

ECONOMIC SECURITY OF ENTERPRISES: A BIBLIOMETRIC ANALYSIS

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Abstract. This study examines the economic security of business entities by conducting a systematic bibliometric analysis of academic research indexed in the Scopus database. Due to digital transformation, growing technological dependence, market volatility and heightened exposure to economic and information-related risks, economic security at the enterprise level has become an increasingly important research topic. In this context, economic security is understood to encompass not only financial stability, but also broader organisational capabilities such as information protection, risk management, resilience, and innovation-driven adaptation. The study focuses on the body of academic research devoted to the economic security of business entities. This article aims to identify the intellectual structure of this research field and its dominant thematic areas and geographical patterns of scholarly contributions. It also seeks to determine underexplored research directions relevant to contemporary enterprise security challenges. To this end, a bibliometric research design was employed. The analysis is based on a final dataset of 87 publications from 2004 to 2025. Bibliometric techniques were employed via VOSviewer and the Bibliometrix (Biblioshiny) package to analyse co-citation networks, keyword co-occurrence and thematic clusters. The results reveal a multidimensional research landscape centred on information security, risk management, financial stability and technological innovation. The findings suggest an increasing focus on resilience-oriented and integrative security frameworks, reflecting a shift away from narrowly defined protective approaches towards more comprehensive organisational models of economic security. The analysis also reveals a geographically diverse research landscape, with notable scholarly contributions emerging from Eastern Europe, East Asia, and developed economies. These patterns reflect region-specific economic, institutional and security challenges that influence research priorities and methodological approaches. At the same time, however, the bibliometric evidence highlights persistent gaps relating to crisis resilience, the governance of information security, and the integration of emerging digital technologies at enterprise level. Based on the results obtained, the study concludes that research on the economic security of business entities is still fragmented and interdisciplinary, and requires stronger integration of strategic and technological perspectives. By providing a structured overview of existing literature, the study clarifies enterprise-level economic security research and suggests directions for future academic enquiry and managerial practice.

Keywords: economic security, business entities, bibliometric analysis, risk management, resilience.

JEL Classification: L20, O33, D24

1. Introduction

In the face of accelerating technological change, volatile markets, regulatory shifts and geopolitical uncertainty, ensuring economic security at the enterprise level has become a central management

challenge. Businesses are increasingly dependent on digital infrastructures and data-driven processes, while simultaneously facing intensified risks related to cyber threats, supply chain disruptions, financial instability and institutional turbulence. In this context,

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economic security is not just about protecting financial performance; it also involves an organisation's ability to maintain stability, competitiveness and operations through coordinated managerial, organisational, legal and technological measures (Tsenkov et al., 2019; Varnalii & Mekhed, 2022; Zadorozhnyy et al., 2023).

This growing body of research reflects the multidimensional nature of the subject, covering areas such as information security and governance (Chaudhry et al., 2013; Graham et al., 2021; Von Faber, 2009), risk management and resilience frameworks (Marquez-Tejon et al., 2022; Grov et al., 2019), financial security diagnostics and strategy (Dokiienko, 2021; Burkhanov & Tursunov, 2020), and innovation-driven approaches to strengthening enterprise security (Ianioglo & Polajeva, 2017a; Mishchuk et al., 2021). However, despite the rapid growth in the number of publications, the literature remains fragmented across disciplinary and thematic domains. Existing studies are often conceptual, sector-specific or based on individual cases, which makes it difficult to identify the field's intellectual structure, its main areas of research and its emerging trends in a systematic and comparable manner.

To address this gap, this article takes a bibliometric approach to mapping research on the economic security of business entities, providing a data-driven synthesis of the field's development. Such methods allow for the objective identification of influential publications, leading authors, thematic clusters and collaboration structures by analysing publication patterns, citation networks and keyword co-occurrence. Compared to traditional narrative reviews, this approach facilitates the identification of knowledge gaps and research trajectories that could remain hidden in qualitative syntheses.

The purpose of this study is therefore to provide a comprehensive analysis of research into the economic security of business entities, and to identify promising areas for further inquiry. The study addresses the following research questions: (i) Which scientific publications have shaped the discourse on enterprise economic security? (ii) Who are the leading scholars contributing to this research area? (iii) Which countries are the most productive in terms of studying enterprise economic security? (iv) What thematic categories and topics dominate the literature? (v) Which publications have the greatest citation impact? By answering these questions, the study provides: (1) a structured overview of the field's intellectual foundations and influential works; (2) evidence of geographical patterns of research productivity and collaboration potential; and (3) identification of thematic clusters and emerging research frontiers, including technology-driven and resilience-oriented security perspectives.

