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## FINANCIAL SECURITY MANAGEMENT OF ENTERPRISE: BIBLIOMETRIC, THEORETICAL AND METHODOLOGICAL ANALYSIS

This study is devoted to the development of scientific foundations on the issue of managing the financial security of the enterprise that is relevant today. The purpose of the article is to identify the priority vectors and trends of interdisciplinary research on the financial security management of the enterprise and to generalize on their basis the theoretical and methodological principals of its formation and maintenance. With the use of the tools of the Scopus scientometric database, a bibliometric analysis is carried out, a sample from 2022 publications is selected, the dynamics of their indexing for 1996–2023, geographical and subject affiliation, etc. are analysed. With the help of the VosViewer software toolkit, a key word map is built, on the basis of which five clusters of interdisciplinary studies are formed and characterized, within which the issue of managing the financial security of the enterprise is studied, namely: economic sectors, enterprise, and sustainable development; computer science, information, and security; management, finance, and marketing; management and various performance criteria; forecasting and modelling. Scientific approaches to understanding the essence of the concept of financial security are summarized and grouped according to four key aspects as a state of effective use of enterprise resources; a state of protection of the interests of commercial entities; a process of enterprises achieving a certain state; a stable and dynamic provision of the system of financial resources. It is understood as the ability to effectively and stably carry out economic activities based on a complex of interrelated financial diagnostics, tools and means of control, to optimize the use of available resources, ensure their reasonable level, reduce the impact of internal and external environmental risks. The structural components of the formation of the company's financial security system are analysed, and the mechanism of its provision is characterized. Particular attention is paid to methods of assessing the level of financial security of the enterprise. The obtained results will contribute to the further development of the scientific principles of managing the financial security of the enterprise and may be useful to a wide range of stakeholders.

**Keywords:** efficiency, enterprise, management, financial security, financial stability, financial strategy, risk management.

**Statement of the problem.** In the conditions of national economic and financial instability, the variability of the transformation process, financial and economic imbalances and uncertainties continue to arise. Thus, both the macro- and micro-efficiency of the functioning of the financial system is unsatisfactory, there are many shortcomings, problems and contradictions. A timely and complete assessment of the level of financial security of a business entity is important: it allows to quickly identify and correct problems in the state of financial security of the enterprise without the threat of losing financial stability and solvency. The above determines the relevance of this study and testifies to its timeliness.

**Analysis of recent research and publications.** The problems of assessing the financial condition of an enterprise and determining strategies for managing the financial security of enterprises are addressed by both foreign and domestic scholars, namely: O. I. Baranovskyi [1], I. O. Blank [2], V. V. Vudvud [3], Zh. S. Kostyuk [4], V. V. Orlova [5], G. A. Semenov [6]. In addition, the problems of the essence of financial security and the issues of its provision at the enterprise are investigated in the works of the following scientists: D. Brozovych [7], K. S. Goryacheva [8], I. V. Demchenko [9], L. M. Dokiienko [10], O. V. Dymchenko [11], O. I. Karintseva [12], L. S. Martyusheva [13], L. O. Matviychuk [14], L. V. Sokolova [15] and others.

**Highlighting previously unsolved parts of the overall problem.** However, despite the significant contribution of scholars in this area, the concept of financial security management of the enterprise requires further theoretical and methodological development taking into account modern scientific vectors and trends.

