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**PROSPECTS FOR THE DEVELOPMENT OF  
FINANCE IN THE CONDITIONS OF  
EUROPEAN INTEGRATION OF UKRAINE**

Monograph

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**P.34: PROSPECTS FOR THE DEVELOPMENT OF FINANCE IN THE  
CONDITIONS OF EUROPEAN INTEGRATION OF UKRAINE**

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**P.34**      **Prospects for the development of finance in the conditions of European integration  
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The monograph is dedicated to the consideration of the problems of the development of the financial market of Ukraine that are relevant in the context of European integration. Very important issues of today, which are highlighted in the monograph, are the restoration of budgetary stability and debt security of Ukraine in the post-war period, improvement of monetary and budgetary policy aimed at macroeconomic stabilization in the country. The authors emphasize the tools that can ensure anti-crisis regulation of the banking system, financial business management. The monograph examines the issues of ensuring the economic security of the construction industry, directions for improving the accounting policy in the field of business as a whole, and improving the quality of audits.

These and other aspects of the current problems and priority directions of the development of the financial market are devoted to the monograph of the team of authors who carry out up to date researches within the scientific school of the National University "Poltava Polytechnic named after Yury Kondratyuk".

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## ASSESSMENT OF FINANCIAL STABILITY AS A COMPONENT OF THE BANKING SYSTEM ANTI-CRISIS REGULATION MECHANISM

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The banking system plays a key role in the formation and development of country's economy, and its condition directly affects the effectiveness of financial interaction between various economic entities. This is due to its functional purpose in the system of economic relations and, first of all, the ability to redistribute free financial resources and generate additional funds for the needs of all participants in these relations - the state, economic entities, households.

During the time of independence, the banking system of Ukraine went through a difficult times of formation and development, the last period of which was characterized by its radical restructuring and renovation. The purpose of this transformation was to ensure the reliability of the functioning of the banking system, the ability to resist various threats, the minimization of its activity risks for the undisputed fulfillment of obligations to bank clients and continuously providing financial services. It is quite obvious that the fulfillment of those goals is impossible without ensuring the financial stability of the banking system, which is understood as the ability to ensure equilibrium in the long run by counteracting/adapting/absorbing internal and external shocks based on the use of a proactive approach to identifying and managing threats to the functioning of the bank over time; maintain the continuity, efficiency and financial effectiveness of operation; ensure sustainable targeted financial development through early adaptation to the objective transformations of the economic environment by comprehensive integration of risk-oriented approach and the use of the newest methods to manage the bank in terms of all its business processes [1, p.70].

Today, the Ukrainian banking system operates in extremely difficult conditions caused by military aggression, but continues to perform its functions, maintaining overall operational efficiency. However, the protracted nature of the war and large-scale destruction of infrastructure create new challenges for banks: the growth of credit and operational risks, potential problems with liquidity can destabilize the banking system. In this situation, the National Bank of Ukraine pays special attention to the implementation of a system of measures for early detection and response to increasing risks in order to prevent crisis development. The effective application of the anti-crisis regulation mechanism ensures stability and reliability of the banking system and maintaining the functioning of the economy significantly affected by the war and its post-war recovery.

According to experts, anti-crisis regulation includes a set of measures aimed at predicting and preventing a crisis; identification and diagnosis of threats and analysis of their indicators; reducing the negative consequences of crisis to optimize the financial activity of banking system, overcoming disproportions in the distribution of financial resources [2; 3]. The key to its effectiveness is the full functioning of the special mechanism of anti-crisis regulation in the unity and interaction of its components.

As for the concept of "mechanism", it came to economic science from the technical sphere, but acquired relevant specifications, as a result of which economic, market, financial, organizational-economic and other mechanisms are studied. In particular, the economic mechanism

is understood as a set, a system of elements influencing the economic interests of economic entities, which takes into account the peculiarities of its external and internal environment [4].

The financial mechanism is a complete set of methods, forms, tools and levers of influence on the processes of formation, distribution and use of financial resources in order to ensure sustainable rates of economic growth [5]. The organizational mechanism is considered from the standpoint of organizational and management actions, creation of an organizational structure, relationships between its elements, processes for achieving the main purpose by ensuring the achievement of set goals, etc. [6].

According to the nature of the organization, Chaika Yu. singles out the mechanisms of self-organization and external organization or management. Mechanisms of self-organization allow the system itself to act as a source of organizational processes, to independently transform its own construction, methods of its functioning and development. First of all, these are mechanisms of positive and negative feedback, adaptation and bifurcation mechanisms. Since the development of economic systems, unlike the spontaneous development of natural systems, can be managed and adjusted by people, it is important to investigate the mechanisms of conscious organization or external management [7]. These include management mechanisms and regulatory mechanisms.