The remainder of the paper is organised as follows: Section 2 outlines the methodology for searching for, selecting and analysing the literature. Section 3 reports the bibliometric results, including the most prominent publications, authors, countries, thematic categories and keyword patterns. Section 4 discusses the findings and their implications. Section 5 concludes the study, acknowledges limitations and suggests avenues for future research.

2. Literature Review

Scholars are increasingly recognising that business continuity and competitiveness depend on the ability to anticipate, withstand and adapt to multiple threat categories, and research on enterprise economic security has evolved accordingly. Foundational contributions emphasise the protection of business processes as a prerequisite for organisational survival (Yan, 2008; Bhattacharjee et al., 2018; Harrer & Wald, 2016), whereas organisational design perspectives highlight the importance of flexible tools and repeatable processes that support timely responses to operational and environmental risks (Geffert & Saif, 2005). These insights present economic security as a multi-layered concept that encompasses managerial capabilities, operational safeguards and strategic preparedness.

Contemporary literature identifies four interconnected dimensions that characterise enterprise economic security research: information security governance; innovation and technology-driven transformation; financial security; and risk management with a focus on resilience. While maintaining conceptual links to broader security concerns, each dimension has developed its own distinct conceptual apparatus and methodological approaches.

Information security is a prominent area of research, particularly as digitalisation increases vulnerability to cyber threats. Approaches oriented towards governance emphasise the development of security policies, awareness programmes, access control mechanisms and management support (Chaudhry et al., 2013; Tsenkov et al., 2019; Yağci et al., 2020). Holistic security architectures integrate technical measures with organisational structures and international standards (Graham et al., 2021; Von Faber, 2009), while investment decision frameworks address the challenges posed by increasing informatisation (Li, 2021; Wang et al., 2023). There is an increasing emphasis among scholars that security considerations must be embedded across organisational activities rather than being treated as purely technical functions (Larno et al., 2019; Du, 2021; Kim & Kim, 2021). Managerial approaches advocate security methodologies that are aligned with strategic goals (Bustamante et al., 2017), adaptive architectures that support value creation (Kim & Leem, 2005) and the

integration of supply chain reliability requirements (San Martín et al., 2022; P. N., 2021).

Innovation and technology-driven transformation are emerging as pathways to enhanced security. Ianioglo and Polajeva (2017a, 2017b) conceptualise economic security as the alignment of the current state of an enterprise with the parameters of its future environment. They propose a comprehensive system structured around planning, environmental monitoring, threat response and continuous improvement. Recent studies have linked the management of innovation potential to financial and economic security (Yakushev et al., 2023; Ciekankowski & Wyrębek, 2020), while advanced analytics, including artificial neural networks, have been shown to support the forecasting of resource security (Pankova et al., 2023). The implementation of modern management technologies helps to neutralise risk and ensure stable functioning (Kryvdyk et al., 2023).

Financial security reflects enterprises' exposure to systemic risks and market volatility. Research in this area addresses the financial threats generated by rapid environmental changes (Varnalii & Mekhed, 2022), diagnostic approaches that enable current management and strategic forecasting (Dokiienko, 2021), and business process optimisation that improves security management systems (Pronoza et al., 2022). Financial security assessments consider both internal and external threats (Burkhanov & Tursunov, 2020; Zadorozhnyy et al., 2023), whereas the determination of an optimal financing structure supports economic security objectives (Zlotenko et al., 2019).

Risk management and resilience are integrative frameworks that connect technical safeguards, strategic governance and enterprise viability. Enterprise risk management supports a holistic approach to risk governance, thereby contributing to organisational resilience (Marquez-Tejon et al., 2022). Meanwhile, security modelling within enterprise architecture addresses protection targets and provides automated analytical support (Groß et al., 2019). At a strategic level, conceptualisations position security as affecting

all organisational processes and as being inseparable from governance structures (Cusack, 2008; Nabi et al., 2013). Broader frameworks encompass crisis management, environmental security, supply chain security and cross-domain integration (Talbot & Jakeman, 2009; Markova, 2022).

Building on this review, research into enterprise economic security demonstrates conceptual richness, but remains dispersed across the fields of information security, financial security, innovation-driven transformation and resilience-oriented risk governance. This fragmentation makes it difficult to identify dominant research streams, influential works and emerging themes through narrative synthesis alone. Therefore, a bibliometric approach is appropriate for systematically mapping the field's intellectual structure, quantifying thematic prominence and comparing research profiles across countries and institutions. The following section outlines the data source, search strategy, selection criteria and analytical tools used to provide an objective and replicable overview of scholarship on enterprise economic security.

