

FINANCIAL RISK MANAGEMENT AS A STRATEGIC DIRECTION FOR IMPROVING THE LEVEL OF ECONOMIC SECURITY OF THE STATE

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Abstract. *The purpose of the paper* is to generalize theoretical and methodological principles and develop practical recommendations aimed at improving financial risk management as a strategic direction for improving the level of economic security in Ukraine. *Methodology.* The methodology for this study was based on methods of scientific abstraction, methods of the system-functional approach, grouping, generalization and formalization, systematization, analysis and synthesis, statistical and economic methods, peer review. *Results.* It is proved that the economic essence of financial risk management as a strategic direction for improving the level of economic security consists in the permanent and continuous application of procedures for communication and definition of management context (management goals, distribution sector, list of criteria to be taken into account in the management process), management policy, as well as selection, comprehensive analysis, quantification and processing of financial risks (allocation of alternative ways to reduce the impact), which are characterized by specific characteristics of financial sector risks. The present situation of the financial environment of the financial sphere is analysed by calculating indicators and generalizing them in the integral index which dynamics in 2011–2017 tends to deteriorate values. This means lowering the level of financial security. The method of quantitative assessment of financial risks through reasonable algorithm is improved. It consists of the following stages: analysis of indicators of the state of financial security structured according to its subsystems; assessment of the level of financial risks in the system of economic security; comprehensive risk assessment in financial security subsystems; definition of the integral index of financial risks in the system of economic security. Directions of financial risk management in the system of economic security are generalized and their groupings are organized according to distinct subsystems of economic security in Ukraine. The mechanism of financial risk optimization is substantiated. It provides a description of the process of achieving the optimal characteristics of identified financial risks in subsystems of economic security. Its purpose is to minimize social and economic consequences of the destructive impact of the risk environment and improve the overall state of economic security of the country and society. *Practical implications.* The practical significance of the obtained results is the proven and justified feasibility of using proposed recommendations in the field of financial risk management to improve the level of economic security in Ukraine and a mechanism for optimizing financial risks, which describes the process of achieving the optimal characteristics of identified financial risks in the subsystems of economic security. *Value/originality.* The information base of the article is the legislative and regulatory documents, consolidated data of the State Fiscal Service of Ukraine, the State Statistics Service of Ukraine, Ministry of Finances of Ukraine, the National Bank of Ukraine, Ministry of Economic Development and Trade of Ukraine, periodicals and reference publications, Internet resources, and results of authors' studies and calculations.

Key words: financial risks, financial risk management, economic security, financial security, finance, financial risk assessment.

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1. Introduction

Under the influence of external and internal factors, the state of economic security, traditionally analysed as a complex of energy, macroeconomic, food, demographic, social, investment-innovation production, foreign economic and financial security, is rapidly changing. It should be noted that effective maintenance of a sufficient level of economic security is impossible without managing the risk environment of the financial sector, taking into account the fact that financial risks have a dominant influence on the level of economic security in comparison with others. Thus, realizing the economic interests of the country, we believe that the problem of financial risk management in order to improve the level of economic security of the state is extremely relevant.

The purpose of the paper is to generalize theoretical and methodological principles and develop practical recommendations aimed at improving financial risk management as a strategic direction for improving the level of economic security in Ukraine.

In accordance with the purpose of the article, the following interrelated tasks were determined and solved:

- To study the economic essence of financial risk management as a strategic direction for improving the level of economic security of the state;
- To analyse the current state of the financial environment;
- To improve methods of quantitative assessment of financial risks;
- To substantiate directions and identify financial risk management tools;
- To improve the mechanism and principles of financial risk optimization.

Various aspects of the issue of financial risk management were studied in many scientific works (Atamanyuk, 2005), (Dinu, 2014), (Hammoudeha, McAleer, 2013, 2015), (Kosmidoua, Kousenidisa, Ladasb, Negkakis, 2017), (Poltorak, Tymoshenko, 2015), (Poltorak, Volosyuk, 2016, 2017), (Ukrainska, 2010), and others.

The methodology for this study was based on methods of scientific abstraction, methods of the system-functional approach, grouping, generalization and formalization, systematization, analysis and synthesis, statistical and economic methods and peer review.