Economic encyclopedia edited by S.V. Mocherny provides a definition of the management mechanism as a consciously organized, purposeful and active influence of various management subjects on the process of development and functioning of the social mode of production or its individual sections [8]. At the same time, the mechanism of state management is defined as levers, tools, elements, processes and patterns of a socio-economic nature, with the help of which executive and legislative authorities influence on the economic, financial, and production activities of enterprises, organizations, in order to stabilize and develop the existing socio-economic system [9].

Under the mechanism of regulation Mordan E.Yu. understands a set of certain methods and tools that are at the disposal of regulatory subjects acting according to the functions and principles of regulation, the application of which makes it possible to solve the outlined tasks and achieve set goal - stable functioning of the system [10].

To clarify the meaning of the concept of "mechanism" we can arrange regulation and management mechanisms as interconnected elements that ensure the activity of the organizational system (Table 1) [11].

Table 1

**Characteristics of mechanisms as elements that ensure the activity of the organizational system**

Types of mechanisms	Purpose of mechanisms	Functional and process components of mechanisms			
Regulation mechanism	Regulation of functioning, activity, process	Goal	Sequence of influence	Means of regulation	Monitoring procedure
Management mechanism	Creating an organizational system for regulation or management	Plan (program) for goal achievement	Organization (organizational planning)	Stimulation (motivation)	Control over goal achievement

Source: [11]

We agree with the authors of the monograph [12] that the mechanism is constantly in progress, consists of elements that being in an active state form a certain process. It is closely related to the concept of a system that characterizes a set of elements, and a mechanism - their interaction to achieve a goal. At the same time, it should be mentioned that the concept of the mechanism of anti-crisis regulation of the banking system in modern economic science has not yet been fully formed and, accordingly, its essence, structure and functions have not been investigated. The foreign experience of state regulation of the activities of banking institutions indicates the presence of common features for all countries, which are: the institute that performs the role of the regulator, its functions and objects of regulation.

Based on existing methodological approaches, we will try to form such a mechanism, giving each element a specific content and combining them taking into account relationships and mutual influence. First of all, the goals that must be achieved as a result of the functioning of the mechanism can be divided into:

- achieving financial sustainability of banking institutions for a certain period of time (tactical goals);
- maintaining the financial stability of the banking sector as a qualitative characteristic in the long term (strategic goals).

The object of regulation is the banking system consisting of banks, as well as branches of foreign banks established and operating on the territory of Ukraine. Subjects carrying out anti-crisis regulation of the banking system should include such authorities and state administration bodies as the Verkhovna Rada of Ukraine, the Cabinet of Ministers of Ukraine, the National Bank of Ukraine, and the Individual Deposit Guarantee Fund.

The Verkhovna Rada of Ukraine, within the framework of anti-crisis regulation of the banking system, determines the legal basis for protecting the rights of consumers of banking services; approves state programs for the restructuring of problem loans; adopts new laws or improves existing ones detailing the process of declaring banks insolvent and withdrawing them from the market.

The Cabinet of Ministers of Ukraine regulates financial processes, protects the strategic and economic interests of the state. The government carries out recapitalization of banks with state participation and, if necessary, nationalization of systemically important banks. The adoption of anti-crisis programs of the government related to the stable functioning of the banking system and its recovery, the creation of special funds. The Ministry of Finance of Ukraine, together with the Entrepreneurship Development Fund, has implemented state lending assistance programs to support Ukrainian business and properly fulfill the government's interest rate compensation obligations.

The National Bank of Ukraine carries out regulation and banking supervision according to the principles of the Constitution of Ukraine, the Law of Ukraine "On Banks and Banking Activities", the Law of Ukraine "On the National Bank of Ukraine", other legislative acts of Ukraine and normative legal acts of the National Bank of Ukraine [13; 14]. The National Bank performs functions of banking regulation and supervision on an individual and consolidated basis over the activity of banks and banking groups within the limits and legislative framework of Ukraine.

Deposit Guarantee Fund was created to protect the rights and legitimate interests of bank depositors and strengthen trust in the banking system of Ukraine. The Fund carries out the procedure of removing insolvent banks from the market, including introduction temporary administration and liquidation of banks, organizes the disposal of all or part of the assets and liabilities of an insolvent bank, selling procedure for an insolvent bank or creation and selling of a

transitional bank. It also organizes the procedure of compensation payments for deposits of individuals.

In our opinion, implementation of anti-crisis regulation of the banking system should be based on the following principles:

- effectiveness: the effectiveness of the mechanism helps to achieve the financial stability of the banking system, the balanced state of the banking market, as well as the formation of a competitive environment;
- predictability: the financial stability of the banking system must be maintained over the medium and long-term periods, which requires the implementation of proactive and preventive measures;
- adequacy: the methods and tools used by the subjects of anti-crisis regulation must correspond to the state of banking system and the environment in which it is functioning;
- transparency: provision of reliable and complete information about the activities of regulatory entities and decisions made by them, as well as about the functioning of banking institutions;
- integrity: decision-making by regulatory subjects undoubtedly depends on the current state of the banking system and the specifics its functioning. It is provided by constant collection and analysis of indicators that directly or indirectly reflect the efficiency of the banking system and its financial stability.