3. Methodology

The search strategy was developed through a systematic, multi-stage refinement process. This process was designed to capture the multidimensional nature of enterprise economic security, all the while maintaining analytical precision (Table 1). The search methodology was structured based on approaches presented in previous studies (e.g., Salas-Navarro et al., 2022; Ivanova & Shkrobot, 2023).

A search was conducted in the Scopus database, yielding an initial set of 6,899 documents. Scopus was chosen as the main data source because of its extensive coverage of peer-reviewed literature, its rigorous indexing standards and its high-quality metadata, which are superior to those of alternative databases. The platform's advanced search capabilities and extensive bibliometric data enabled the detailed analysis required for this study.

Table 1

List of keywords used for the search

Groups	Search for items
Economic and Business Security	"Economic Security" OR "Financial Security" OR "Enterprise Security" OR "Business Security" OR "Corporate Security"
Organisational Context	"Enterprise*" OR "Business entit*" OR "Firm*" OR "Company" OR "Companies" OR "Corporation*"
Information Security with Business Context	("Information Security" OR "Cybersecurity" OR "Cyber Security") AND ("Economic" OR "Financial" OR "Business")
Searched Equation	TITLE-ABS-KEY ("Economic Security" OR "Financial Security" OR "Enterprise Security" OR "Business Security" OR "Corporate Security") AND ("Enterprise*" OR "Business entit*" OR "Firm*" OR "Company" OR "Companies" OR "Corporation*") OR TITLE-ABS-KEY (("Information Security" OR "Cybersecurity" OR "Cyber Security") AND ("Economic" OR "Financial" OR "Business") AND ("Enterprise*" OR "Firm*" OR "Company" OR "Companies"))

Source: authors' own research

In order to refine this initial dataset and ensure its relevance to the research objectives of the study, a systematic, seven-stage filtering process was implemented. Each filter was applied sequentially, with explicit selection criteria established in advance to minimise subjective bias. The filtering process is detailed below:

The first filter limited the articles to those published between 2004 and 2025. This resulted in 6,551 documents being included, with 338 being excluded.

The next step was to restrict the subject areas. The following subject areas were selected for the study: social sciences, decision sciences, business, management and accounting, and economics, econometrics and finance. This resulted in 3,353 documents being included, while 3,198 were excluded.

The third filter only selected the following types of publication: Conference papers, articles, book chapters and books. This left 3,151 documents (202 were excluded).

The next filter was to remove research involving the Russian Federation due to Russia's war against Ukraine. This exclusion was applied to avoid any ethical or institutional concerns relating to the validity of the data or the research context during the ongoing conflict. This resulted in the exclusion of 236 documents, resulting in a total of 2,915 documents.

The sixth filter excluded documents published in languages other than English. This resulted in the exclusion of 109 documents, leaving 2,806.

The final and most substantial filter involved a systematic assessment of relevance, conducted through the manual screening of titles and abstracts, followed by a full-text examination. This stage ensured thematic alignment with the study's specific focus. Two independent reviewers (the authors) conducted the screening, applying pre-defined inclusion and exclusion criteria. Documents were included if they explicitly addressed one or more of the following: (a) economic, financial or information security as a strategic or managerial concern at enterprise level; (b) risk management or resilience frameworks directly linked to organisational security; (c) governance structures or policies designed to address security vulnerabilities; (d) technological systems or investments motivated by security concerns with organisational implications. Documents were excluded if they: (a) focused solely on national economic security without enterprise-level analysis; (b) addressed cybersecurity from a purely technical perspective, ignoring managerial dimensions; (c) discussed risk management that was not related to security or stability; (d) presented narrow case studies that did not offer any generalisable insights. During the initial independent screening of titles and abstracts, inter-reviewer agreement stood at 91%. Discrepancies were

resolved through joint discussion and a full review of the texts, with consensus being reached. After full-text examination, an additional 48 documents initially flagged as potentially relevant were excluded due to insufficient engagement with enterprise-level economic security concepts.

This rigorous process resulted in a final corpus of 87 documents, representing a reduction of around 97%. Nevertheless, the resulting sample exhibits sufficient diversity in terms of methodological approaches, geographical contexts and thematic emphases to enable a robust bibliometric analysis.

A triangulated bibliometric approach was used to analyse the selected documents. Microsoft Excel was used for descriptive statistics and data organisation, while VOSviewer and the Bibliometrix R package were employed for network visualisation, thematic evolution analysis, collaboration analysis and trend identification. Using this combination of tools enhances the robustness of the analysis.

