions of geopolitical, institutional, or structural instability.

## RESULTS

The results of empirical analysis show that full-scale war has not become a short-term crisis episode for Ukrainian business, but a systemic structural shock that has led to a profound transformation of the entrepreneurial environment. An analysis of the dynamics of the number of enterprises in 2021–2024 shows a sharp decline in the entrepreneurial structure in 2022, followed by a partial recovery in 2023–2024 (Figure 1).

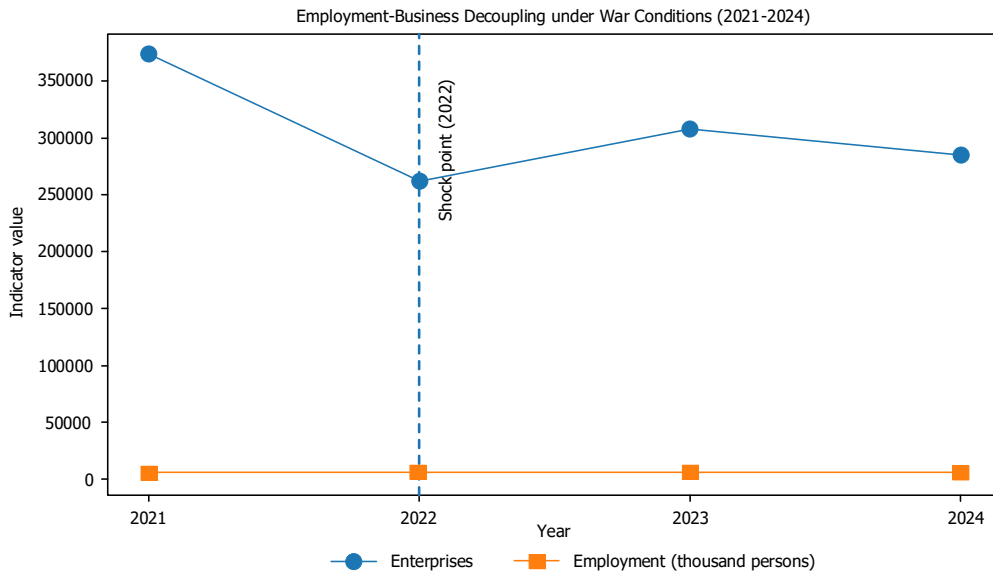
According to official statistics (Statistical Yearbook of Ukraine, 2024), in 2022, the total number of business entities decreased by more than 110,000 compared to 2021. At the same time, in the following years, a gradual recovery of entrepreneurial activity was observed, although the recovery trajectory does not imply a return to pre-war levels, which indicates not a mechanical recovery, but an adaptive restructuring of the business structure under the influence of new operating conditions. Thus, in 2024, compared to 2022, the total number of operating enterprises increased by almost 24,000 units, or 9%, although it remained significantly lower than the 2021 level. At the same time, industrial and construction enterprises showed the highest recovery rates, with growth of 12% and 10%, respectively.



**Figure 1. Structural Shock and Reconfiguration of Business Activity in Ukraine (2021–2024).** (Source: compiled by the authors based on official statistics)

Under such conditions, the absence of a return to the pre-war configuration of the business environment should not be interpreted as a failure of recovery. On the contrary, it indicates a resilience-driven transformation in which businesses adapt structurally to new operating conditions rather than recreating previous equilibrium states.

Further analysis of the activities of Ukrainian enterprises in wartime revealed the effect of the divergence of their business activity and employment trajectories (Figure 2).



**Figure 2. Decoupling between business recovery and employment dynamics.** (Source: compiled by the authors based on official statistics)

Despite a partial recovery in the number of enterprises after 2022, the number of employed persons continues to decline or recover at a much slower pace. In 2024, compared to 2022, the total number of employed persons decreased by 279,000 or 4.6%. The largest decline in human resources was experienced by enterprises in industry (9.9%), construction (11.6%), and finance (12.7%).

