T. MOMOT, S. RODCHENKO

ASSESSMENT OF FINANCIAL SECURITY OF BANKS IN CONDITIONS OF MACROECONOMIC INSTABILITY

The **subject** of the study is a set of criteria, measures and indicators for assessing the financial security of banks and methodological approaches to its evaluation. The **purpose** of this article is to systematize theoretical and methodological provisions and substantiate practical recommendations for assessing the level of financial security of banks. The main **objectives** of the study are: study and analysis of the existing methodological approaches to assessing the level of financial security of banks, identification of advantages and disadvantages of each, on this basis modification of the authors' own methodological approach, including criteria, measures, indicators, weights. In the course of the research, the following **methods** were used: abstract-logical analysis – for theoretical generalization and justification of directions and results of the study, systematic and statistical analysis – for analysis and systematization of methodological approaches to assessing the level of financial security of banks, method of expert analysis - for establishing the coefficients of significance of parameters in proposed models, graphical method – for visualization and schematic representation of theoretical and practical results of the study. Bank security zones have been proposed for each level of bank financial security and strategies for value-oriented management have been developed. **Results**. The existing methods and models for assessing the level of financial security of commercial banks were studied; the advantages and disadvantages of each are identified; an original methodological approach to assessment (criteria, indicators, indicators, weights and algorithm) under the conditions of macroeconomic instability was summarized and proposed. **Conclusions**. Based on a comprehensive analysis of the works of domestic and foreign scholars and practitioners on the problem of assessing and ensuring the financial security of commercial banks, it has been established that no single comprehensive model for assessing the financial security of banks has been developed yet. All existing models have a high affinity and no systemicity. A system of financial security valuation indicators is proposed, based on a value-oriented approach, and including indicators that integrate into five functional components: capital and resource, credit and investment, income and expense security, currency and value-monetary security of the bank. This approach makes it possible to quantify the impact of each set of indicators on the financial security level of a banking institution, determine its integral level and conduct its operational, tactical and strategic assessment. According to established zones of financial security of banks, value-oriented strategies for managing banks under the conditions of macroeconomic uncertainty are proposed.

Keywords: financial security of banks; indicators; methodical approach to the assessment of financial security of banks; functional components of financial security of banks; value-oriented strategy of bank management.

Introduction

The acute financial, economic and political crisis that has developed in Ukraine since 2014 has adversely affected the banking system of Ukraine, causing the number of commercial banks to be reduced by about half. However, most commercial banks in Ukraine were unprofitable. This led to a decline in consumer confidence in the banking sector, deterioration in the quality of bank loan portfolios, which necessitated the clearing of the banking system, which began in 2014, and required an additional increase in banks' capital to create significant reserves for active operations.

According to the National Bank of Ukraine, in Ukraine in the second quarter of 2019, there were 76 operating banks. As of the beginning of 2018, there were 82 commercial banks. A characteristic feature of the current stage of development of the Ukrainian banking system is the transition from unprofitable to profitable operation. The banking sector for the second year in a row has a high profitability due to the stable growth of income consumer lending, non-cash transactions with the population, cost control and revaluation of foreign exchange instruments. The level of dollarization is decreasing, the quality of the loan portfolio has improved, and the inflow of deposits from the population and business has been maintained. As a result, the ratio of operating expenses to operating income (Cost-to-Income Ratio, CIR) of the sector was 47.1%. For the first half of 2018, Ukrainian commercial banks as a whole received a total income of 9.7 billion against UAH 223 million losses

for the same period of 2017 and in the first half of 2019; net profit amounted to UAH 31 billion, significantly exceeding the figure for the whole of 2018. Almost 60% of the profits of the sector formed PrivatBank. From 76 solvent, only 66 banks were profitable (their profit amounted to 31.9 billion UAH.).

The process of ensuring the financial security of banks, their achievement of financial stability in the framework of harmonization of banking regulation and supervision with the requirements of European legislation due to modern tools for managing financial flows, including equity and deposits, credit and investment portfolios, achieving optimal values of economic standards by managing the level of liquidity and riskiness of assets is ongoing.

Thus, taking into account the importance of systemically important banks for the financial market, the national Bank of Ukraine revised the methodology for determining systemically important banks, taking into account the recommendations of the European Supervisory authority (EBA – European Banking Authority) and international practices. According to the previous methodology, since 2016, PrivatBank, Ukreximbank and Oschadbank have always been systemically important banks. Therefore, expanded the list of indicators of systemic banks and a two-step process of identifying such institutions: the first phase of the systemically important banks are defined by nine indicators, characterizing the size of the Bank's assets, activities and the extent of its financial relationships; the second stage uses a single indicator that characterizes the

level of concentration in individual banks of deposits that are guaranteed by the Deposit guarantee Fund of individuals. International experience shows the need to apply more stringent prudential rules to systemically important banks, which will provide an additional margin of safety for such institutions. The national Bank for systemically important banks of Ukraine has established special (enhanced) value of instant liquidity ratio (not less than 30%) and the maximum credit risk per counterparty (not more than 20%). From now on, according to the updated methodology, 14 banks are systemically important: PrivatBank, Oschadbank, Ukreximbank, Ukrgasbank, Alfa-Bank, Ukrsotsbank, Raiffeisen Bank Aval, FUIB, UkrSibbank, Taskombank, Universal Bank, Kredobank, OTP Bank, Pivdenny.