Anti-crisis state regulation mechanism of the banking system is implemented through methods and tools (Fig. 1). Most often, the method is interpreted as a way, a systematized set of steps for achieving any goal, solving a specific task. The tool is understood as a technique or algorithm used as a mean of influencing an object, changing it in order to achieve a useful effect.

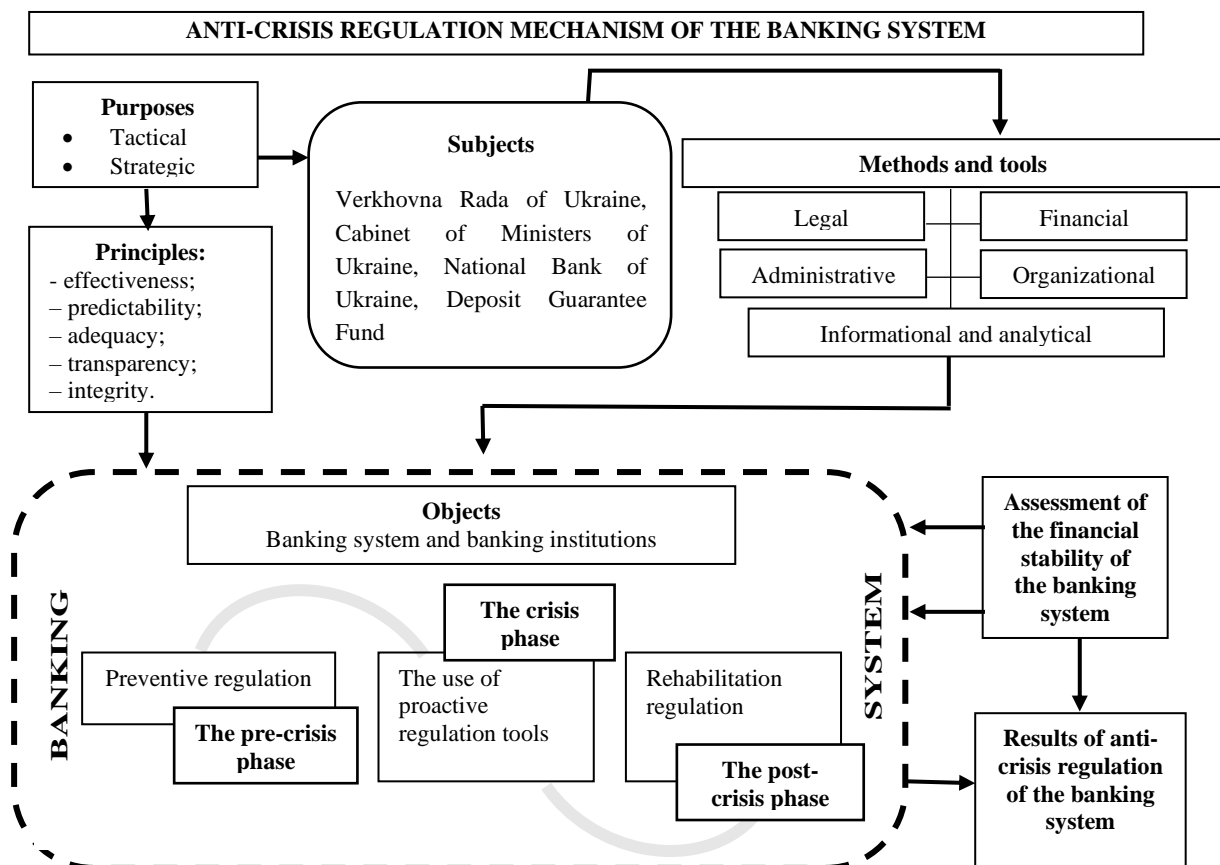


Fig. 1. Components of anti-crisis regulation mechanism of the banking system



Taking into account the above, the method can be considered as a set of tools, which are used to influence the object of regulation. Accordingly, by the method of anti-crisis banking regulation, we mean a set of tools that are used to influence the objects of the banking system through the performance of their functions by subjects in the field of banking regulation. State anti-crisis regulation of the banking system is carried out using the following methods [15]:

1) legal: law-making instruments – ratification of legislative and regulatory acts on the regulation of banks' activities;

Legislative documents protect the rights of consumers of banking services and create additional opportunities for preferential lending for businesses during the crisis. The National Bank of Ukraine promptly ratifies normative legal acts regulating the operation of the banking system in a certain period of time taking into account its specifics;

2) administrative: changing the requirements for bank economic indicators, requirements for business and population lending. Instruments are understood as preventive restrictions provided by NBU, in particular: regulation of currency operations, limitation of currency interventions by the NBU, regulation of interest rates, etc.