4. Results

This section presents the results of the bibliometric analysis of enterprise economic security research, including publication outlets, authorship patterns, geographical distribution, thematic structures and citation impact.

4.1 Journals

Table 2 summarises the journals that have published the most research on the economic security of business entities. The five leading outlets account for 16 of the publications analysed, representing 18.4% of the total.

Table 2 indicates a certain degree of consolidation in the publication landscape, with some outlets establishing themselves as the preferred venues for economic security research. The diversity of journals indicates that economic security research benefits from regional expertise and global scholarly infrastructure. Convergence in subject categories indicates that economic security scholarship is increasingly operating at the intersection of traditional business disciplines and technological domains. Integrating these perspectives reflects the fact that enterprise security cannot be adequately addressed by financial or managerial approaches alone, but requires a comprehensive socio-technical framework.

4.2 Authors

Table 3 presents the most productive authors contributing to research on enterprise economic security.

With a maximum of three publications per author, there is an indication of an absence of consolidated long-term research leaders or stable research groups within the field.

The differences between total and first-author publications reflect the structures of collaborative

Table 2

Top 5 journals that have published the majority of research on economic security of business entities

Journal	Publisher, Country	N ^o of Publ	CiteScore 2024	SJR 2024	SNIP 2024
Financial and Credit Activity: Problems of Theory and Practice	Fintech Alliance LLC, Ukraine	6	1.5	0.201	0.632
Lecture Notes in Business Information Processing	Springer Nature, Germany	4	2.1	0.262	0.517
Agris On-line Papers in Economics and Informatics	Faculty of Economics and Management CULS Prague, Czech Republic	2	2.2	0.229	0.362
Eastern-European Journal of Enterprise Technologies	Technology Center, Ukraine	2	2.4	0.274	0.597
Information and Computer Security	Emerald Publishing, United Kingdom	2	5.2	0.485	1.063

Source: authors' own research

Table 3

Top 8 most productive authors who have contributed to research on enterprise economic security

Name of Author	Country of Author	Number of Publication	Number of Publications as the First Author
Zwolak, J.	Poland	3	3
Ianioglo, A.	Moldova	2	2
Kim, S.	South Korea	2	2
Leem, C.S.	South Korea	2	2
Mishchuk, I.	Ukraine	2	2
Havlovska, N.	Ukraine	2	0
Polajeva, T.	Estonia	2	0
Rudnichenko, Y.	Ukraine	2	0

Source: authors' research

research, in which several contributors primarily participate as co-authors rather than as principal investigators.

Figure 1 shows the publication timelines of the ten most productive authors and reveals patterns of continuous versus intermittent contributions.

Figure 1 shows that the most prolific authors tend to publish in bursts rather than continuously. Of these authors, Zwolak (Poland) shows the most consistent productivity, with publications spanning from 2018 to 2023. The increased activity of Ukrainian scholars in recent years likely reflects heightened security concerns amid geopolitical instability, whereas the contributions of South Korean scholars may be driven by advanced technological infrastructure and consequent cybersecurity challenges.

4.3 Countries, Institutions

Figure 2 shows the number of publications by country.

The United States and Ukraine are the most productive contributors, followed by China. These patterns reflect different research motivations, such as technological innovation in developed economies and crisis resilience in conflict-affected or transitional contexts.

Figure 3 shows the relationships between countries and the 2023 Sustainable Development Goals.

Figure 3 shows that enterprise economic security research is strongly aligned with SDGs 9, 8 and 16. This highlights the importance of innovation, economic stability and governance in creating secure business environments.

Figure 4 shows the universities with the largest number of articles.

Figure 4 shows that institutional analysis reveals a dispersed research structure, with no single institution dominating publication output.

4.4 Analysis of Subject Categories

SciVal Topics were used to identify the dominant conceptual domains within enterprise economic security research, as well as examining their geographical distribution (see Figure 5).

Cross-national topic overlap highlights shared research priorities and indicates the potential for international collaboration, particularly in the field of cybersecurity. The growing prominence of topics related to artificial intelligence and digital transformation reflects the field's responsiveness to technological change, as well as the increasing recognition of technology-driven security challenges.