Stress testing of 29 banks, which account for more than 93% of the banking system assets, continues under basic and unfavorable macroeconomic scenarios.

Therefore, in the conditions of the need to ensure the stability and reliability of the banking sector in the long term, the approximation of standards of regulation of solvency and liquidity of banks to the recommendations of the Basel Committee, there is a reasonable need to study approaches to assessing the level of financial security of banks. The formation of a methodological approach to the assessment of its constituent elements is important because it allows taking timely measures to identify the main risks of activity and bankruptcy of banks in the conditions of macroeconomic instability. At the same time, the issue of ensuring the financial security of the Bank is relevant not only for banks, but also for all market participants.

Analysis of recent research and publications

The issues of assessing the level of financial security of banks, their financial stability and their relationship with the state of the economy have been studied by such scientists as K. Azizova, E. Andreeva, O. Baranovsky, Z. Vasilchenko, I. Vasilchenko, A. Voronkov, V. Gaiduk, A. Epifanov, P. Kallaur, V. Kovalenko, O. Kolodizev, I. Krupka, S. Melnyk, N. Natocheyeva, Z. Pestovskaya, O. Plastun, O. Ratz, N. Riznik, Y. Tysyachna, V. Franchuk, G. Khachaturian, V. Cherenkov, O. Stayer and many others.

Their approaches to studying the multifaceted issues of assessing the financial security of banks are based on methods and models with the use of different groups of financial ratios, economic standards, economic and mathematical modeling, expert evaluation methods, etc.

Particularly noteworthy are the works of E. A. Andreeva [3], O. I. Baranovsky [9], V. I. Gaiduk [1], N. M. Natocheyeva [6, p. 83–84], V. I. Franchuk and S. I. Melnyk [13, p. 55–56]. Noting the fundamental nature of theoretical and methodological developments, the solution of the non-trivial task of assessing the level of financial security of banks to overcome crisis phenomena and developing ways to strengthen the security of the banking sector in the conditions of macroeconomic instability is not completely completed and requires the use of modern tools for evaluating.

Highlighting unresolved parts of a common problem. The goal of the work

In an unstable macroeconomic environment and increased competition for customers for banks important are the assessment processes and monitoring of financial security of the bank to overcome the crisis and the organization of measures to prevent possible threats to its activities. The financial security of the bank is commonly understood as the state of protection of interests of owners, customers, employees and bank's management, its financial stability from the external and internal threats. Assessment of the level of financial security of the bank associated with the need for analytical processing of a large amount of diverse information, interpret it correctly and making the results of its analysis of reasonable and timely decisions In the process of the study revealed that the economic literature has not yet formed a unified methodological approach to assessing the level of financial security of commercial banks. Therefore, theoretic-methodological and practical value of the solution to the problem was determined by the relevance of the chosen topic, identified the purpose and direction of the study. On this basis, the aim of the article is the systematization of theoretical and methodical provisions and substantiation of practical recommendations for assessing the level of financial security of banks.

Materials and methods of research

The theoretical and methodological basis of the research was the scientific works of leading domestic scientists and foreign economists, reporting to banking institutions. In the course of the research, the following methods were used: abstract-logical analysis – for theoretical generalization and justification of directions and results of the study, systematic and statistical analysis – for analysis and systematization of methodological approaches to assessing the level of financial security of banks, method of expert analysis – for establishing coefficients of significance in proposed models, graphical method - for visualization and schematic representation of theoretical and practical research results.

Research results

Systematization of existing approaches to assessing the financial security of banks and the banking system in general according to the literature has allowed to distinguish the following groups of methods and models to assess the level of financial security of banks and the banking system: 1) methods and models based on the use of economic standards as the main criteria; 2) method of coefficients and indicators; 3) the method of economic and mathematical modeling; 4) methods of expert assessments (table 1) [27].

According to the analysis of the table 1 the greatest preference is given to methods and models based on coefficients and indices. The number of coefficients depends on the researcher's approaches (table 2) [14].