In a crisis period the NBU may not apply sanctions for violation of regulations. However, at the same time, a temporary ban is imposed on the distribution of capital, in particular, the payment of dividends is not allowed. The exchange rate of the national currency is fixed. Restrictions on the purchase of currency, cross-border currency transactions are introduced. Restrictions apply to withdrawals from foreign currency accounts. Establishing the compulsory sale of foreign exchange earnings of exporters and shortened terms of its return. Setting limits for daily purchases of foreign currency by banks. Banks are given the temporarily right not to deteriorate the quality of service of the borrower's debt for loans restructured as a result of a decrease in the borrower's income;

3) informational and analytical: use of tools for anticipatory diagnosis and forecasting of crisis processes; carrying out stress testing; making the financial improvement programs, formation of a strategy for the development of the banking system;

Constant monitoring of macroeconomic indicators put into practice. Economic surveys and an overview of the banking sector are conducted. The National Bank organizes and controls the statistical reporting of banks;

4) organizational: a tool for the distribution of spheres of influence between the subjects of the banking system, using the implementation of transformational measures in the banking system.

Insolvent banks are being reorganized through mergers, combinations, transformations, and nationalization. There's also take place changes in spheres of influence and redistribution of functions of subjects of the banking system.

5) financial: include instruments related to the providing financial support, in particular, in the form of bank refinancing, regulation of required reserves, absorption of excess liquidity, etc.

The National Bank maintains the liquidity of the banking system by using such standard instruments as refinancing operations (overnight loans, refinancing loans), direct repo operations, operations with own debt obligations, and operations with government bonds of Ukraine.

Formation of mandatory, general and special reserves to reduce the risk of loss of assets in connection with the bank's default on deposits and other passive operations, to secure certain risks of default of customers, counterparties to the bank on loans and other active operations.

The tools of anti-crisis regulation of the national economy are applied comprehensively, taking into account the possibility of their multidirectional influence or synergistic effect.

In order to take adequate anti-crisis regulatory measures, it is necessary to apply different methods in each of the periods of the functioning of the banking system. In particular, taking into account the cycles of economic processes, pre-crisis, crisis and post-crisis phases can be distinguished.

Before the approach of a crisis, it is better to apply a preventive state regulation of the banking system, which involves the development of methods of responding to detected strong signals of crisis phenomena by using tools that are activated in advance.

On the phase of the escalation of crisis phenomena in the banking system, it is necessary to continue to implement preventive anti-crisis mechanism as well as proactive tools of anti-crisis regulation. This stage is characterized by the development and implementation of state anti-crisis regulation tools aimed at restoring the ability of the banking system to perform its functions, restoring the solvency of banks, restoring trust in them, protecting the rights of depositors, investors and creditors, and reducing the impact of crisis phenomena on the real sector of the economy [16].

The post-crisis phase involves the implementation of policies aimed at improving the financial and economic systems. The rehabilitation regime consists of minimizing the negative financial, economic and social consequences of the banking crisis, using its factors to ensure stable functioning and development, continuing the uninterrupted performance of the functions of the banking system in the changing conditions of the external environment.

During this phase it common to use such tools as an assessment of real financial condition of banking sector, conducting inspections of banks, determining the actual needs for refinancing, improving the legislative and regulatory framework in order to ensure the effective functioning of the banking sector.

If signs of an unstable financial state of the banking system appeared, or the circumstances threatening its stability occurred, the National Bank of Ukraine will have the right to determine temporary features of regulation and supervision of banks or other persons that may be subject of the National Bank of Ukraine inspection, including features of maintenance liquidity of banks, application of economic standards, formation and use of reserves to compensate possible losses due to active operations of banks, to introduce restrictions on their activities.

The activity of the NBU in the field of regulation of the banking system is connected with its constant monitoring of crisis phenomena on the macro and micro levels, primarily those that may affect Ukraine, the formation of mandatory reserves on accounts with the NBU and at the level of commercial banks - reserves for expected losses , early informing second-level banks about the need to take precautionary measures, reviewing the current refinancing mechanism, strengthening control over problem banks.

The results of the implementation of anti-crisis regulation are determined by the level of goals achievement as a result of the functioning of the corresponding mechanism. It is important to ensure constant monitoring of the financial stability of the banking system.