2. The economic essence of financial risk management

One of the most important issues in the field of achievement and sustainable maintenance of the necessary level of economic security of the state is the growth of threats to the financial sector. Among strategic risks to economic security, a special place is occupied by

financial risks that have certain essential characteristics, namely:

- Influence on financial management objects;
- Risk in relations that are characterized by a financial nature;
- Consequences of the negative influence of financial risks in the form of failure to achieve financial goals or planned indicators, including in the field of economic security;
- Financial nature of stochastic events (Ukrainska, 2010).

Financial risks also impede the implementation of effective reforms in the economy and create obstacles to the transformation of the financial system of Ukraine.

Taking into account the heterogeneity of risk factors and risk variability of the financial sector, the process of making an effective solution under the special conditions of the influence of quantitatively estimated financial risks is their management.

Accordingly, in our opinion, the economic essence of financial risk management as a strategic direction for improving the level of economic security consists in the permanent and continuous application of procedures for communication and definition of management context (management goals, distribution sector, list of criteria to be taken into account in the management process), management policy, as well as selection, comprehensive analysis, quantification and processing of financial risks (allocation of alternative ways to reduce the impact).

3. The current state of risk environment of the financial sector

It should be noted that methodological recommendations for calculating the level of economic security in Ukraine have resulted in a list of indicators, which generalized meaning provides an opportunity to quantify the level of economic security and, accordingly, all its components, including financial security.

The state of the Ukrainian financial security can be systematically evaluated by calculating indicators of its state and generalizing them to the integral index. Comparing its values in different periods, we will be able to describe key trends in financial security, as well as study the current state of risk environment of the financial sector.

The results of the analysis of absolute and normalized indicators of the country's debt security (dynamics of the ratio of debt obligations of the country to GDP, international reserves of the country to gross external debt and others) in 2011–2017 indicate a tendency for the deterioration of the debt security. So, in 2011–2013 the ratio of the state and state-guaranteed debt to the GDP of the country varied in the range of 36.3–40.1%, that is, in fact, was in the zone of unsatisfactory values. In 2014–2017, this indicator was characterized by the

values, which were in the critical range. These dynamics are extremely threatening.

The state of budget security as a component of financial and, accordingly, economic security characterizes the level of financial stability and solvency of public finances, the level of efficiency of the functional performance of state authorities.

It should be noted that the analysis of values of most indicators of budgetary security (the ratio of budget deficit to GDP, the level of GDP redistribution through the consolidated budget, the share of deficit/surplus of budget and extra-budgetary funds in the sector of national government in GDP structure) in 2011–2017 were in ranges of optimal and satisfactory values. However, the ratio of payments for servicing and repayment of public debt to the revenue part of the State Budget is steadily in the zone of critical values, which significantly reduces the level of budgetary security.

After examining the state of the currency security in Ukraine, it is proved that the change in the rate of the national currency to the US dollar in 2014–2017 was mainly in the area of critical values. Volumes of gross international reserves of Ukraine, determined in months of import, tend to decrease. In addition, indicators of the share of foreign currency loans in the structure of all loans and the level of dollarization of the money supply are in the zone of dangerous values and tend to deteriorate the values.

An analysis of the indicators of the state of financial security in Ukraine can be used to substantiate the impact that determinants of financial market development have on the level of financial security. In particular, there are reasons to assume the influence of such a system of factors: insufficient level of overall market development, lack of financial resources and their ineffective placement in assets, insufficient level of activity of the state in the financial market.

Thus, integral coefficients of the state of the financial security subsystem in Ukraine in 2011–2017 are shown in Table 1.

Thus, having carried out a comparative analysis of the state of financial security in Ukraine, it is proved

that the integral index of financial security in Ukraine summarizing indicators of monetary, budget, currency, banking, debt security, and security of the non-banking sector in 2011–2017 tended to deterioration of values. It means lowering the level of financial security.

4. Methods of quantitative assessment of financial risks

The result of the quantitative assessment of various types of financial risks should be their numerical values and a generalized indicator of the risk environment of the financial sector. In our opinion, a comprehensive assessment of financial risks should take into account financial risks affecting all components of economic security and its results contribute to the formation of clear conclusions about the dynamics of changes in the state of risk environment of the financial sector and adoption of an effective solution under the conditions of alternative options. The most common methods for assessing financial risks are Delphi method, statistical method, analytical method, analogue method, and method of expediency analysis (Tymoshenko, 2015).