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Table 1. *Systematization of methods and models to assess the financial security of banks and the banking system according to literature ***

	Methods and models based on the use of economic standards	Methods and models based on coefficients and indicators	Methods and models based on banking risk assessment	Method of economic - mathematical modeling	Methods of expert evaluation
Authors	V. I. Gaiduk, N. V. Gaiduk, A. L. Voronkov [1] I. M. Krupka [2]	E. A. Andreeva [3], A. A. Epifanov and O. L. Plastun [4], O. M. Kolodizev and O. M. Stayer [5], N. N. Natocheyeva [6], P. V. Kallaur [7], G. Yu. Khachaturian [8], V. I. Gaiduk, N. V. Gaiduk, A. L. Voronkov [1], O. I. Baranovsky [9]	V. E. Cherenkov [10] A. O. Epifanov, O. L. Plastun, etc. [4] P. V. Kallaur [7]	Z. Vasilchenko, I. Vasilchenko [11] N. Reznik [12] O.M. Kolodizev, O.M. Stayer [5] V.I. Franchuk, S.I. Melnyk [13]	A.O. Epifanov, O.L. Plastun [4]

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Table 2. *Systematization of coefficients in methods and models for assessing the level of security of banks and the banking system according to literature sources ***

No.	Index/coefficient	E.A. Andreeva	A.A. Epifanov, O.L. Plastun	O.M. Kolodizev O.M. Stayer	N.N. Natocheyeva	P.V. Kallaur	G.Yu. Khachaturian	V.I. Gaiduk etc.	O.I. Baranovsky	V.I. Franchuk, S.I. Melnyk
1	Deviation from bank liquidity ratios / liquidity indicators	+	+		+	+				
2	Dynamics of indicators of economic efficiency and profitability (ROA, ROE), %	+	+		+	+	+		+	+
3	Asset quality	+			+					+
5	Norm of using the equity of banks for the acquisition of shares of legal entities, % *	+								
7	Interest margin level (loans-deposits), %		+			+			+	+
8	Efficiency of work with interest-bearing funds*		+							+
9	Efficiency of Commission activities *		+							
10	Profit per employee*		+							
11	Level of problem loans, %		+			+	+		+	+
12	Credit risk ratios, %		+		+	+	+	+		+
13	Loan-to-liability ratio, %		+							
14	Capital adequacy ratio, %		+				+			
15	Ratio of received and issued interbank loans*		+							
16	Common currency position* / Currency risk		+		+	+				
18	Stability of the resource base				+					
19	National and international stock market risk				+					
20	Payment position of the Bank*				+					
21	Financial stability				+					
22	Budget deficit				+			+		
23	Money supply M2 / money supply as % of GDP				+			+	+	
24	Changes in rates at the national and international IBC				+					
25	Distribution of loans by industry					+				
26	Share of customer funds denominated in foreign currency in all borrowed funds, %					+				
27	The factor of monetization						+			
29	The coefficient of dollarization, %						+			
30	Ratio of insolvent banks, %						+			
32	Share of manufacturing in industry, %							+		
33	Volume of investments							+		
34	Amount of debt							+		
35	Higher rate of growth of M2 over GDP, %							+		
36	Cost of Bank loans								+	
38	Yield 1 UAH. assets and equity*								+	+
39	Possibilities of using the Bank's internal reserves*								+	+
40	Prioritization of capital use*								+	+

* Created by the authors

**The indicator used to assess the financial security of commercial banks only

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Methical approach to assessing "strategic financial security of commercial banks" of Natocheyeva [6, p. 83–84] is based on indicators of internal, external, international financial security of commercial banks and allows to determine one of the five stages of financial security of banks: stable, not stable, threatening, critical, catastrophic.

According to V.I.Franchuk and S.I. Melnyk [13, p. 55–56] it is advisable to build a scale of assessment of the level of economic security of the bank using the formula of "golden division", which allows to build a gradation of economic security of the bank at levels: insufficient, critical, sufficient, optimal. At the same time, much attention is paid to the assets of the bank, which is the dominant component of determining the indicators proposed by the authors.

Methical approaches of E. A. Andreeva [3], G. Yu. Khachaturian [8], V. I. Gaiduk [1], O. I. Baranovsky [9] are based on the isolation of certain indicators (indicators), which reflect the state of financial and economic security of banking activity, but the economic and mathematical modeling is not applied.

According to P. V. Kallaur [7, p. 29], financial security indicators should be grouped according to the degree of risk taking into account the economic standards of banking.

The model proposed by O. M. Kolodizev and A. M. Stayer [5, p. 69] is based on the calculation of taxonomic indicators of business activity, liquidity, capital adequacy of banks and management efficiency, as well as on cluster analysis, which makes it possible to rank banking institutions in terms of economic security.

Individual authors evaluate the financial security of the bank by comparing key indicators with their thresholds (Pestovskaya Z. S. [15]) or by analyzing the trend (Kovalenko V. V. [16]), without defining an integral indicator of bank security.

Tysyachna Y. S., Azizova K. M. and Rats O. M. noted that a large number of indicators used in the process of assessing the financial security of the bank leads to so-called "excess information", since most of them are often interdependent and characterize different sides of the same process or condition. In order to exclude from the initial system the indicators that characterize the financial and economic security of the bank and those that duplicate the information, as well as to highlight those indicators that carry the most important information, they recommend the use of factor analysis by the principal components by which the groups of isolated indicators stand out performance indicators. For the practical implementation of the principal component method, Statistica 6.0 application package is used. According to the rules of multivariate factor analysis, further studies use only those factors that explain at least 70% of the variance, and the magnitude of the factor loadings of individual significant indicators exceeds 0.7 by magnitude [17, p. 430–432].