Highlighting the assessment of the stability of the banking system as a separate component of the mechanism allows us to show its important role in the implementation of state anti-crisis regulation of the banking system. The necessity to assess the financial stability of the banking system of Ukraine is defined by the need for a comprehensive understanding of the trends in its dynamics to ensure the effective application of methods and tools of anti-crisis regulation. We propose to use a systematic approach to the anti-crisis regulation of the financial stability of the banking system, which should take into account and combine a set of components that allow to comprehensively develop, implement and apply anti-crisis programs for the financial activities of

banks based on specific indicators for identifying internal and external threats, assessing crisis phenomena and situations, the depth of the crisis and the taking preventive (pre-crisis stage), proactive (crisis stage) and rehabilitation (post-crisis stage) measures.

Assessment of the financial stability of the banking system requires the formation of an effective methodological basis and clarifying the object of assessment. First of all, the object of financial stability assessment is the activity of banking institutions, since the bank itself is an institutional unit that is the primary section and the main component of the formation of the banking sector financial stability. At the same time, it is worth noting that the macroeconomic environment in which banking institutions operate is changing rapidly and dynamically. Therefore, banks' the financial stability is determined by both internal (micro-level) and external (macro-level) conditions and factors of development. That is why the methods of assessing banks' financial stability should also take into account external factors affecting their activity.

The object of quantitative analysis and evaluation of a separate banking institution activity, from the point of view of determining financial stability, is most often defined as:

- capital adequacy and its structure;
- quality and structure of assets;
- profitability, liquidity and solvency of the bank; growth rates of the main activity indicators;

banking risks [17, 18].

We systematized and grouped the main methodical approaches for the assessment of financial stability in the banking sector (Table 2).

Table 2

**Methodical approaches for the assessment of financial stability in the banking sector**

Assessment methods	Approaches to assessment
Coefficient methods	Assessment of financial stability within the framework of macroprudential and microprudential policies
	Stress testing
	Ratio method
	Coefficient analysis
Non-parametric methods	Signal approach
	Ratings
Mathematical methods.	Theory of probabilities
	Theory of fuzzy sets
Econometric and statistical methods	Cluster analysis
	Discriminant analysis
	Correlation analysis
	Factor analysis
	Taxonomic analysis
Graphical methods	Analysis based on the construction of graphs and diagrams
	Analysis based on the construction of cartograms and schemes

*Source: systematized by the author based on [19, 20]*

Each of the methodological approaches to assessment can find its place in the system of banks' financial stability maintenance, however all these methods have their advantages and disadvantages and can be used both individually and in combination. To understand the specifics of each methodological approach to banks' financial stability assessment and the relevance of its application depending on the phase of anti-crisis regulation of the banking system, we will consider

the essence, advantages and disadvantages of each method and assess the financial stability of banks according to the main ones.

Coefficient methods of banks' financial stability assessment are based on the calculation of indexes (indicators, coefficients) that characterize banks' activity of banks due to their financial statements. This method involves the determination of a significant number of indicators, which allows versatile studying the indicators that reflect the financial resistance and stability of banking institutions. The classification of financial stability assessment approaches within the framework of the coefficient method is somewhat conditional, since coefficients (indicators) can be used as a basis for many evaluation methods. In addition, the ratio method and stress testing, in particular, are components of both micro- and macro-prudential approaches to assessing financial stability in the banking sector. However, the coefficient approach is used more often to determine the trends of preventive anti-crisis regulation of the banking system. It makes it possible to analyze and evaluate the financial activity of banks in the context of diagnosing crisis phenomena and threats due to the identified problematic aspects of banking institutions. It involves the assessment of crisis phenomena and situations, identification of threats and dangers, the type and depth of the crisis and the present quality level of of anti-crisis regulation.

The main problematic aspects of banks' activity in today's conditions remain decreasing level of capitalization, the deterioration of the quality and depreciation of bank assets, the increase in the volume of problematic and hopeless loans, the decrease in the volume of liabilities, the decrease in indicators of profitability and efficiency of operations to a minimum critical value. Therefore, we consider it efficient to present the analytical toolkit for assessing banks' financial stability in the context of our methodical approach that includes 6 groups of indicators, which are systematized by the subject and allow identification of real and potential crisis phenomena and threats, in particular:

- 1) level of capitalization;
- 2) quality of assets;
- 3) credit and investment activity;
- 4) liquidity;
- 5) banks' deposit base;
- 6) profitability and efficiency of banking activity

Indicators for assessing the level of capitalization of banks cover the determination of the following coefficients: solvency, ratio of regulatory capital to assets, dependence on shareholders, ratio of equity to balance currency, ratio of regulatory and balance capital, capital multiplier, financial leverage. This approach ensures the identification of problems in the capitalization level of institutions and corporate management, related to the need of increasing the amount of capital due to internal and external sources of its investment and planning of additional share issues.

Asset quality indicators are based on the determination of the following coefficients: asset risk, asset cost, bank business activity, value of current assets, ratio of income assets to balance sheet capital. These indicators make it possible to predict the "viability" of assets, as well as their ability to produce profit, taking into account liquidity and risks. The asset quality category is closely related to the risks, which, in today's conditions, are diversified into minimal, medium, significant, high and realized risks (the lowest quality category).