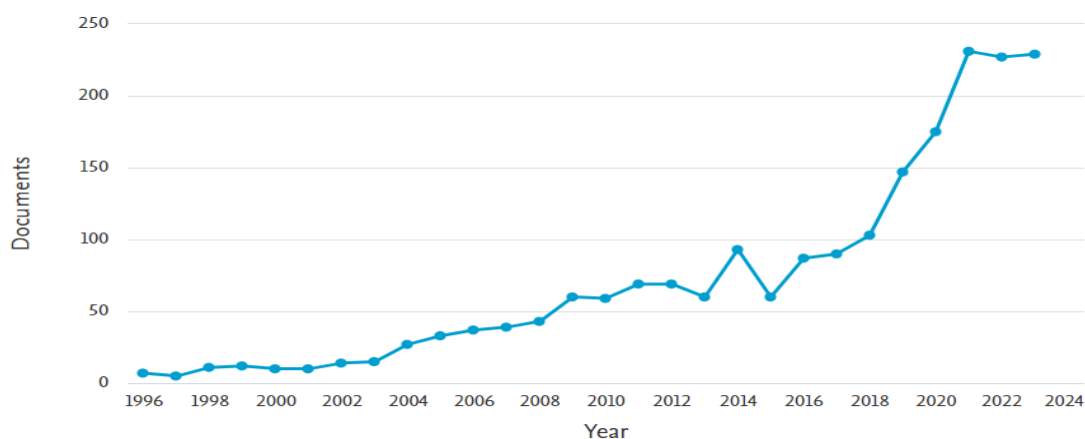
**Objectives of the article** is to determine the priority vectors and trends of interdisciplinary research on financial security management of the enterprise and to generalize on their basis the theoretical and methodological foundations of its formation and provision.

**Summary of the main material.** To analyse the number of papers in the field of research, the unified bibliographic and abstract database of peer-reviewed scientific literature Scopus was chosen. The bibliometric analysis was conducted using the search query “financial security of enterprises”. As a result, a sample from 2022 scientific publications was formed for 1996–2023. The analysis of the results showed that since 2004 the number of papers on the topic of financial security of enterprises has been growing. In recent years, the number of papers was as follows: 2021 – 231 papers; 2022 – 227 papers; 2023 – 229 papers (Figure 1). Therefore, the topic does not lose its relevance.

Researchers from all over the world have worked on this topic, including 389 papers in China, 285 in the US, 182 in Ukraine, 112 in India, 98 in the UK, etc. To analyse the publishing fields, a diagram of various scientific subjects was built (Figure 2).

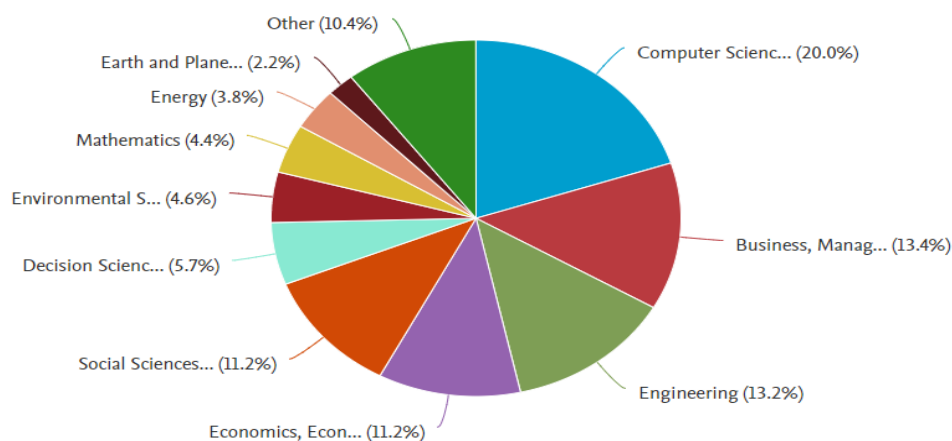
Most of the works are in computer science (20,0 %), business and management (13,4 %), engineering (13,2 %), social sciences (11,2 %), economics and finance (11,2 %), etc. The breadth of the fields of knowledge in which research on this issue is conducted is also large, which demonstrates the importance of the topic for society.