In addition, the authors recommend that these partial indicators, identified by factor analysis by principal component method, should be reduced to an integral indicator of assessing the financial security of the bank in order to determine the directions of improving the financial security of the bank, justify and make appropriate management decisions. It is advisable to carry out the clotting using the additive convolution method, normalizing the actual values of the partial indices taking into account the coefficients of significance, which are also calculated by means of normalization of factor loadings. It is proposed to calculate the actual quantitative value of the integral financial security (FS) indicator for banks on the basis of formula 1:

$$FS = \sum_{i=1}^{n} K_{sigi} \frac{X_{fi}}{X_{refi}}, \qquad (1)$$

where K_{sigi} – the coefficient of significance of the i-th partial indicator characterizing the financial security of the bank; X_{fi} – the actual value of the i-th partial indicator that characterizes the bank's financial security; X_{refi} – the reference value of the i-th partial indicator characterizing the financial security of the bank; n – number of partial indicators characterizing the financial and economic security of the bank [17, p. 430–432].

The calculated integral estimation is of a rather general nature that allows to determine the nature of changes over time, as well as to determine the rating of banks on the results of calculations, but for more detailed information, in particular to determine the reasons for deviations of any content and to justify the directions of transformation of financial security of the bank into necessary aspect of improving bank management, it is advisable to conduct an integrated assessment in the context of groups of indicators [17, p. 430–432].

Taken into account all above, it should be noted that a significant number of indicators of the financial security of the bank creates a number of problems, among which the most important are: first, the complexity of calculations; second, the complexity of collecting information, since 2015, a number of data has not been published in the public domain.

The process of assessing the level of financial security of banks involves the use, in addition to quantitative models, of expert valuation methods based on the questionnaire of bank employees. Such an assessment involves the formulation of questionnaires and expert surveys on a periodic basis. Based on peer review approaches of A.O Epifanov (table 3) [4, p. 194–195], a questionnaire model for assessing the level of financial security of banks was proposed.

To fill in the questionnaire, you must alternately put a score of 0 or 1 depending on the answer to each of the 30 questions. Depending on the number of points is determined by a certain level of security:

- 25–30 points – high level of financial security of the Bank;

- 20–25 points-sufficient level of financial security of the Bank;

- 15–20 points – low level of financial security of the Bank.

If the assessment is below the critical level, it is necessary to conduct a more detailed comprehensive

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analysis that will identify problem areas in the activities of the banking institution.

It should be noted that the questionnaire is formed on the basis of a list of internal and external threats as criteria for assessing the level of financial security of banks presented in table 4 [4, p. 196].

Table 3. *Questionnaire model for assessing the level of financial security of banks* *

No.	Criterion	Number of points per answer	
		Yes	No
1	2	3	4
1	Experience of the bank's management (Chairman and members of the Board) more than 5 years	1	0
2	Loss of key employees	0	1
3	The bank has a risk assessment department	1	0
4	Use of proven risk assessment methodologies in the bank's work	1	0
5	Diversified structure of assets and liabilities of the bank	1	0
6	Significant level of dependence on shareholders and insiders	0	1
7	Transparency of the bank's work for clients and counterparties	1	0
8	Availability of access to cheap resources	1	0
9	The bank is owned by a foreign parent company	1	0
10	Availability of long-term development strategy (from 3 years and more)	1	0
11	Loss of major customers	0	1
12	Deterioration of the Bank's financial condition	0	1
13	High-risk operations	0	1
14	Risk of changes in the business environment, for example, changes in the legal field	0	1
15	Negative impact of the external environment	0	1
16	The presence of macroeconomic crises in the country	0	1
17	Maturity balance of assets and liabilities	1	0
18	Balance of assets and liabilities by subjects	1	0
19	Increase in overdue debt	0	1
20	High level of problem loans	0	1
21	The growth of loan defaults	0	1
22	Increase in the share of high-risk assets	0	1
23	Disclosure of confidential information about the Bank	0	1
24	Low level of staff qualification	0	1
25	Low profitability (lower than the average for the banking sector and (or) the group to which the bank belongs)	0	1
26	Loss of confidence on the part of depositors (outflow of deposits from the Bank)	0	1
27	Regular failures and unstable operation of the bank's information system	0	1
28	The Bank has a plan of anti-crisis measures	1	0
29	High dependence of the bank's activities on the political situation in the country	0	1
30	Deterioration of the bank's business reputation	0	1
	Maximum points	30	

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**For indicators containing a time interval analysis, the latter is taken as 12 months.