In our opinion, the significant advantages of the method of expert assessments in the field of financial risk assessment in the system of economic security in Ukraine are the possibility of timely adjustment of the scale of the estimation coefficients depending on changes in the internal environment and external conditions. To quantify the risks in the financial sector, ranges of the characteristic values are applied by means of standardization to interpreting indicators obtained using the analogue method, the legislative-normative criterion and Delphi method.

An algorithm for quantifying financial risks in the system of economic security is given in Fig. 1.

Due to the rating method, the improved algorithm for quantitative assessment of financial risks in the system of economic security of Ukraine takes into account a set of financial risks that affect the state of economic security of the country, as well as substantiates conclusions on the state of risk environment of the financial sector based on the evaluation results.

Table 1

Integral indicators of the state of the financial security subsystem in Ukraine in 2011–2017

Integral indicators of financial security subsystems	Values of integral indicators						
	2011	2012	2013	2014	2015	2016	2017
Monetary	40,36	39,96	38,70	39,19	37,21	33,46	33,51
Non-bank financial market	39,56	48,75	44,17	67,91	66,72	62,80	61,42
Currency	48,00	59,00	59,00	41,00	43,00	40,00	44,00
Budgetary	68,00	58,00	58,00	56,00	63,00	62,00	64,00
Debt	45,00	39,00	36,00	25,00	29,00	33,00	29,00
Banking	40,07	49,83	51,19	52,24	40,86	38,23	39,78
Integral index	47,91	49,29	48,29	45,73	45,75	44,21	44,32