Figure 1. Top-10 most productive authors*

Source: created by the authors using Biblioshiny

* Circle size indicates the number of publications; colour intensity reflects citations per year

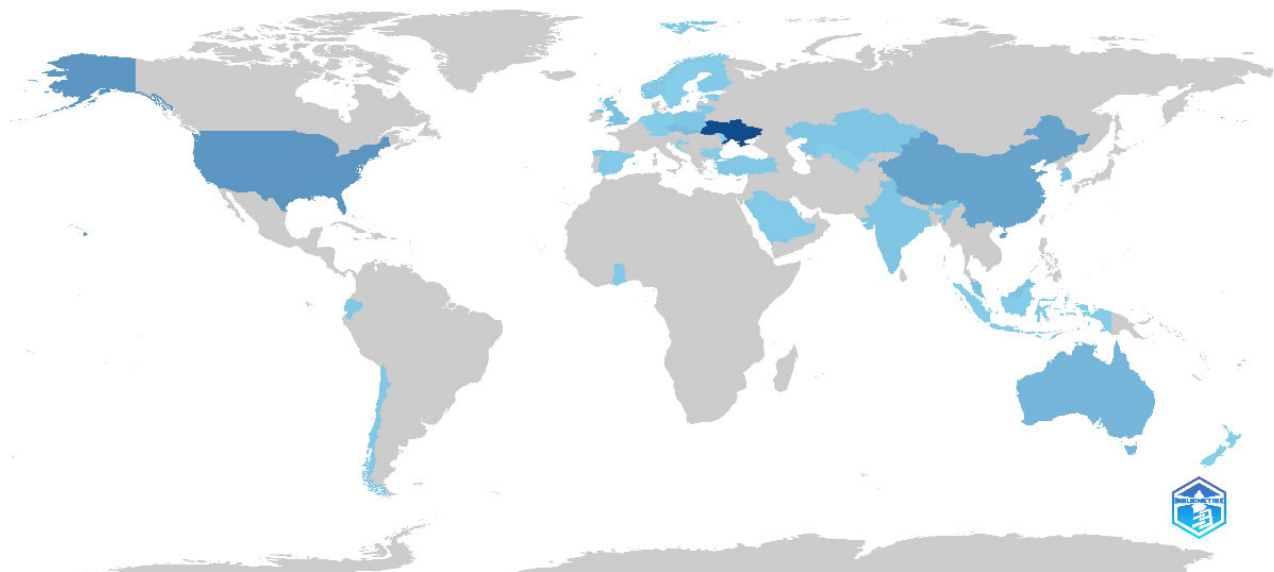


Figure 2. Countries' scientific production*

Source: created by the authors using Biblioshiny

* The intensity and saturation of the colour reflects the higher number of publications from this country

Overall, the SciVal Topic analysis shows that there is a balance between specialisation and thematic overlap in national research programmes. This confirms that enterprise economic security research is multidimensional and evolving.

4.5 Analysis of Citations

Table 4 shows the publications that have been cited the most and their main bibliometric characteristics.

Highly cited publications predominantly originate from developed economies, particularly Australia, the United States and China. This reflects the strong

research capacity and heightened enterprise security concerns in these countries.

Thematically, the most influential publications span multiple domains, including cybersecurity investment, supply chain integration and enterprise risk modelling. This highlights the integrative nature of economic security research. The lack of narrow thematic focus among the most frequently cited works indicates that scholarly influence in this field is associated with an integrative, cross-domain approach rather than specialisation within isolated subfields.