Table 4. *Typical threats to the financial security of the bank that were taken into account in the formation of the questionnaire* *

No.	Types of external threats	Types of internal threats
1	Legislative regulation of the bank's activities	Loan portfolio quality
2	Monetary policy pursued by the Central Bank	Qualification of the bank's management
3	The variability of the external environment	Unbalanced structure of assets and liabilities
4	Crisis of confidence in the banking system	Dependence on insiders
5	Activity of competitors	Illegal actions of the personnel of the banking institution
6	Illegal actions against the bank	Inefficient activities of the bank
7	Negative macroeconomic environment	-
8	Unpredictable government policies	-

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Based on the analysis to assess the level of financial security of the Bank using quantitative methods, a modified methodological approach is developed, which is based on the method of coefficients and includes the main banking indicators, taking into account the normative values of the indicators regulating banking activities (table 5).

Table 5. *Indicators characterizing the efficiency of the Bank and the level of its security *

Indicators	Calculation	Norm
Regulatory capital adequacy	Regulatory capital/ total assets and off-balance sheet instruments reduced by the amount of the respective reserves created for active operations and the amount of the loan collateral	Not less than 10%
Return on equity	Net profit/capital of the Bank	Not less than 15%
Return on assets	Net income / assets	Not less than 1,5%
The level of interest margin	Average loan interest rate-average Deposit interest rate	>5%
Liquidity (instant)	Highly liquid assets/current liabilities of the Bank	>20 %
Level of problem loans	(Problem (overdue) loans / loan portfolio)*100%	<5 %
Capital adequacy ratio	(Equity/(liability + equity)) * 100%	>10%
Financial leverage ratio	Liabilities/equity * 100%	100-300%

Source: [4, p. 197-199]

According to the research of existing methods of determining the level of financial security of banks [18], it is proved that they do not take into account the cost indicators of a banking institution. However, increasing the value of a bank to increase its investment attractiveness is an important task for the bank's management in a context of macroeconomic instability. The cost of the bank is a complex economic indicator that integrates the efficiency of its activity. Awareness of its importance in managing the bank is the key to the bank's financial stability, which significantly affects the level of financial security. However, the methodological principles of valuing banks on the basis of income, cost and comparative approaches in the underdeveloped financial market remain one of the least practically resolved issues, which significantly complicate the use of a cost-oriented approach in ensuring the financial security of the bank. Despite these difficulties, in the context of macroeconomic instability and intensification of banks' mergers and acquisitions, it is important to take into account the value-oriented components in measuring the integral index of financial security of banks by separating them into a separate component of monetary and monetary security.

Thus, for an objective evaluation of the level of financial security of banks proposed to use a multilevel model estimates the level of financial security of banks, which provides a comprehensive analysis of the financial condition of the Bank at the operational, tactical and strategic levels, allowing you to assess the real degree of threat to the financial security of the Bank, to identify key issues and apply measures for their elimination (fig. 1) [18]. The proposed model is based on the calculation of the integral indicator of the level of financial security of banks in the selected five functional components, namely: capital resource (0, 25), loan and investment (0, 20), security of income and expenses (0,15), currency (0,10) and money-money security Bank (0,30). By expert estimates set the weight of each group of indicators in integrated safety index (table 6).

The first component - capital and resource – is based on the analysis of the relationships between different groups of assets, liabilities and equity. The credit-investment component allows revealing opportunities and orientation of the bank in attracting financial resources; it gives an opportunity to assess the ability of the bank to fulfill its obligations to clients, creditors, investors,

shareholders and other counterparties in the analyzed periods. The component of income and expense security makes it possible to draw conclusions about the bank's profitability. The monetary component allows estimating the level of value generation by cash flows from operating, investment and financial activities.

Depending on the results obtained, the level of financial security of banks is determined by five levels:

1) optimal (0.80-1.00) - the level of financial security of the Bank, characterizing the effective functioning of the Bank;

2) sufficient (0.60-0.80) – the level of financial security of the Bank, which implies the weakening of one or more security components;

3) satisfactory (0.40-0.60) – the level of financial security of the Bank, allowing the Bank to perform its functions, but a possible tendency to reduce the level of financial security;