The indicators of credit and investment activity of banks include the following coefficients: credit activity, problem loans, the ratio of granted loans and attracted deposits, non-performing loans without taking into account reserved in capital, non-performing loans to total gross loans, foreign currency loans to total gross loans, investment activity, investments in securities to total

assets. Assessment of the profitability and risk of credit and investment activities of banks allows to characterize the size, sectoral focus and level of diversification and concentration of credit investments from the standpoint of their problematic nature and impact on the financial stability of banks, with the identification of crisis phenomena in this field of activity.

Liquidity indicators are based on the determination of a number of coefficients, such as: the ratio of liquid to total assets, the ratio of liquid assets to short-term liabilities, the total liquidity of institutions. Liquidity of banks is not only their ability to pay off their obligations, but also the ability to transform assets into a highly liquid or liquid form in the context of meeting both instant and current needs in liquid funds. The assessment of crisis phenomena in the activity of banking institutions from the point of their liquidity is important within further identification of liquidity and profitability problems. This allows us to state that liquidity is primary in relation to the solvency and profitability of banking institutions.

Indicators of banks' deposit base include a number of coefficients: the ratio of customer deposits to total gross loans (except interbank loans), attracted resources to total liabilities, foreign currency liabilities to total liabilities, deposits of individuals to liabilities, deposits of organizations to liabilities, term deposits to total liabilities of the bank, term and demand deposits, interbank loans to liabilities, interbank loans received and granted. These indicators are important for assessing crisis phenomena in the aspect of maintaining the stability of the resource base of banks and forecasting the outflow of deposits and possible withdrawal of clients' funds under the conditions of development of crisis phenomena at the macro and micro levels [20].

Indicators of profitability and efficiency of banking activity include such factors as: profitability of assets, profitability of capital, ratio of interest margin to total income, non-interest expenses to total income, cost of resources, efficiency of using payable liabilities, efficiency of using total liabilities, banks' efficiency, net interest margin, net spread. These general indicators make it possible to determine the level of profitability or loss of banking activity in absolute and relative sizes and to instantly react to crisis phenomena caused by inefficient activity in the operational, investment and financial spheres of activity.

On the basis of the received estimated values of the coefficients, their optimal values are compared with calculated values, and the type and depth of the crisis is determined, which, in our opinion, can be:

- 1) potential in conditions of stability of bank functioning;
- 2) hidden (latent) in the case of existing destructive values of analytical coefficients, which requires applying anti-crisis programs based on the use of preventive methods of anti-crisis regulation of banking activities;
- 3) acute if critical values of the majority of analytical coefficients, which confirm the problem in all 6 key areas of the banking business and require applying programs and using reactive anti-crisis regulation methods;
- 4) critical in the case of a situation of deep financial insolvency and unsustainability and the critical value of analytical coefficients.

The proposed approach is based on a comprehensive analysis of indicators of the financial stability of banks with the identification of real and potential crisis phenomena and threats and can be used for an integral assessment of the level of crisis of both the banking system and individual institutions.

We propose to determine the integral indicator of the assessment of the crisis state of banks (*I*) by formula (1):

$$I = I_k \times m_k + I_d \times m_d + I_{я.а} \times m_{я.а} + I_{кид} \times m_{кид} + I_l \times m_l + I_{ен} \times m_{ен}, \quad (1)$$

where  $I_n$  – the value of the integral indicator of a certain group of indicators ( $I_k, I_d, I_{я.а}$  etc.);  
 $m_n$  – the value of the weighting coefficient of a certain group of indicators ( $m_k, m_d, m_{я.а}$  etc.).

The values of the weighting coefficients are given in the table. 3. The total value of the weighting coefficients of the integral indicator is equal to 1, and the weighting values of the integral indicators of a certain groups are formed taking into account their priority and the significance of the impact on the appearance of crisis phenomena.

Table 3

**Weighting coefficients within indicator groups**

The name of the integral indicator	Conditional value of the weighting factor	Value
Coefficients for assessing the level of capitalization of banks	$m_k$	0,1878
Indicators of the bank's deposit base	$m_d$	0,1456
Asset quality indicators	$m_{я.а}$	0,1877
Indicators of credit and investment activity of banks	$m_{кид}$	0,1456
Liquidity indicators	$m_l$	0,1877
Indicators of profitability and efficiency of banking activity	$m_{ен}$	0,1456

Source: [21]

Also, the value of the integral indicator of a certain group of  $I_n$  indicators is determined by formula (2):

$$I_n = \sum_{i=1}^n I_i \times x_i, \quad (2)$$

where  $I_n$  – the value of the i-th indicator within a certain group of indicators;  
 $x_i$  – the weight value of the i-th indicator.