Using the VOSviewer software, a keyword map for this research area was created from the data set obtained on the Scopus website (Figure 3). The total number of keywords is 205. The most common keywords are the following: data security, finance, network security, risk assessment,



**Figure 1. Dynamics of works publication devoted to the issue of financial security of enterprises for 1996–2023**

*Source: built by the authors using the Scopus database tools*



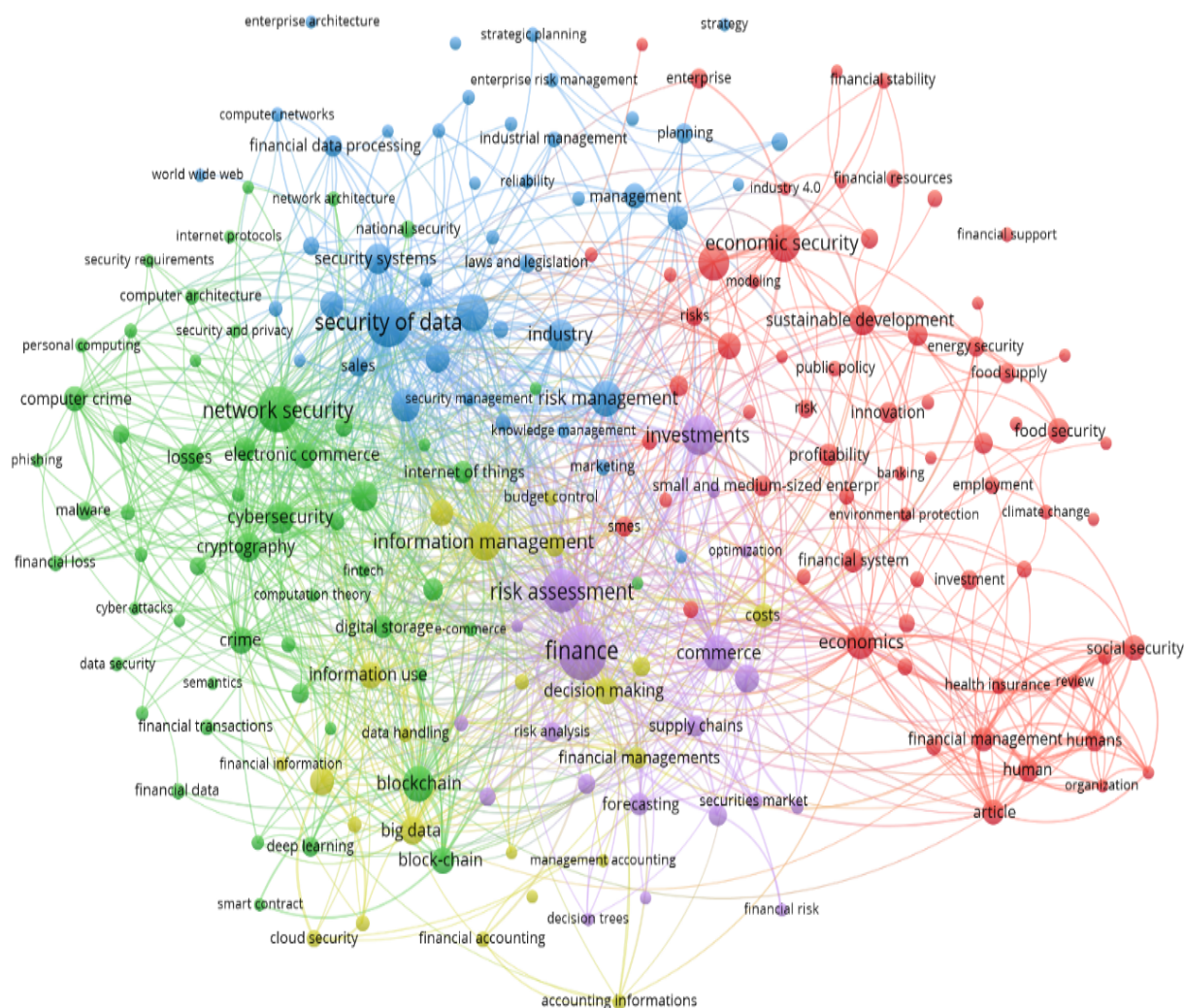
**Figure 2. The analysis of research distribution about financial security of enterprises by field of science (1996–2023)**