4) low (0.20-0.40) – the level of financial security of the Bank, which allows to perform certain functions and there is a further threat to the existence of the Bank;
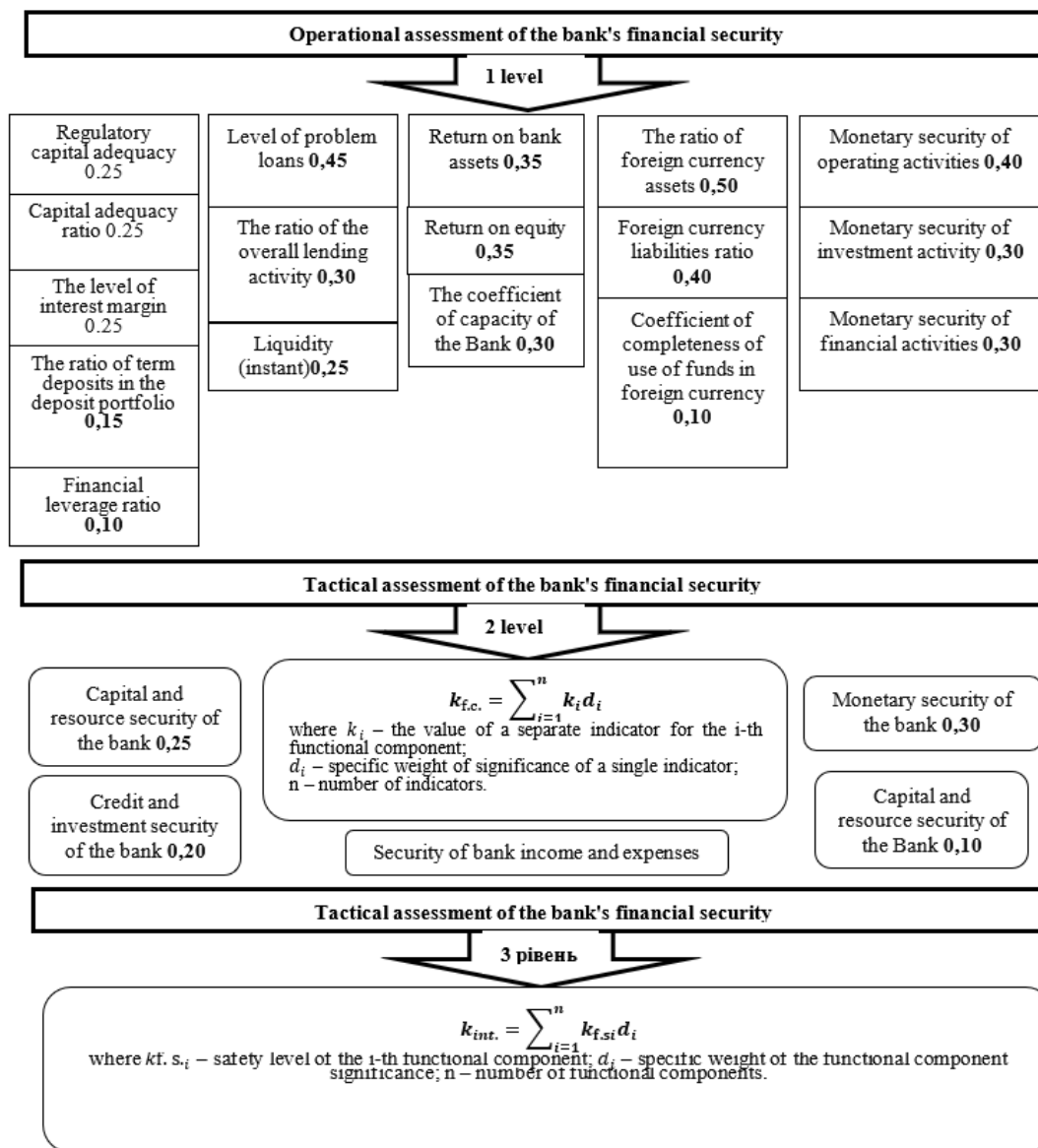
5) critical (0-0,20) – the level of financial security of the Bank, which characterizes unprofitable activities, the Bank is at the stage of bankruptcy or liquidation.

According to each level of financial security of banks, it is proposed to establish security zones of the Bank and develop cost-oriented management strategies corresponding to them:

- under optimal level of financial safety of banks, it is advisable to apply a strategy to maintain the momentum of growth, which provides for the preservation of the achieved level of security by maintaining a growth rate value. This strategy includes monitoring the rate of increase in value in order to prevent the emergence of possible threats and quickly neutralize their impact. Banks that choose this strategy are characterized by a high level of regulatory capital adequacy, capital adequacy ratio. To maintain the growth rate of value, a banking institution must maintain a high level of liquidity and return on assets;

- with a sufficient level of financial security of banks-a strategy to increase the rate of growth of value, which is aimed at increasing the growth rate of the value of the banking institution. This strategy is chosen by banks that are trying to maintain a leading position in the market, so they must have a high level of capital components (adequacy of regulatory capital, capital

adequacy ratio, return on equity) and liquidity, provided that the average level of components of problem loans and

the level of interest margins is provided;

Fig. 1. A model for assessing the level of financial security of banks *

* *Source: authors ' development based on [18]*

- with a satisfactory level of financial security for banks, a strategy to achieve the target of value, which aims to determine and achieve the desired value of a banking institution. As this strategy is aimed at achieving the target level of value, the institution needs to mobilize all available resources, which is manifested in a high level of regulatory capital adequacy, and to ensure the flexibility of the bank's activities. To quickly reorient an institution to other types of bank activity, it is necessary to achieve an average qualitative state of return on capital, liquidity, the level of bad loans and the ratio of capital adequacy;

- at low level of financial security of banks – a strategy of limited growth of value, which is aimed at ensuring the growth of value of a banking institution, which is carried out in conditions of scarce resources. Ensuring the growth of the bank's value requires an average qualitative status of the components of capital (regulatory capital adequacy, capital adequacy ratio), return on capital, liquidity;

- at a critical level of financial security of banks – a strategy to achieve a positive increase in value, which involves determining the amount of value potential of the bank and the introduction of measures aimed at increasing the value of the bank. As this strategy is implemented by the banking institutions in crisis and in a crisis state, banks with this type of strategy are characterized by low quality of liquidity components, return on capital, high level of bad loans, low level of interest margin and average quality state of adequacy of regulatory capital and capital adequacy ratio.