This situation confirms the existence of a human resource decoupling effect, whereby the preservation or restoration of enterprise activity is not accompanied by a corresponding increase in employment. Enterprises compensate for the shortage of labor resources by optimizing staffing levels, increasing labor productivity, and introducing flexible and remote forms of employment, which allows them to maintain operations under conditions of limited human resources. At the same time, this creates long-term risks to operational and financial stability associated with the depletion of human capital and an increased workload on key employees.

Analysis of the financial results of enterprises in relation to changes in the level of entrepreneurial activity and the dynamics of labor potential made it possible to identify the phenomenon of financial resilience of businesses.

Financial resilience manifests itself through a business's ability to adapt financial flows and restore profitability even in the presence of systemic constraints (Table 1).

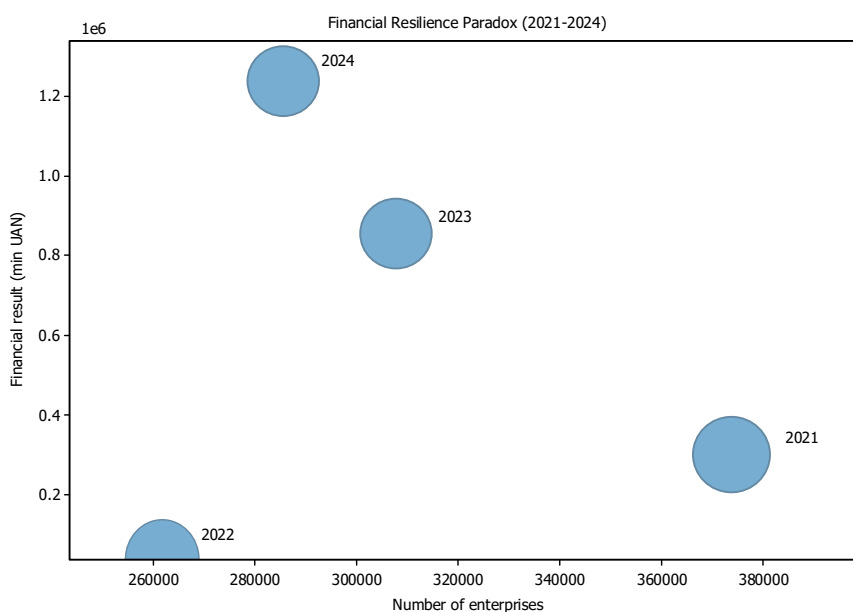
**Table 1. Financial resilience of enterprises by type of economic activity in 2021–2024.** (Source: compiled by the authors based on official statistics)

| Type of economic activity          | Financial result (balance), UAH million |           |          |             | Percentage of enterprises that incurred losses, % |      |      |      |
|------------------------------------|---|-----------|----------|-------------|---|------|------|------|
|                                    | 2021                                    | 2022      | 2023     | 2024        | 2021  | 2022 | 2023 | 2024 |
| Total                              | 303 219.3                               | 46 127.2  | 853619.3 | 1 238 188.0 | 28.6  | 33.9 | 28.9 | 28.1 |
| Agriculture                        | 82 230.6                                | 87 258.4  | 65353.0  | 169 113.8   | 17.3  | 21.5 | 21.6 | 16.0 |
| Industry                           | -22 289.6                               | -228844.3 | 105343.7 | 247 875.0   | 30.3  | 35.4 | 28.3 | 28.5 |
| Construction                       | -2 047.8                                | -17 584.5 | 3983.2   | 1 308.1     | 29.1  | 37.6 | 31.0 | 30.6 |
| Wholesale and retail trade         | 45 272.0                                | 50 349.4  | 177839.1 | 190 738.6   | 25.6  | 29.2 | 24.2 | 24.1 |
| Information and telecommunications | 16 961.1                                | 17 396.7  | 52625.6  | 51 081.2    | 28.9  | 35.9 | 31.3 | 31.9 |
| Financial and insurance activities | 196 913.0                               | 276 697.4 | 346957.6 | 489 872.2   | 32.7  | 40.6 | 33.1 | 30.5 |

According to official statistics (Statistical Yearbook of Ukraine, 2024), despite significant military challenges related to the loss of sales markets, disruption of logistics routes, and restrictions on export opportunities, Ukrainian companies managed to significantly improve their financial results in 2024. In particular, the aggregate financial result from all business areas increased more than 25 times compared to 2022. At the same time, during the war years, there has been a steady trend towards a decrease in the share of unprofitable enterprises, with this indicator in 2024 even lower than the pre-war level of 2021.