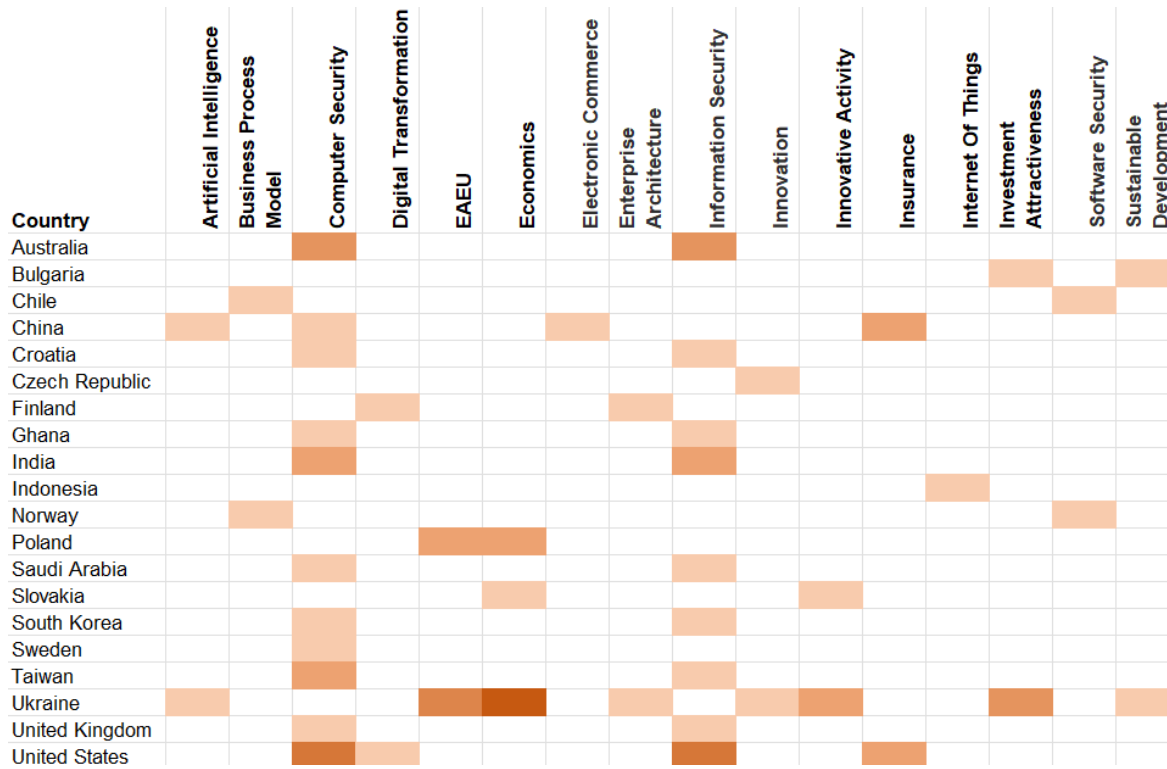


Figure 3. The correlation between countries and the Sustainable Development Goals by 2023

Source: created by the authors

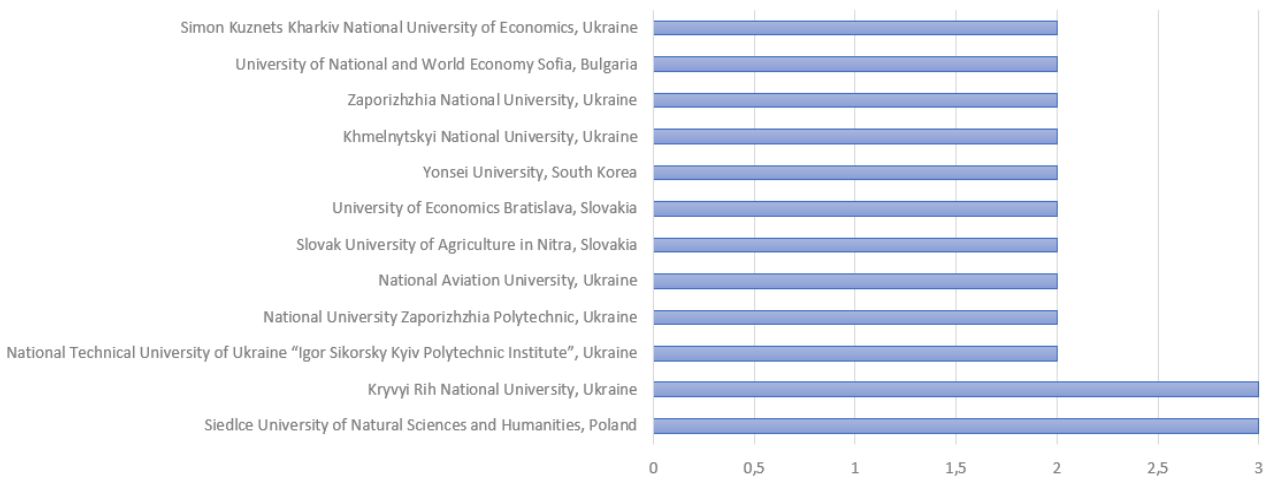


Figure 4. The 12 most productive institutions in the field of economic security and business entities

Source: Scopus DataBase

4.6 Analysis of Terms

A keyword analysis was conducted to identify the main conceptual structures within the field of enterprise economic security research (see Fig. 6).

Network visualisation reveals four thematic clusters (Figure 6): information security and data protection (red), security and risk (green), security and management (blue), and economic security (yellow). The interconnections between the clusters indicate conceptual integration across domains.

Figure 7 highlights the dominance of information security and risk management terms within enterprise economic security research, confirming their central role.