According to the results of the conducted researches it can be argued that the determination of the main factors of influence on the value and security of the bank enables

to develop and implement adequate measures of influence on internal factors and to take into account the actions of external ones in the conditions of macroeconomic instability.

Table 6. *A set of indicators for assessing the level of financial security of commercial banks* *

Indicator name	Algorithm for calculation	Threshold value	The share of the functional component in the overall structure
Capital and resource security of the bank (security of passive operations) (0.25)			
Regulatory capital adequacy	Regulatory capital/ total assets and off-balance sheet instruments reduced by the amount of the respective reserves created for active operations and the amount of the loan collateral	>0,10	**0,25**
Capital adequacy ratio	(Equity/(liability + equity)) * 100%	>0,10	**0,25**
The level of interest margin	Average loan interest rate-average Deposit interest rate	>0,05	**0,25**
The ratio of term deposits in the deposit portfolio	Ratio of term deposits to total Deposit portfolio	<0,50	**0,15**
Financial leverage ratio	Liabilities/equity	0-3	**0,10**
Credit and investment security of the bank (security of active operations) (0,20)			
Level of problem loans	Ratio of problem loans to total loans	<0,05	**0,45**
The ratio of the overall lending activity	Loan portfolio to total assets ratio	<0,75	**0,30**
Liquidity	Highly liquid assets/current liabilities of the Bank	>0,20	**0,25**
Security of income and expenses of the bank (0,15)			
Return on bank assets	Net profit to Bank assets ratio	>0,01	**0,35**
Return on equity	Ratio of net profit to balance sheet capital of the Bank	>0,15	**0,35**
The coefficient of capacity of the bank	Ratio of total expenses to total income	<0,95	**0,30**
Currency security (0,10)			
The ratio of foreign currency assets	Ratio of foreign currency assets to total assets	<0,4	**0,50**
Foreign currency liabilities ratio	Ratio of foreign currency liabilities to total liabilities	<0,5	**0,40**
Coefficient of completeness of use of funds in foreign currency	The ratio of the volume of loans issued in foreign currency to the volume of borrowed funds in foreign currency	<0,9	**0,10**
Monetary security of the bank (0,30)			
Monetary security of operating activities	Ratio of the Bank's market value to operating cash flows	More than 0	**0,40**
Monetary security of investment activity	Ratio of the Bank's market value to investment cash flows	More than 0	**0,30**
Monetary security of financial activities	Ratio of the Bank's market value to financial cash flows	More than 0	**0,30**

* *Source: authors ' development based on [18]*

Conclusions

Therefore, in the context of macroeconomic instability, the problem of measuring the financial security of banks becomes particularly relevant and significant. Adequate assessment of the true level of financial security of the parties depends on the timeliness and effectiveness of measures to prevent and prevent existing and potential threats to the banking system.

On the basis of a comprehensive analysis of the works of domestic and foreign scientists and practitioners on the problem of assessment and financial security of commercial banks found that still has not developed a single comprehensive model for assessing the financial security of banks. All existing models have a high level of kinship and lack consistency. Therefore, we propose a methodological approach to assessing the level of financial security of banks, based on the principles of value-based management using a system of indicators that are integrated with five functional components: capital and resource, credit and investment, security of income and expenses, currency and monetary security of the bank. This approach makes it possible to quantify the impact of each group of indicators on the level of financial security of a banking institution, to determine its integral level and to carry out its operational, tactical and strategic assessment of the levels of financial security with the use of appropriate strategies cost-oriented management.

Thus, it is proved that with the help of an adequately selected model for assessing the financial security of banks it is possible to obtain a comprehensive assessment of the financial position of the bank and assess the degree of threat to its financial security. This will make it possible not only to prevent the occurrence of crisis situations at the initial stage, but also to apply timely methods to neutralize possible threats, as well as to implement an appropriate strategy for managing the bank's value in the conditions of macroeconomic instability.

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ОЦІНКА ФІНАНСОВОЇ БЕЗПЕКИ БАНКІВ В УМОВАХ МАКРОЕКОНОМІЧНОЇ НЕСТАБІЛЬНОСТІ

Предметом дослідження є сукупність критеріїв, показників й індикаторів оцінки стану фінансової безпеки банків та методичні підходи до її оцінки. **Метою** написання статті є систематизація теоретико-методичних положень та обгрунтування