Source is proposed by the authors

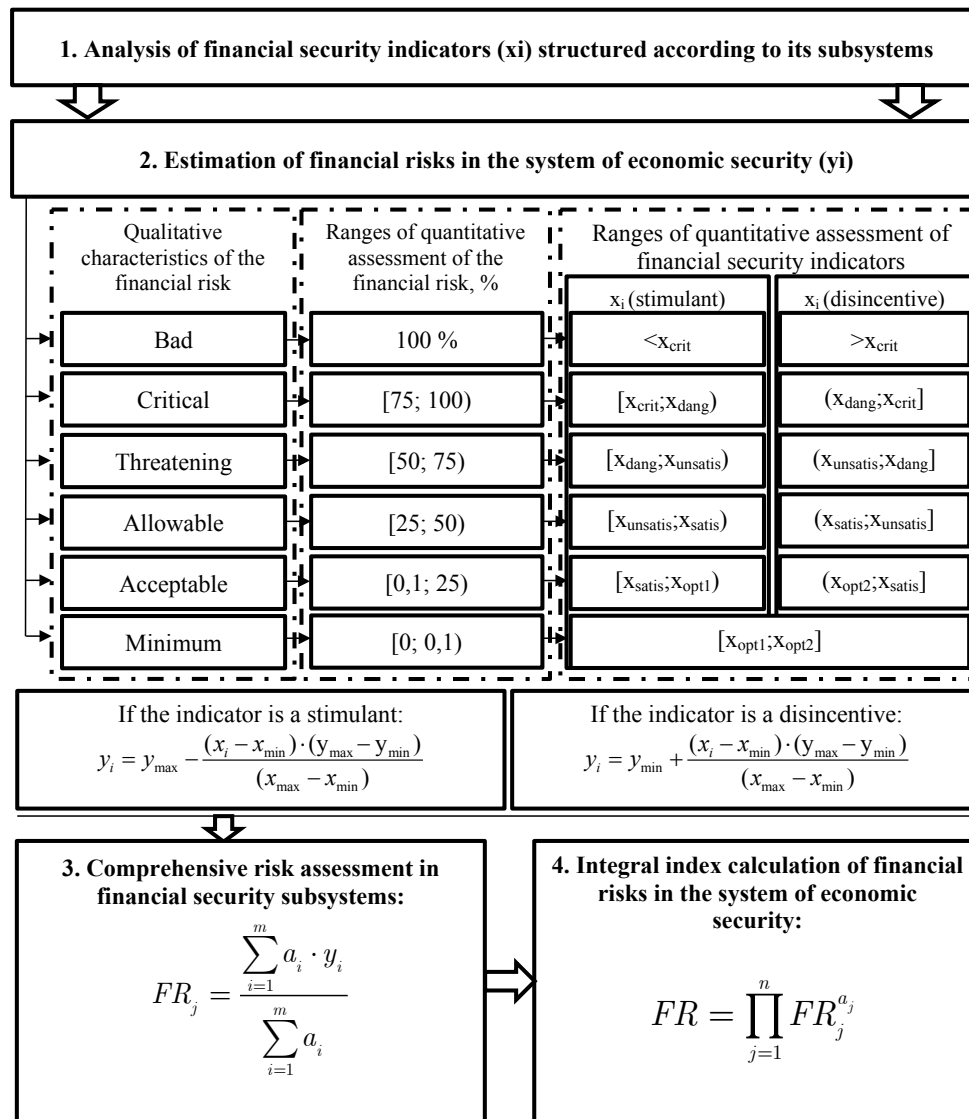


Fig. 1. An algorithm for quantitative assessment of financial risks in the system of economic security *
 In the algorithm i is financial risk; j is security subsystem; x_{min}, x_{max} are marginal values of indicators of financial security in Ukraine in the appropriate range; y_{min}, y_{max} are marginal values of the financial risk in the appropriate range of indicators of financial security in Ukraine, %; a_i is weighing coefficients of relevant financial risks; a_j is weighing coefficients of complex indicators of financial risks in the system of economic security.

Source is improved by the authors based on (Tymoshenko, 2015)

5. Directions and tools for managing financial risks

Taking into account the structure of economic security, according to which the algorithm of quantitative assessment of financial risks was improved, it is expedient to analyse separately directions and tools of financial risk management in each of the financial security subsystems.

In order to minimize the negative impact of financial risks for budgetary security, it is appropriate to use the following measures:

- Increasing the accuracy of forecasting indicative budget indicators, updating the statistical system of the budget, improving the system of budget planning within the

boundaries of quarters, preventing underperformance of the plan for state budget filling, which may lead to an increase in government borrowing;

- Ensuring compliance of available financial resources of a certain type of budget and defined tasks of budget policy at the necessary level, which is especially relevant during the period of fiscal decentralization reform;
- Continuous monitoring of the targeted use of budget funds, improvement of the internal audit system taking into account standards of the European Union;
- Improving the quality of capital budgeting;
- Financing of the state budget at the minimum possible cost of public debt service taking into account risks;
- Optimization of state target and budget programs.

As a result of the systematic application of directions of financial risk management in the system of budgetary security, it is expected that the state budget deficit will be reduced, namely: 2.4% of GDP in 2018 and 2.2% of GDP in 2019.

Main tools for managing financial risks in the system of budgetary security are rates of taxes and fees; transfers; interest rate; budgetary norms and regulations; tariffs; creation of reserves; government loans; cost standards.

The modern debt area of Ukraine is characterized by a significant level of budgetary, currency and refinancing risks, as well as a moderate level of liquidity risk and interest rate risk. It is also necessary to take into account the deterioration of payment balance indicators and risks of public debt management, including those related to the support of the banking system and Guarantee Fund for Individuals' Deposits.

In the process of managing financial risks in the system of debt security in order to improve debt management mechanisms, it is expedient to have:

- Adherence to the medium-term strategy of public debt management in 2017–2019, including ensuring the effective functioning of the domestic market of government securities and expanding access to the international capital market;
- Expansion of cooperation with international financial organizations;
- Observance of limits of the average weighted term in the strategy of public debt management to debt obligation repayment of the state; minimization of risks by refinancing the debt;
- Optimization of public debt structural indicators in the context of interest rates and currencies;
- Avoiding peak budgetary burdens associated with payments for servicing public debt;
- Increasing demand for government debt securities by investors as a result of increasing their liquidity level;
- Ensuring transparency and publicity of public debt management activities.

Implementation of directions for the improvement of debt management mechanisms will promote compliance with an economically safe level of state and state-guaranteed debt and, accordingly, effective and transparent debt management.

Main tools for managing financial risks in the system of debt security include: term, interest rate, currency, type of state borrowing; restructuring; maximum limits of public debt and provision of state guarantees; loan unification; consolidation; conversion; delay in loan repayment.

In our opinion, under the conditions of the Ukrainian economic security, the issue of effective risk management in the banking system is of first priority. The risk analysis has shown that the integral index of economic security is reduced by 0.05% with an increase of 1% of the generalized indicator of financial risks of the banking sector.

Thus, directions of financial risk management of the banking sector are offered, namely: improvement of methods for problem loan repayment; increasing the efficiency of the bank reorganization and capitalization process; application of updated approaches to the quantitative assessment of bank risks; expanding the range of financial services of banks; raising the level of financial literacy of the population.