The highest growth rates in financial results compared to 2022 were recorded in trade, industry, and agriculture - 278%, 108%, and 94%, respectively. At the same time, the most significant reduction in the share of loss-making enterprises occurred in agriculture, finance, and industry - by 25.6%, 24.8%, and 19.5%, respectively.

The significant recovery of financial results in 2023–2024 (Table 1), which is happening at a faster pace than the recovery of entrepreneurial activity (Figure 1) and employment, indicates the formation of financial resilience, which is being achieved through the adaptation of business models, cost optimization, reorientation of sales markets, and increased efficiency in the use of resources (Figure 3).

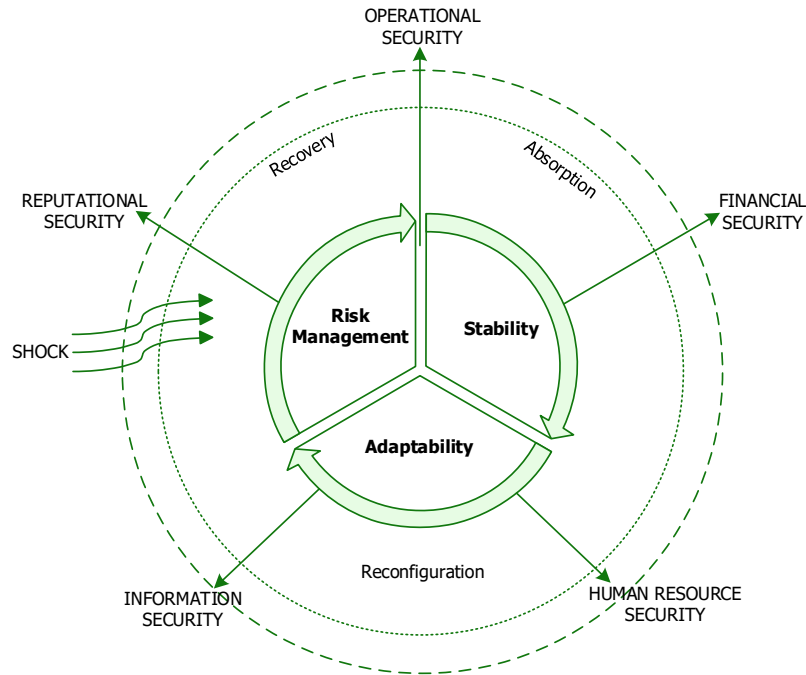


**Figure 3. Financial resilience paradox under systemic shock conditions.** (Source: compiled by the authors based on official statistics)

The decline in the share of loss-making enterprises in 2024 to a level below that seen before the war confirms that financial resilience is manifested not only in the recovery of absolute financial indicators but also in a reduction in the structural financial vulnerability of businesses. At the same time, these trends are asymmetrical in nature and are accompanied by the persistence of sectoral imbalances.

Thus, the empirical results obtained indicate that in the conditions of full-scale war, despite the shortage of labor resources and the narrowing of sales markets, Ukrainian enterprises were able to ensure the structural adaptation of business models, increase operational flexibility, and restore the financial performance of their activities. The paradox of a simultaneous reduction in the number of enterprises and the number of employees against the backdrop of growing financial indicators cannot be adequately explained within the framework of traditional recovery logic, which is based on a direct relationship between the scale of economic activity and financial results. Instead, from the perspective of a resilient approach, such dynamics appear to be the result of the interdependent and synergistic action of three key components: risk management, adaptability, and resilience, which are implemented through interrelated functional subsystems of economic security of the enterprise.