практичних рекомендацій щодо оцінки рівня фінансової безпеки банків. Основним **завданнями** дослідження є вивчення та аналіз існуючих методичних підходів до оцінки рівня фінансової безпеки банків, виявлення переваг та недоліків кожної з них, модифікація на цій основі власного методичного підходу, включаючи критерії, показники, індикатори, ваги. У процесі дослідження використовувались такі **методи**: абстрактно-логічний аналіз – для теоретичного узагальнення й обґрунтування напрямів та результатів дослідження, системного та статистичного аналізу – для аналізу та систематизації методичних підходів до оцінки рівня фінансової безпеки банків, метод експертного аналізу – для встановлення коефіцієнтів значущості параметрів у запропонованих моделях, графічний метод – для наочного зображення і схематичного представлення теоретичних і практичних результатів дослідження. Відповідно до кожного рівня фінансової безпеки банків запропоновано зони безпеки банку та розроблено відповідні ним стратегії вартісно-орієнтованого управління. **Результати**: вивчено існуючі методи і моделі оцінки рівня фінансової безпеки комерційних банків; визначено переваги та недоліки кожної з них; узагальнено та запропоновано власний методичний підхід до оцінки (критерії, показники, індикатори, ваги та алгоритм) в умовах макроекономічної нестабільності. **Висновки**. На основі комплексного аналізу праць вітчизняних та іноземних науковців та практиків щодо проблеми оцінювання та забезпечення фінансової безпеки комерційних банків встановлено, що досі не розроблено єдиної комплексної моделі оцінки фінансової безпеки банків. Всі існуючі моделі мають високий рівень спорідненості та не мають системності. Запропоновано систему показників оцінки фінансової безпеки, що ґрунтується на використанні вартісно-орієнтованого підходу та охоплює показники, які інтегруються за п'ятьма функціональними компонентами: капітало-ресурсної, кредитно-інвестиційної, безпеки доходів та витрат, валютної та вартісно-грошової безпеки банку. Даний підхід дає змогу кількісно оцінити вплив кожної групи показників на рівень фінансової безпеки банківської установи, визначити інтегральний її рівень та здійснити її оперативну, тактичну й стратегічну оцінку. За встановленими зонами фінансової безпеки банків запропоновано вартісно-орієнтовані стратегії управління банками в умовах макроекономічної нестабільності.

Ключові слова: фінансова безпека банків; індикатори; методичний підхід до оцінки фінансової безпеки банків; функціональні компоненти фінансової безпеки банків; вартісно-орієнтована стратегія управління банками.

ОЦЕНКА ФИНАНСОВОЙ БЕЗОПАСНОСТИ БАНКОВ В УСЛОВИЯХ МАКРОЭКОНОМИЧЕСКОЙ НЕСТАБИЛЬНОСТИ

Предметом исследования является совокупность критериев, показателей и индикаторов оценки состояния финансовой безопасности банков и методические подходы к ее оценке. **Целью** написания статьи является систематизация теоретико-методических положений и обоснование практических рекомендаций относительно оценки уровня финансовой безопасности банков. Основным заданиями исследования являются изучение и анализ существующих методических подходов к оценке уровня финансовой безопасности банков, выявление преимуществ и недостатков каждой из них, модификация на этой основе собственного методического подхода, включая критерии, показатели, индикаторы, вес. В процессе исследования использовались такие **методы**: абстрактно-логический анализ – для теоретического обобщения и обоснования направлений и результатов исследования, системного и статистического анализа - для анализа и систематизации методических подходов к оценке уровня финансовой безопасности банков, метод экспертного анализа – для установления коэффициентов значимости параметров в предложенных моделях, графический метод – для наглядного изображения и схематического представления теоретических и практических результатов исследования. В соответствии с каждым уровнем финансовой безопасности банков предложены зоны безопасности банка и разработаны соответствующие им стратегии стоимостно-ориентированного управления. **Результаты**: изучены существующие методы и модели оценки уровня финансовой безопасности коммерческих банков; определены преимущества и недостатки каждой из них; обобщен и предложен собственный методический подход к оценке (критерии, показатели, индикаторы, вес и алгоритм) в условиях макроэкономической нестабильности. **Выводы**. На основе комплексного анализа трудов отечественных и иностранных ученых и практиков относительно проблемы оценивания и обеспечения финансовой безопасности коммерческих банков установлено, что до сих пор не разработано единственной комплексной модели оценки финансовой безопасности банков. Все существующие модели имеют высокий уровень родства и не имеют системности. Предложена система показателей оценки финансовой безопасности, которая основывается на использовании стоимостно-ориентированного подхода и охватывает показатели, которые интегрируются за пятью функциональными компонентами: капитало-ресурсной, кредитно-инвестиционной, безопасности доходов и расходов, валютной и стоимостно-денежной безопасности банка. Данный подход дает возможность количественно оценить влияние каждой группы показателей на уровень финансовой безопасности банковского учреждения, определить интегральный ее уровень и осуществить ее оперативную, тактическую и стратегическую оценку. За установленными зонами финансовой безопасности банков предложены стоимостно-ориентированные стратегии управления банками в условиях макроэкономической нестабильности.

Ключевые слова: финансовая безопасность банков; индикаторы; методический подход к оценке финансовой безопасности банков; функциональные компоненты финансовой безопасности банков; стоимостно-ориентированная стратегия управления банками.

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