As a result of application of reasonable directions of financial risk management in the banking sector, it is expected: reduction in the share capital of foreign capital in the bank authorized capital; decrease in the proportion of problem assets in the general portfolio of assets of the Ukrainian banks in the medium-term to 7%, with its subsequent increase of 4%; adjusting the ratio of long-term loans and deposits.

Main tools for managing financial risks in the banking system include: interest rates; exchange rates; conditions for obtaining and repaying loans; security yield level; reorganization and capitalization of banks; introduction of a temporary administration; refinancing.

Thus, directions of financial risk management in the subsystems of the Ukrainian economic security are generalized and the main tools of effective financial risk management are defined.

6. Mechanism and principles of financial risk optimization

The mechanism of financial risk optimization in the system of the Ukrainian economic security should provide a detailed description of the process of obtaining optimal indicators of identified financial risks in order to increase the overall level of the Ukrainian economic security, as well as be used in different conditions, such as in periods of active development of the economic system and in periods of crisis phenomena.

The strategic goal of optimizing financial risks in the Ukrainian economic security system is to minimize social and economic consequences of the destructive impact of the financial sector's risk environment and improve the overall state of economic security of the country and society.

The process of optimizing financial risks in the Ukrainian economic security system should take into account principles presented in Fig. 2.

Priority tasks of financial risk optimization in the system of economic security in Ukraine include:

- Maintaining quantitative values of identified financial risks in each of the subsystems of economic security within the range, which will ensure a stable level of the Ukrainian economic security;
- Timely and systematic review of the complex of financial risks, identification of new risks, adjustment of ranges of indicators of the financial security status, taking into account the changing environment;

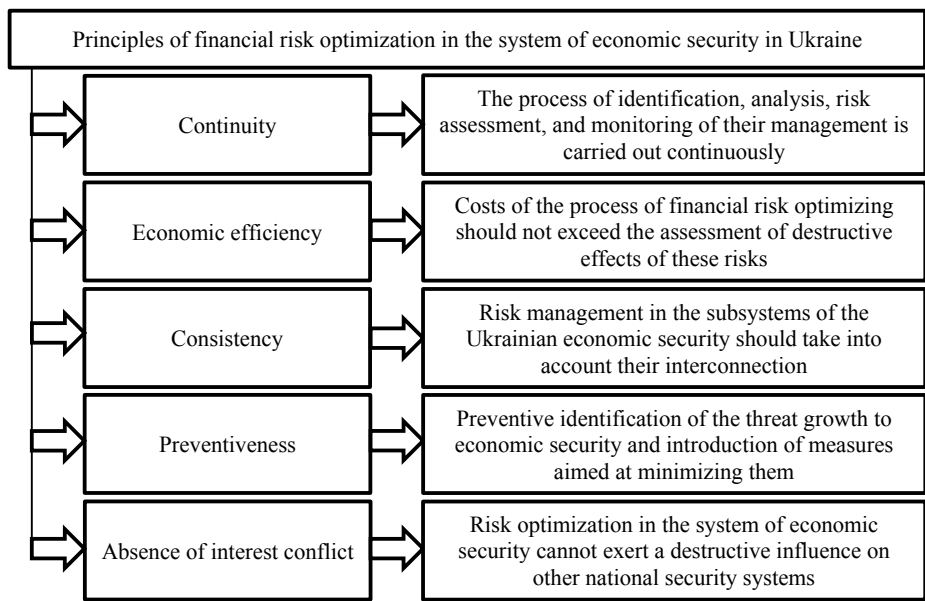


Fig. 2. Principles of financial risk management in the system of economic security*