*Source: built by the authors using the Scopus database tools*

information management, financial security, financial management. Dividing keywords into clusters, five ones were formed. The first cluster (shown in red in Figure 3) includes 66 words, in particular: economy, economic security, financial management, organisation and management, sustainable development, social security, risks, innovation, and others. The second cluster (green) includes 54 keywords, including: cybersecurity, hacking, blockchain, computer software, e-commerce, financial institutions, financial industry, Internet of Things, mobile software, websites, phishing, security network, and others. The third cluster (blue) includes 43 keywords, such as: industrial management, industry, data security, financial data, strategic planning, management, marketing, strategies, planning, technology, etc. The fourth cluster (yellow) includes 22 words, including: information management, databases, financial management, project management, costs, economic and social impact. The fifth cluster (purple) includes 20 keywords, including: investment, forecasting, risk analysis, finance, financial risks, optimisation, commerce, modelling, and others.

Thus, it can be concluded that the first cluster includes keywords related to economic sectors and sustainable development; the second cluster includes concepts related to computer science; the third cluster includes a symbiosis of management, finance and marketing concepts; the fourth cluster includes management concepts and various performance criteria; the fifth cluster includes a symbiosis of various concepts, primarily related to forecasting, modelling and finance. However, it is important to note that the concept of financial security can be traced through all clusters, interacting with other theories and concepts within interdisciplinary research. Considering financial security in the context of its interrelationship with other scientific disciplines provides an opportunity to better understand this concept and its role in modern science.

Having considered the keywords, it is necessary to define key concepts. When determining the concept of “financial security”, the prevailing opinion is that its content reflects the state of the enterprise and ensures its ability to withstand adverse external influences. In this context the financial security of the enterprise began to be considered more broadly,



**Figure 3. Keyword map on the issue of financial security of enterprises**

*Source: built by the authors on the basis of the VosViewer programme tools*

as an opportunity to ensure its resistance to various conditions (including adverse ones) existing in the external environment, regardless of the nature of their impact on the enterprise's activities, internal changes in size and nature. Therefore, the financial security of a business is defined as the ability to protect its activities from the negative effects of the external environment and quickly eliminate various alternative threats or adapt to existing conditions that do not have a negative impact on its activities [13, p. 236]. K. S. Horyacheva considers the financial security of the subject of entrepreneurial activity from the point of view of quantitative and qualitative determination of the level of the financial condition of the enterprise, ensuring stable protection of its priority and balanced financial interests from identified real and potential threats of an external and internal nature, the parameters of which are based on its financial philosophy, determine and create the necessary prerequisites for financial support of sustainable growth in the current and future periods [8, p. 56]. A well-known researcher of this issue, the author of the book "Financial Security", O. I. Baranovskyi believes that financial security is the degree of protection of financial interests at all levels of financial relations or at the level provided by commercial entities that

have sufficient financial resources to meet the needs and fulfil existing obligations to enterprises, households, organizations and institutions, regions, industries and sectors of the economy, and the country as a whole, to conduct business [1, p. 124].

Another group of authors insists that the financial security of a business entity is a state of the most efficient use of corporate resources, which is manifested by optimal values of profitability and such financial indicators as the profitability of operational activities and corporate quality, management and use of fixed and working capital, capital structure, collateral rates and exchange rate value of securities serve as comprehensive indicators of the current financial and economic condition of business entities, as well as prospects for technological and financial development [10]. Zh. S. Kostyuk gave the following definition: financial security of a business entity is a constant process of ensuring the stability of its activity, financial balance, and normal profit, as well as the ability to achieve the set goals of an industrial enterprise. It is the ability to further develop the business and improve various opportunities at the stages of the business life cycle and during changes in competitive market strategies under certain external circumstances and tasks [4, p. 309]. L. O. Matviychuk proposes to consider