The generalization of the empirical results obtained formed the scientific basis for the development of a conceptual model of economic security of an enterprise based on resilience, capable of reflecting the nonlinear nature of business transformations and the specifics of its functioning in conditions of prolonged systemic and military turmoil (Figure 4).



**Figure 4. Conceptual model of economic security of an enterprise based on resilience.**

The proposed conceptual model is based on the interpretation of economic security as a multidimensional, dynamically balanced system, within which the decisive factor is the integrated ability of an enterprise to counteract systemic disturbances, adapt to unstable operating conditions, and ensure the continuity and stability of key business processes in the medium and long term.

The central element of the model is a resilient core that integrates three interrelated components: risk management, adaptability, and resilience. Risk management performs system-building and coordination functions, ensuring the identification and assessment of risks, as well as the formation of management decisions aimed at achieving a balance between the need for transformation and the preservation of the structural and functional integrity of the enterprise. Adaptability characterizes the enterprise's ability to flexibly restructure business processes, resource configuration, and management mechanisms in response to external shocks, ensuring its evolutionary development in conditions of uncertainty. Stability, in turn, reflects the enterprise's ability to maintain financial balance, operational reliability, and organizational coherence in the process of such changes, minimizing the risks of destabilization and loss of functional integrity. The synergistic interaction of these components forms a dynamic equilibrium in the functioning of the enterprise, which constitutes the methodological basis for ensuring economic security based on resilience.

Key functional components of economic security, represented as vectors, radiate outwards from the core of resilience. Financial security reflects an enterprise's ability to ensure liquidity, solvency, and financial flexibility in conditions of heightened uncertainty. Operational security characterizes the continuity and reliability of key production and management processes, including within supply chains. Human resource security ensures the stability of human resource potential, the preservation of critical competencies, and the ability of personnel to adapt in conditions of transformational change. Information security characterizes the level of protection of data, digital systems, and information resources used to support management processes and decision-making. Reputational security characterizes the ability of an enterprise to maintain and strengthen stakeholder trust in crisis conditions, particularly during economic turmoil, military threats, or negative information influence.

The relative length of vectors in the model reflects the differentiated contribution of each component of economic security to the overall level of business resilience. This interpretation allows the model to be adapted to industry specifics and individual characteristics of the enterprise, identifying structural imbalances and areas of increased vulnerability in its activities.

A distinctive feature of the proposed conceptual model is its dynamic nature. Resilience is interpreted not as a fixed level of protection, but as a continuous management activity that encompasses the stages of absorbing shock impacts, restoring functioning, and strategically reconfiguring the business model. These stages are directly causally related, but differ in terms of time horizon and depth of management changes.

Shock absorption reflects the initial reactive phase of resilience, aimed at preserving the integrity of the core of the enterprise's operations by mobilizing reserves, risk management tools, and stabilizing key processes. Recovery logically continues this phase and consists of a gradual return to an acceptable level of operational, financial, and organizational stability without radically transforming the business model. Strategic reconfiguration, on the other hand, reflects a higher level of resilience and involves a targeted change in the business architecture, revenue structure, resource base, and risk profile of the enterprise. Thus, reconfiguration is not a direct continuation of recovery, but rather a qualitatively new stage of adaptation that shifts the system from a reactive mode to a proactive mode of development.

The spatial arrangement of the elements of the economic security model based on resilience reflects the level of interaction between the enterprise and the external environment and the nature of management decisions. In particular, shock effects are exogenous in origin, formed beyond the control of the economic entity and imposed on it from outside, so they are localized outside the outer contour of the model.

The stages of shock absorption and restoration of functioning are located within the inner radius of the model, reflecting their reactive nature and direct focus on neutralizing the destabilizing effects of external disturbances. They are based primarily on tactical management decisions aimed at preserving operational capacity, stabilizing financial flows, and maintaining the minimum necessary level of enterprise functioning.

In contrast, strategic reconfiguration of the business model is interpreted as an endogenous management impulse initiated by the enterprise itself in response to changing operating conditions. Its spatial separation on the outer radius of the model emphasizes the proactive nature of the relevant decisions, aimed not only at overcoming the consequences of crisis impacts but also at forming a new development trajectory, reviewing resource configuration, market strategies, and organizational mechanisms.