Crisis phenomena in the banking system, identified on the basis of the presented system of financial stability indicators, can serve as signal indicators for the detection of crisis phenomena and threats and characterize the levels of their depth and nature from the standpoint of the possibilities of onset, growth, strengthening, minimization and liquidation or deepening and development. It is advisable to differentiate the numerical values of the integral indicator of the assessment of banks' crisis state depending on the type and depth of the crisis in a certain range within the framework of 4 levels:

Level 1 – from 1 to 1.20 – a satisfactory level: the existence of signals of a potential crisis in the conditions of the stability of the functioning of banks and the system;

Level 2 – from 1.21 to 1.40 – dangerous level: hidden (latent) crisis. There are destructive values of analytical coefficients, which requires the applying of anti-crisis programs based on the use of preventive methods of anti-crisis regulation of banking activities;

Level 3 – from 1.41 to 1.60 – critical level: acute crisis. There are critical values of most analytical coefficients, which confirm the problem in all 6 key areas of banking business and require the applying of programs and the use of reactive anti-crisis management methods;

Level 4 – from 1.61 and above – catastrophic level: deep financial failure and unsustainability. There are critical values of analytical coefficients. In addition, there are a complete loss of ability to function in unstable conditions, signs of insolvency and unsustainability at the local and systemic levels.

According to the proposed methodological tools, calculations of the main analytical indicators of the level of financial stability of banks during 2018-2022 years were done within the six groups for identifying problematic aspects of activity and further application of anti-crisis regulation tools.

Data from the table 4 allows to state that over the past 5 years, there has been a stabilization of banking activity.

Table 4

**The main analytical indicators of assessing the level of financial stability of banks during 2018-2022 years based on capitalization ratios**

Indicators	2018	2019	2020	2021	2022*
Solvency ratio	16,18	19,66	21,98	18,01	18,85
Coefficients of the ratio of regulatory capital to bank assets	10,52	13,50	15,67	11,99	12,75
Coefficient of dependence on shareholders	3,02	2,36	2,29	1,88	1,67
The coefficient of the ratio of equity to the currency of the balance sheet	10,77	13,52	11,66	12,49	9,78
Capital multiplier	8,77	7,47	8,71	8,04	8,85
Financial leverage ratio	6,06	5,39	6,52	5,97	6,85

*Note: \* - data for 9 months of 2022.*

*Source: calculated according to data [22, 23]*

However, it is possible to claim a slight deterioration in the level of capitalization of the domestic banking system in 2021-2022, which is manifested in a decrease in the solvency ratio of Ukrainian banks by 3.13%, the ratio of regulatory capital to assets by 2.92%, the ratio of equity to the currency of the balance sheet by 1.88%. However, immediate response of banks to capitalization problems is evidenced by the stable level of the capital multiplier and the financial leverage ratio, which signals a balanced structure of the banking system's borrowed and own resources and a reduction of dependence on corporate rights and the financial potential of bank owners (shareholders).

Banks' liabilities are formed by borrowed and borrowed resources, which determine the deposit base of banking institutions and the possibility of accumulating resources on the interbank market from other financial institutions, including non-bank ones. The growth of crisis phenomena in the deposit activities of banks during 2018-2022 is triggered by the growth of imbalances in the ratio of deposits to total loans - by 88.77%, the resources involved to total liabilities - by 11.54%, the reduction of liabilities in foreign currency to total liabilities - by 20.4%, the ratio of interbank loans to liabilities – by 88.57% (Table 5).

During 2018-2022 volatility was observed in the assessment of asset quality, the deterioration of indicators of bank business activity and the leveling of crisis phenomena, in particular, the riskiness ratio of assets had a tendency to improve by 36.37%, however, it must be noted that such trends were accompanied by a state of crisis and the liquidation of a significant number of banks, exchange rate fluctuations and a significant deterioration in the quality of problem banks' assets (table 6).

Table 5

**The main analytical indicators of assessing the level of financial stability of banks for 2018-2022 on the basis of coefficients of banks' deposit base**

Indicators	2018	2019	2020	2021	2022*
Ratio of customer deposits to total loans (except interbank loans)	81,83	103,08	138,99	140,36	154,47
The coefficient of the ratio of involved resources to total liabilities	0,78	0,83	0,85	0,86	0,87
The ratio of liabilities in foreign currency to total liabilities	0,49	0,44	0,41	0,34	0,39
The ratio of deposits of individuals to liabilities	0,42	0,43	0,42	0,41	0,45
Ratio of deposits of organizations to liabilities	0,34	0,39	0,4	0,42	0,4
The ratio of interbank loans to liabilities	0,035	0,019	0,015	0,011	0,004

*Note: \* - data for 9 months of 2022.*

*Source: calculated according to data [22, 23]*

Table 6

**The main analytical indicators of assessing the level of financial stability of banks for 2018-2022 based on asset quality and liquidity ratios**