The tree map corroborates the findings of the network analysis, offering a more detailed view of topic prominence. "Information security" and "risk management" emerge as dominant themes, indicating their central role in discourse on economic security. The significant presence of "decision making" reflects the field's practical focus on actionable frameworks,

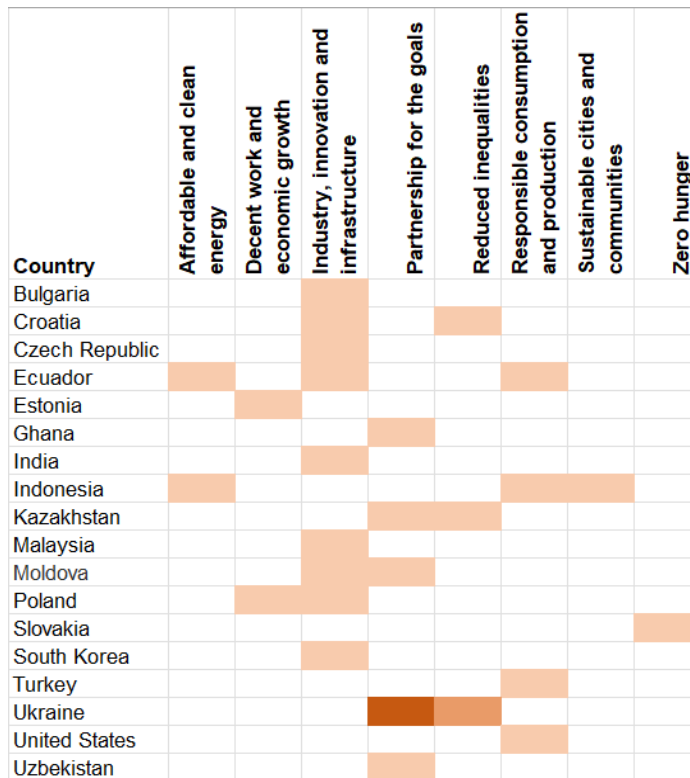


Figure 5. Interconnections between countries and SciVal Topics

Source: created by the authors

Table 4

The 5 most cited publications on economic security and business entities

No.	Authors, Title	Times Cited	FWCI	Country of first author	Journal / Editor	SciVal Topic
1	Talbot, J., & Jakeman, M. (2009). Security Risk Management: Body of Knowledge	56	0.66	Australia	John Wiley and Sons	Dependability Modeling in Complex Network Systems
2	Wang, F., Ge, B., Zhang, L., Chen, Y., Xin, Y., & Li, X. (2013). A system framework of security management in enterprise systems	50	4.99	China	Systems Research and Behavioral Science	Integrating IoT and Decision-Making in Supply Chains
3	Mayadunne, S., & Park, S. (2016). An economic model to evaluate information security investment of risk-taking small and medium enterprises	47	1.44	United States	International Journal of Production Economics	Cybersecurity Investment and Risk Management Strategies
4	Soon, J. N. P., Mahmood, A. K., Yin, C. P., Wan, W. S., Yuen, P. K., & Heng, L. E. (2014). IaaS cloud optimisation during economic turbulence for Malaysia small and medium enterprise	43	0.77	Malaysia	International Journal of Business Information Systems	Innovative Applications of Stereo-Image Technology in Robotics
5	Li, X. (2021). Decision making of optimal investment in information security for complementary enterprises based on game theory	32	1.66	China	Technology Analysis and Strategic Management	Cybersecurity Investment and Risk Management Strategies

Source: analysed by the authors

while "cyber security" and "enterprise security" occupy intermediate positions. Differences in keyword prominence also reflect terminological evolution. For example, the coexistence of "information security"

and "cyber security" indicates a linguistic adaptation to changing technological contexts, while the use of both "enterprise" and "business entities" suggests a flexible conceptualisation of organisational units.



Figure 6. Visualisation of all keywords relating to economic security and business entities