Thus, the structure of the model provides a clear picture of the relationship between the stabilization and transformation responses of an enterprise in conditions of prolonged systemic disturbances, while revealing the mechanisms for forming and maintaining its economic security.

## DISCUSSION

The results obtained allow us to rethink traditional ideas about the economic security of enterprises in conditions of prolonged systemic shocks. The structural decline in entrepreneurial activity in 2022, identified in the study, followed by a partial recovery without a return to pre-war parameters, confirms that war is not a temporary crisis factor, but a trigger for long-term structural transformation of the business environment based on resilience.

Most of the concepts of resilience presented in the works of Holling (1973), Martin (2012), and Bristow and Healy (2014), despite their emphasis on the adaptation and flexibility of economic systems, are focused on restoring their functioning within the previous structural configuration (bounce back). However, the results of this study show that in conditions of prolonged systemic shocks, such logic is insufficient, since adaptation is achieved not through a return to previous parameters, but through their transformation.

Thus, resilience within the author's approach is interpreted as the ability of an economic system to maintain viability through the decoupling of interrelated indicators and constant structural reconfiguration. In this context, the economic security of an enterprise based on resilience is not a static state of protection, but a dynamic process of adaptation that explains the empirical paradoxes that classical approaches find methodologically limited.

The identified decoupling between business recovery and employment dynamics directly contradicts the linear assumptions of classical economic theory. Such processes are partly explained within the theory of creative destruction (Schumpeter, 1942), as well as in studies of structural shifts in the market in the works of Acemoglu and Autor (2011). At the same time, these approaches do not integrate these phenomena into the context of economic security, which limits their scientific potential in situations of prolonged crises. Instead, the results of this study show that the reduction in employment in a war economy is not a sign of business degradation, but a consequence of purposeful adaptation through the optimization of the internal structure of the enterprise.

The phenomenon of financial resilience deserves special attention in the discussion. In classical studies of economic security, positive financial dynamics against the backdrop of a reduction in the number of economic entities are often interpreted as an anomaly or a short-term effect of external factors (Heiets, 2014; Lutsyk, 2023). The approach proposed in the article allows us to rethink these dynamics as a result of internal business selection and concentration of resources in more efficient enterprises. This interpretation is consistent with the resource-based theory of the firm and the concept of

dynamic capabilities (Teece et al., 1997), while expanding them by shifting the focus from enterprise management to the level of ensuring its economic security.

Thus, the results obtained expand the international scientific discourse on both business resilience and economic security. Unlike traditional approaches, which interpret resilience as the ability of an economic system to quickly return to its pre-crisis state, the Ukrainian case demonstrates that in conditions of prolonged war, resilience manifests itself in the functional recovery of enterprises through their structural restructuring and decoupling between business dynamics and employment. This makes resilience a key factor in ensuring the economic security of businesses in conditions of permanent crisis.

## CONCLUSIONS

The article substantiates the expediency of rethinking the essence of economic security of an enterprise in conditions of prolonged systemic shocks based on a resilient approach. The results confirm that classical protective and risk-oriented models of economic security are conceptually limited in explaining structural and functional transformations of business in wartime and post-crisis periods.

The theoretical contribution of the study lies in the formation of the concept of economic security of an enterprise based on resilience, within which security is considered not as a static protective contour, but as a dynamic system for ensuring business viability. Resilience is defined as an integral dominant factor of economic security, combining risk management, adaptability, and stability into a single resilient core. The developed conceptual model of economic security based on resilience allows explaining the nonlinear and paradoxical processes of Ukraine's business functioning in wartime, in particular, the restoration of economic activity without returning to the pre-war entrepreneurial structure and without proportional restoration of employment.