Source is systematized by the authors

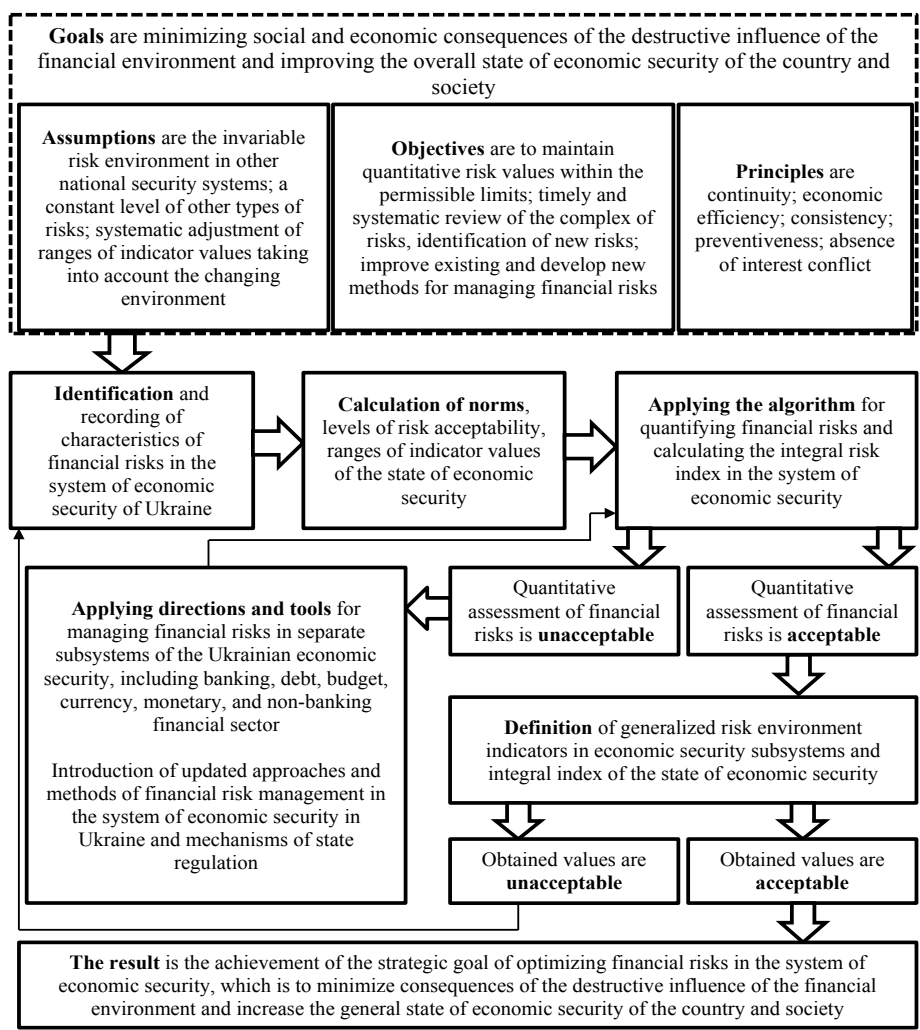


Fig. 3. The mechanism for optimizing financial risks in the system of economic security*

Source is improved by the authors

- Improvement of existing and development of new methods for managing financial risks in the system of economic security in Ukraine, as well as mechanisms of state regulation.

A mechanism for optimizing financial risks is shown in Fig. 3.

As a result of implementation of the financial risk optimization mechanism in the system of economic security, it is planned to develop and use updated approaches to assessing financial risks, ensuring transparency and efficiency of activities in the field of financial risk management, and achieving the strategic goal of optimizing financial risks in the system of economic security. This is to minimize consequences of the destructive impact of the financial environment and increase the overall state of economic security of the country and society.

7. Conclusions

In the process of generalization of theoretical and methodological principles and development of practical recommendations aimed at improving the financial risk management, the following conclusions were made:

1. It is proved that the economic essence of financial risk management as a strategic direction for improving the level of economic security consists in the permanent and continuous application of procedures for communication and definition of management context (management goals, distribution sector, list of criteria to be taken into account in the management process),

management policy, as well as selection, comprehensive analysis, quantification and processing of financial risks (allocation of alternative ways to reduce the impact), which are characterized by specific characteristics of financial sector risks.

2. In the process of analysing the current state of risk environment of the financial sector, the state of financial security in Ukraine is assessed by calculating indicators and their generalizing in the integral index. Its dynamics in 2011–2017 tended to deteriorate values, which mean lowering the level of financial security.

3. The method of quantitative assessment of financial risks is improved through the reasonable algorithm consisting of the following steps: analysis of indicators of the state of financial security structured according to its subsystems; assessment of the level of financial risks in the system of economic security; comprehensive risk assessment in financial security subsystems; calculation of the financial risk integral index in the system of economic security.

4. Directions of financial risk management in the system of economic security and their grouping according to distinct subsystems of economic security of Ukraine are overviewed.

5. The mechanism of financial risk optimization is substantiated, which provides a description of the process of achieving optimal characteristics of identified financial risks in the subsystems of economic security. Its purpose is to minimize social and economic consequences of the destructive impact of the risk environment and improve the overall state of economic security of the country and society.

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