Source: created by the authors using VOSviewer

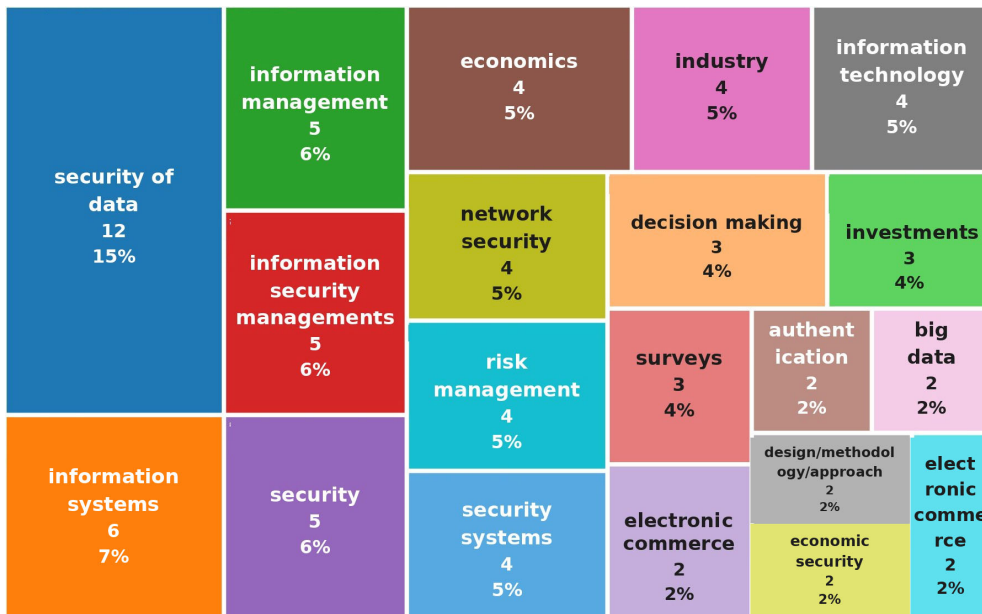


Figure 7. A tree diagram of publications on economic security and business entities

Source: created by the authors using Biblioshiny

Figure 8 shows a word cloud illustrating how frequently keywords relating to the economic security of business entities appear in publications.

Overall, the keyword analysis shows a shift from specific security functions to integrated organisational frameworks combining technical, managerial and strategic elements. The presence of emerging technological terms alongside established security concepts indicates the field's ability to adapt to digitalisation and evolving threat environments.

5. Discussions

This study shows that research into enterprise economic security has evolved into a multidimensional field, integrating information security, financial stability, risk management and innovation-driven transformation. Rather than revisiting specific empirical results, this discussion interprets the findings in relation to their broader theoretical and practical implications.

Firstly, the findings suggest a clear shift from function-specific security approaches to integrated organisational frameworks. This transition reflects the increasing importance of systems thinking and dynamic capabilities, in which economic security is viewed as an adaptive capacity embedded within organisational processes, rather than as an independent control function.

Secondly, the results confirm that enterprise economic security research is significantly influenced by contextual factors. The differences between crisis-

driven environments and stable institutional settings suggest that security frameworks cannot be standardised universally, but must instead account for region-specific risks, governance structures and development trajectories.

Thirdly, the lack of dominant journals, institutions or research leaders suggests that enterprise economic security has not yet established itself as a distinct sub-discipline. While this fragmentation allows for conceptual diversity, it may also hinder the accumulation of knowledge and the development of shared theoretical foundations.

From a managerial perspective, the findings highlight the importance of cross-functional coordination in enterprise security strategies. Organisations that treat information security, financial risk management and strategic planning as separate functions may experience integration issues that compromise their overall economic security. The increasing focus on emerging technologies, such as artificial intelligence and blockchain, indicates that organisations should implement structured evaluation mechanisms to balance the security advantages with organisational preparedness, governance capabilities, and human resource limitations. Overall, the discussion highlights enterprise economic security as an integrative managerial challenge at the intersection of technology, governance and organisational resilience. These insights provide a conceptual bridge between bibliometric evidence and future theoretical and applied research directions.



Figure 8. A word cloud featuring keywords related to economic security and business entities

Source: created by the authors using Biblioshiny

6. Conclusions

This study provides a structured bibliometric overview of research on the economic security of business entities, based on 87 publications indexed in Scopus and published between 2004 and 2025. Systematising fragmented research streams enables the analysis to identify dominant themes, influential contributions and emerging research directions within the field.

The findings reveal a multidimensional intellectual structure centred on information security, risk management, financial security and technological innovation. Research into enterprise economic security operates at the intersection of multiple disciplines, requiring the integration of managerial, technological and strategic perspectives. Geographical and institutional patterns suggest that the research landscape is multipolar and shaped by region-specific security challenges. This diversity highlights the contextual nature of enterprise economic security, as

well as the opportunities for stronger international research collaboration. The growing volume of publications on this topic in recent years reflects the increasing academic and practical attention being given to enterprise economic security amid rising technological, economic and geopolitical risks.

Several limitations should be acknowledged. Reliance on Scopus as the sole data source, coupled with a focus on English-language publications, could result in the exclusion of relevant research indexed elsewhere. Additionally, while stringent filtering criteria are necessary for analytical focus, they may limit coverage of peripheral research streams.

Future research should expand upon longitudinal and comparative analyses across industries and national contexts. Particular attention should be given to the impact of emerging technologies and macroeconomic factors on enterprise economic security.

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