Empirical research results show that full-scale war caused a systemic structural shock to Ukrainian business, the effects of which will persist in the medium term. It has been found that the partial recovery in the number of enterprises in 2023–2024 will not be accompanied by a return to pre-war levels, confirming the adaptive rather than restorative nature of the transformations. A decoupling effect between business dynamics and employment has been observed, as well as a phenomenon of financial resilience, whereby financial results improve against a backdrop of declining entrepreneurial activity and labor potential. These results expand empirical understanding of how businesses function in conditions of chronic instability.

The practical significance of the study lies in the possibility of using a resilient approach in the formation of economic security systems for enterprises, corporate governance strategies, and post-war recovery programs. The proposed conceptual model of economic security based on resilience can be used by enterprise management to reorient security systems from a predominantly defensive logic to a logic of maintaining viability, adaptive restructuring of business processes, and preserving financial stability. For government authorities, the results of the study can serve as an analytical basis for developing business support policies aimed not only at quantitative recovery of entrepreneurship but also at increasing its resilience in conditions of prolonged risks.

A resilience-oriented model of economic security can be applied to economies operating in conditions of prolonged geopolitical tensions, post-conflict reconstruction, or chronic institutional instability. In this sense, resilience should be viewed not only as a tool for recovery but as a strategic principle for managing business viability in an environment of long-term disruption.

The further steps of research may be aimed at developing quantitative indicators of the economic security resilience of enterprises, analyzing industry differences in adaptive strategies, and empirically testing the proposed model at the micro level using data from individual enterprises.

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## ADDITIONAL INFORMATION

### AUTHOR CONTRIBUTIONS

*All authors have contributed equally.*

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## CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