this concept as the process of a certain state achieving by a business entity characterized by resistance to internal and external threats, a balanced approach to financial instruments and their management, and the provision of sufficient financial resources, which will allow the business entity to effectively conduct business in the current and future periods [14, p. 134]. I. V. Demchenko is sure that financial security is a dynamically stable system that provides financial resources, and defined the following main characteristics of financial security: availability of a sufficient amount of financial resources for conducting business; protection of the interests of the business entity; balance and quality of financial and economic activity of the business entity; stability of manifestation; the presence of a subject of management of the organizational departments of the business entity; dynamic counteraction to destructive factors of internal and external manifestation; ensuring the achievement of strategic goals of the business entity [9, p. 36]. The latter approach can take into account changes in the state of financial security of the business entity and its development prospects but does not focus on the sufficiency and efficiency of its use of financial resources.

So, financial security in modern scientific literature is considered from the following four aspects: 1) as a state of effective use of enterprise resources; 2) as a state of protection of the interests of commercial entities; 3) as a process of enterprises achieving a certain state; 4) as a stable and dynamic provision of the system of financial resources.

It should be understood as the ability of a legal entity to effectively and stably carry out its economic activities based on a complex of interrelated financial diagnostics, tools and means of control, to optimize the use of available resources, ensure their reasonable level, reduce the impact of internal and external environmental risks.

Structural elements of financial security system of the enterprise are the following: money, credit, investments, budget and taxes, funds and insurance (Table 1).

Various components of corporate financial security should ensure a high level of financial security and create certain conditions for countering external and internal destructive factors and threats. Various risks inherent in corporate financial security relate to interest rate, liquidity, depository and credit risk, inflation, currency, insolvency, decrease

in financial stability, lost profit, investments, bankruptcy, political-legal and criminogenic risk, informational risk, innovation development, etc.

The mechanism for ensuring financial security is a holistic system, the effectiveness of which is achieved through complex interactions and relationships, such as concepts, organizational management and resource guarantees. Its purpose is to achieve financial interests through objective and comprehensive monitoring of financial security. Comprehensive assessment of the level of financial security is based on developing targeted program measures to minimize or eliminate identified internal and external threats and prevent the emergence of potential destabilizing factors. Mechanisms for ensuring financial security are implemented through the formation of appropriate methods, the definition of strategic and tactical goals and methods of achieving these goals (conceptual support), the development of legal acts regulating the financial sphere, organizational and executive activities of internal state institutions. Their authority to ensure financial security (organizational and management support), attract the necessary resources to achieve an acceptable level of financial security and comply with national financial interests (resource support) (Figure 4).

The system of ensuring financial security is a set of means and actions aimed at: 1) protection of financial interests, values and the achievement of financial goals through a number of measures implemented in the financial sphere (increasing the market value of enterprises, maximizing corporate profits, providing fixed and working capital, ensuring investments, etc.); 2) compliance with the actual data of indicators of financial security within their threshold values; 3) prevention and elimination of threats to financial security, financial and economic development of the country and strengthening of the social well-being of citizens in general [2, p. 313].

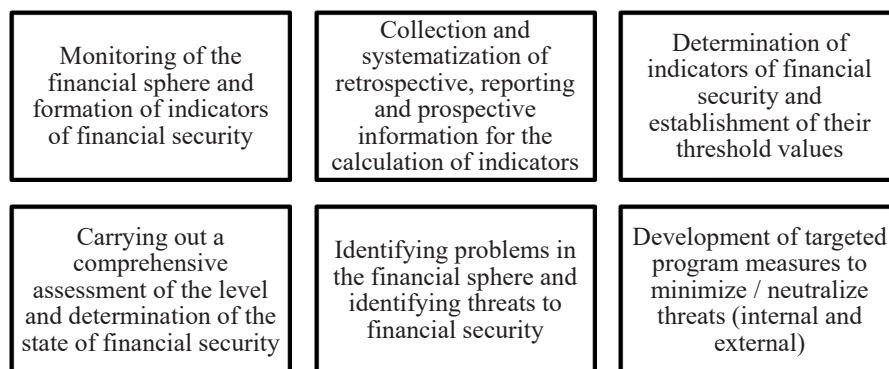
In order to identify and eliminate threats and prevent the manifestation of possible negative factors at the enterprise, it is necessary to assess the level of its security. In theory and practice, there are several methods of assessing the level of financial security. D. Brozovych proposed to analyse the financial security of enterprises using comparative analysis, horizontal analysis, vertical analysis, analysis of financial indicators (analysis of financial stability, solvency, turnover of assets, turnover of capital and