## REFERENCES

1. Acemoglu, D., & Autor, D. (2011). Skills, tasks, and technologies: Implications for employment and earnings. *Handbook of Labor Economics*, 4(B), 1043–1171. [https://doi.org/10.1016/S0169-7218\(11\)02410-5](https://doi.org/10.1016/S0169-7218(11)02410-5)
2. Bristow, G., & Healy, A. (2014). Regional resilience: An agency perspective. *Regional Studies*, 48(5), 923–935. <https://doi.org/10.1080/00343404.2013.854879>
3. Cherevatskyi, D. Yu. (2023). Economic resilience and the economy of resilience. *Economika Promyslovosti*, 1(101), 31–39. <https://doi.org/10.15407/econindustry2023.01.031>
4. Daadmehr, E. (2024). Workplace sustainability or financial resilience? Composite financial resilience index. *Risk Management*, 26, 7. <https://doi.org/10.1057/s41283-023-00139-9>
5. Diem, C., Borsos, A., Reisch, T., et al. (2022). Quantifying firm-level economic systemic risk from nation-wide supply networks. *Scientific Reports*, 12, 7719. <https://doi.org/10.1038/s41598-022-11522-z>
6. Dligach, A., & Stavtyskyi, A. (2024). Resilience factors of Ukrainian micro, small, and medium-sized businesses. *Economies*, 12(12), 319. <https://doi.org/10.3390/economies12120319>
7. Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research*, 13, 215–246. <https://doi.org/10.1007/s40685-019-0085-7>
8. Du, H., Chen, X., Zhao, Y., Li, Q., Zhuang, F., Ren, F., & Kou, G. (2025). A comprehensive survey on enterprise financial risk analysis from big data perspective. *arXiv preprint*. URL: <https://arxiv.org/pdf/2211.14997>
9. Heiets, V. M. (2014). Institutional determinants of innovation processes in the industrial development of Ukraine. *Economy of Ukraine*, 12, 4–19. URL: [http://www.irbis-nbuv.gov.ua/cgi-bin/irbis\\_nbuv/cgiirbis\\_64.exe?I21DBN=LINK&P21DBN=UJRN&Z21ID=&S21REF=10&S21CNR=20&S21STN=1&S21FMT=ASP\\_meta&C21COM=S&2\\_S21P03=FILE=&2\\_S21STR=EkUk\\_2014\\_12\\_2](http://www.irbis-nbuv.gov.ua/cgi-bin/irbis_nbuv/cgiirbis_64.exe?I21DBN=LINK&P21DBN=UJRN&Z21ID=&S21REF=10&S21CNR=20&S21STN=1&S21FMT=ASP_meta&C21COM=S&2_S21P03=FILE=&2_S21STR=EkUk_2014_12_2)
10. Hnylytska, L., Franchuk, V., Melnyk, S., Nakonechna, N., & Leskiv, H. (2022). Security-oriented model of business risk assessment. *Financial and Credit Activity: Problems of Theory and Practice*, 4(45), 202–210. <https://doi.org/10.55643/fcaptop.4.45.2022.3838>
11. Hokmabadi, H., Rezvani, S. M. H. S., & de Matos, C. A. (2024). Business resilience for small and medium enterprises and startups by digital transformation and the role of marketing capabilities: A systematic review. *Systems*, 12(6), 220. <https://doi.org/10.3390/systems12060220>
12. Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics*, 4, 1–23. <https://doi.org/10.1146/annurev.es.04.110173.000245>
13. Kalashnikova, E., Tatarovskaya, T., & Tselniker, G. (2019). Risk-oriented approach in the system of enterprise economic security. In V. Mantulenko (Ed.), *Global Challenges and Prospects of the Modern Economic Development* (Vol. 57, 677–687). European Proceedings of Social and Behavioural Sciences. <https://doi.org/10.15405/epsbs.2019.03.67>
14. Kalyniuk, V. Ye. (2023). A conceptual approach to the adaptation of enterprise economic security. *Problems of the Economy*, 3(57), 187–194. <https://doi.org/10.32983/2222-0712-2023-3-187-194>
15. Kharlamova, G., Shchur, D., & Humenna, O. (2025). S+ESG as a new dimension of resilience: Security at the core of sustainable business development. *Sustainability*, 17(18), 8425. <https://doi.org/10.3390/su17188425>
16. Komysheva, A., Rothe, H., & Wessel, L. (2025). Entrepreneurial digital resilience in war: Lessons from Ukrainian SMEs. In *Proceedings of the 59th Hawaii International Conference on System Sciences (HICSS)*. <https://hdl.handle.net/10125/112098>
17. Kovalchuk, A. M. (2020). Financial and economic security of an enterprise in the context of adaptation to the challenges of the digital environment. *Economic Bulletin*, 3, 152–159. <https://doi.org/10.33271/ebdut/71.152>
18. Lengnick-Hall, C. A., Beck, T. E., & Lengnick-Hall, M. L. (2011). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*, 21(3), 243–255. <https://doi.org/10.1016/j.hrmr.2010.07.001>
19. Lutsyk, Yu. (2023). Economic security in the context of global challenges and threats. *Tavriyskiy Scientific Bulletin. Series: Economics*, 15, 74–83. <https://doi.org/10.32782/2708-0366/2023.15.9>
20. Maalouf, J., Miklian, J., & Hoelscher, K. (2025). Business survival strategies in a polycrisis: SME experiences from Beirut, Lebanon. *Business Horizons*, 68, 461–477. <https://doi.org/10.1016/j.bushor.2025.03.002>
21. Martin, R. (2012). Regional economic resilience, hysteresis and recessionary shocks. *Journal of Economic Geography*, 12(1), 1–32. <https://doi.org/10.1093/jeg/lbr019>
22. Martin, R., & Sunley, P. (2015). On the notion of regional economic resilience: Conceptualization and explanation. *Journal of Economic Geography*, 15(1), 1–42. <https://doi.org/10.1093/jeg/lbu015>
23. Mitansha, M., & Potangaroa, R. (2025). Investigating the connection between individual resilience and organizational resilience. *Systems*, 13(10), 907. <https://doi.org/10.3390/systems13100907>
24. Nazarenko, I. M., Volynets, L. M., Horobinska, I. V., & Lushchai, Yu. M. (2025). Formation of an adaptive model of entrepreneurial risk management in the system of anti-crisis

- management. *Technology Audit and Production Reserves*, 5(4(85)), 6–12. <https://doi.org/10.15587/2706-5448.2025.339131>
25. Plysa, V., Tsiupka, A., & Muntian, B. (2025). Financial stability as a prerequisite for the economic security of an enterprise in the context of post-war economic recovery. *Sustainable Development of the Economy*, 3(54), 81–86. <https://doi.org/10.32782/2308-1988/2025-54-12>
  26. Prokhorova, V., Krutova, A., & Diachenko, K. (2022). Economic security of Ukrainian enterprises under conditions of destabilizing development. *Adaptive Management: Theory and Practice. Series: Economics*, 14(28). [https://doi.org/10.33296/2707-0654-14\(28\)-10](https://doi.org/10.33296/2707-0654-14(28)-10)
  27. Schumpeter, J. A. (1942). *Capitalism, socialism and democracy*. Harper & Row.
  28. State Statistics Service of Ukraine. (2024). *State Statistical Yearbook of Ukraine 2024*. URL: <https://www.ukr-stat.gov.ua>
  29. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SM1882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SM1882>3.0.CO;2-Z)
  30. Von der Assen, J., Franco, M., Dong, M., & Stiller, B. (2024). QuantTM: Business-centric threat quantification for risk management and cyber resilience. *arXiv preprint*. URL: <https://arxiv.org/pdf/2402.14140>
  31. Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733–769. <https://doi.org/10.5465/annals.2015.0134>

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## ЕКОНОМІЧНА БЕЗПЕКА БІЗНЕСУ КРІЗЬ ПРИЗМУ РЕЗИЛЬЄНТНОСТІ В УМОВАХ ВІЙНИ ТА ПІСЛЯВОЄННОГО ВІДНОВЛЕННЯ: ДОСВІД УКРАЇНИ

У роботі досліджено трансформацію підходів до забезпечення економічної безпеки підприємств в умовах тривалих системних, воєнних і посткризових викликів. Обґрунтовано, що традиційні ризик-орієнтовані та адаптивні моделі економічної безпеки є концептуально обмеженими для пояснення нелінійних, асиметричних і структурно зумовлених процесів функціонування бізнесу в середовищі хронічної невизначеності.

Метою дослідження є теоретичне обґрунтування резильєнтного підходу як домінуючої концептуальної основи економічної безпеки підприємства та розроблення структурно-логічної моделі, що інтегрує ризик-менеджмент, адаптивність і стійкість у межах єдиної системи управління життєздатністю бізнесу.

Методологічну основу дослідження становлять системний і структурно-функціональний підходи, методи трендового та структурного аналізу, а також концептуальне моделювання. Емпіричну базу сформовано на основі офіційних статистичних даних за 2021–2024 роки, що охоплюють довоєнний період, фазу системного шоку та етапи адаптивної перебудови бізнесу в умовах повномасштабної війни. Україну розглянуто як екстремальний випадок тривалого системного збурення, що дозволяє ідентифікувати універсальні механізми резильєнтності, релевантні для економік, які стикаються з геополітичними, інституційними або структурними кризами.

За результатами дослідження ідентифіковано феномени структурної перебудови бізнесу без повернення до довоєнної конфігурації, декуплінгу між динамікою підприємницької активності й зайнятістю, а також фінансової резильєнтності, що проявляється в зростанні агрегованих фінансових результатів на тлі скорочення підприємницької активності та кадрового потенціалу. На цій основі запропоновано концептуальну модель економічної безпеки підприємства, у якій резильєнтність постає як інтегративне ядро, що визначає стійкість, адаптивність і трансформаційний потенціал бізнесу в умовах тривалих шоків.

Наукова новизна дослідження полягає в переосмисленні резильєнтності не як допоміжної характеристики, а як домінуючого принципу організації системи економічної безпеки підприємства, що розширює теоретичні уявлення про безпеку бізнесу в умовах хронічної невизначеності й створює практичні передумови для формування резильєнтно орієнтованих стратегій безперервності діяльності.

**Ключові слова:** резильєнтність, економічна безпека, фінансова стійкість, стратегічна стійкість, воєнні виклики, відновлення після кризи, безперервність бізнесу, фінансові результати, людський капітал, кадровий потенціал, управління ризиками, адаптивність

**JEL Класифікація:** G32, D81, H56, O16, L25