Table 1

#### Analysis of main components of the enterprise's financial security system

Component	Characteristic
Monetary component	Related to the settlement of enterprise relations that arise in the process of making monetary payments in national currency (cash and non-cash), foreign currency (during export-import operations), as well as when opening current accounts in banks.
Insurance component	Provided for the regulation of the enterprise's relations with insurance companies regarding the insurance of the enterprise's property, financial risks, liability insurance, insurance of the enterprise's personnel.
Credit component	Directed to the settlement of the enterprise's relations with banks and other credit institutions regarding the receipt of monetary, commodity (commercial), leasing loans, as well as with buyers, in the case of granting them a commercial loan.
Investment component	Related to the regulation of the enterprise's activity in the investment sphere, including in the process of carrying out deposit operations with banking institutions.
Budget and tax component	Aimed at regulating the relationship of the enterprise with the budget and extra-budgetary funds regarding the payment of taxes and fees, obtaining budget loans and budget financing, reimbursement of value added tax, obtaining a tax credit.
Stock component	Connected with settling issues related to the company's issue and sale of its own securities and distribution of dividends.

Source: Developed by the authors according to [5; 8]



**Figure 4. Mechanism for ensuring financial security of the enterprise**

*Source: developed by the authors according to [6]*

profitability) and general financial analysis (general analysis of the Dupont model). System of SWOT analysis of financial security, system of object-oriented complex financial analysis and investment portfolio analysis) [7, c. 766]. T. B. Kuzenko and O. Yu. Lytovchenko use the following approaches to assess the financial security of an enterprise: indicator, which includes, in the opinion of the authors, methods of integral assessment of financial security based on the analysis of the possibility of bankruptcy (the Lees model, the Altman model, the Depalyan method, the Taffler, Tereshchenko model, Springate model) and the scoring method; resource-functional approach (by components of financial security); according to the criterion of minimizing the total damage caused to security; according to the criterion of sufficient working capital for economic activity [9, p. 156].

V. V. Orlova proposed the following categories of basic methods and models for assessing and analysing the financial security of an enterprise: methods and models of direct assessment of financial security (quick financial security assessment model, rating model of financial security assessment, assessment of financial security by Zh. Depalyan), an econometric model for assessing the financial security of an enterprise, a model for assessing the financial security of an enterprise from the point of view of economic security, software management and development methods for assessing financial security, an expert assessment model for financial security, an analysis of financial security based on the SWOT and SPACE analysis model, a model for analysing financial security based on STEP analysis and the method of financial security analysis based on the assessment of the tendency bankruptcy [5, p. 165].

**Conclusions from the study.** The article was aimed to the determination of priority vectors and trends of interdisciplinary research on the management of enterprises' financial security and generalization on their basis the theoretical and methodological foundations of its formation and maintenance. The analysis of the array of scientific publications on the issue of managing the financial security of the enterprise, indexed by the Scopus scientometric database, for a period of about 30 years, has shown a generally positive trend in publishing activity, and in particular a significant

jump in the last 10 years and stable interest in the last 3 years. Geographic and subject affiliation were also analysed.

Using VosViewer software, 5 clusters of interdisciplinary research were identified, within which this scientific issue is actively studied, namely: 1) economic sectors, enterprise, and sustainable development; 2) computer science, information, and security; 3) management, finance, and marketing; 4) management and various performance criteria; 5) forecasting and modelling. Relevant keywords were summarized for each of them, and the concept of financial security can be traced through all clusters.

Scientific approaches to understanding the essence of the concept of financial security were summarized and grouped according to four key aspects as: 1) a state of effective use of enterprise resources; 2) a state of protection of the interests of commercial entities; 3) a process of enterprises achieving a certain state; 4) a stable and dynamic provision of the system of financial resources. The formation of a financial security system is one of the most important conditions for the effective operation and further development of the enterprise. The company's financial security system was described as complex and multifaceted one, the successful functioning of which is determined by the interrelationships and interaction between the following structural components: monetary, insurance, credit, investment, budget, tax, and stock components on the basis of the mechanism of financial security management aimed to protection of company's interests, values, and goals through a number of various methods and measures (including financial diagnostics, information support, financial risk management, financial security, control and evaluation of results, etc.).

Areas for further research should include studying new methods of financial security management, analysing the impact of external factors on the financial stability of an enterprise, and developing strategies to minimise financial risks. The obtained results contribute to the further development of scientific principles of managing the financial security of the enterprise, provide an opportunity to better understanding this concept and its role in the modern science and can be useful to a wide range of stakeholders.

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## УПРАВЛІННЯ ФІНАНСОВОЮ БЕЗПЕКОЮ ПІДПРИЄМСТВА: БІБЛІОМЕТРИЧНИЙ ТА ТЕОРЕТИКО-МЕТОДОЛОГІЧНИЙ АНАЛІЗ

Дослідження присвячено розвитку наукових засад актуального на сьогодні питання управління фінансовою безпекою підприємства. Метою статті є визначення пріоритетних векторів і тенденцій міждисциплінарних досліджень з управління фінансовою безпекою підприємства та узагальнення в їх основі теоретико-методологічних засад її формування та забезпечення. З використанням інструментів наукометричної бази даних Scopus здійснюється бібліометричний аналіз, виокремлюється вибірка з 2022 публікацій, аналізується динаміка їх індексації за 1996-2023 рр., географічна та предметна приналежність тощо. За допомогою інструментарію програмного забезпечення VosViewer будується мапа ключових слів, на основі якої формуються та характеризуються п'ять кластерів міждисциплінарних досліджень, у межах яких вивчається питання управління фінансовою безпекою підприємства, а саме: сектори економіки, підприємство та сталий розвиток; комп'ютерні науки, інформація та безпека; менеджмент, фінанси та маркетинг; управління та різні критерії ефективності; прогнозування та моделювання. Узагальнюються та групуються наукові підходи до розуміння сутності концепції фінансової безпеки за чотирма ключовими аспектами такими як: стан ефективного використання ресурсів підприємства; рівень захищеності інтересів суб'єктів господарювання; процес досягнення підприємствами певного положення; стабільне та динамічне забезпечення системи фінансовими ресурсами. Фінансова безпека розглядається як здатність ефективно та стабільно здійснювати господарську діяльність на основі комплексу взаємопов'язаних фінансової діагностики, інструментів та засобів управління, оптимізувати використання наявних ресурсів, забезпечуючи їх обґрунтований рівень, знижувати вплив ризиків внутрішнього та зовнішнього середовища. Аналізуються структурні компоненти формування системи фінансової безпеки підприємства, та характеризується механізм її забезпечення. Особлива увага звертається на методи оцінки рівня фінансової безпеки підприємства. Отримані результати сприятимуть подальшому розвитку наукових засад управління фінансовою безпекою підприємства та можуть бути корисними широкому колу стейкхолдерів.

**Ключові слова:** ефективність, менеджмент, підприємство, управління ризиками, фінансова безпека, фінансова стійкість, фінансова стратегія.