Indicators	2018	2019	2020	2021	2022*
Asset risk factor	52,85	48,36	41,00	30,02	33,63
Coefficient of banks' business activity	1,60	4,70	2,77	4,46	0,73
The ratio of liquid assets to short-term liabilities	93,52	94,35	86,82	89,13	88,80
Total liquidity ratio	1,13	1,15	1,13	1,14	1,13

*Note: \* - data for 9 months of 2022.*

*Source: calculated according to data [22, 23]*

The dynamics of liquidity coefficients – the basis of the banking system's activity, which reflects its ability to transform assets into liquid form and settle its obligations – shows the ability of successful anti-crisis regulation. Excess liquidity is observed in the banks of Ukraine, which is demonstrated by the dynamics of the coefficients of general and short-term liquidity, their growth and exceeding the optimally recommended values.

Investments of banks of Ukraine characterize the financial and real investment activity of the banking sector and reflect the possibility of receiving income in the form of interest, dividends, income from resale as a result of investments. It should be noted that the coefficient of investment activity increased by 0.29%, and the coefficient of the ratio of investments in securities to total assets - by 8.12%. The problematic and threatening nature of the credit and investment activity of banks is reflected in the ratio of credit coverage by stable sources of financing, which has a tendency to decrease by 2.03% and signals the imbalance of credit and deposit activity both in terms and amounts.

In order to evaluate the integral indicator of the financial stability of Ukrainian banks based on their problematic nature and crisis state, it is suggested to determine not only the aggregated indicators for the 6 components of the assessment of the level of the crisis state, but also to determine the weighted values of the indicators taking into account their weighting values [24, diss.]. On the basis of a comprehensive analysis and assessment of the crisis situation of the banks of Ukraine in terms of its individual components, an integral indicator is defined as the sum of the



products of the integral indicators of each of its components and the weighting factors that determine the degree of contribution of specific indicators to the integral index (Fig. 2).

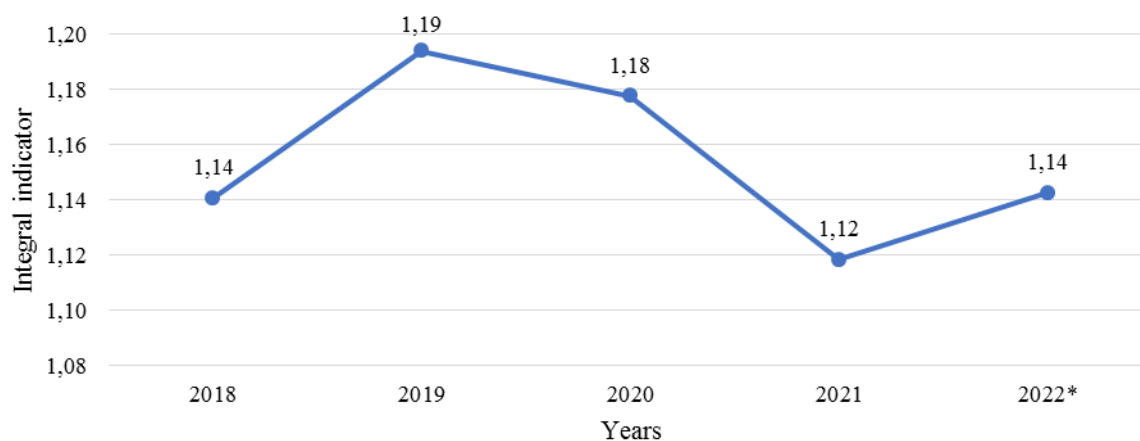


Fig. 2. Dynamics of the integral indicator of assessing the financial stability of Ukrainian banks in 2018-2022.

*Note: \* - data for 9 months of 2022.*

*Source: calculated by the author*

The estimated values of the integral indicator of the financial stability of Ukrainian banks indicate a deterioration of its financial stability in 2019 and 2022 to the level of 1.19 and 1.14, accordingly. However, in 2021 there was a significant decrease in the indicator to 1.12. The performed calculations allow us to notice unstable trends in the development of the domestic banking system, a slight increase of problematic level, but it is a satisfactory level of crisis phenomena throughout the analyzed period. The indicator reached its peak values at the end of 2019, that is, during the period of the spread of COVID-19 and applying of quarantine restrictions, and in 2022, when the full invasion of Russia into the territory of Ukraine took place.

In general, the integral indicator of the crisis state of Ukrainian banks, the value of which was obtained based on the results of analytical calculations, signals problematic aspects of maintaining the financial stability of the banking system, which allows to distinguish real and potential threats and dangers at the macro and micro levels and to develop effective recommendations for anti-crisis regulation in the banking sector.

At the phase of developing of crisis phenomena, the financial stress index (FSI), calculated by the National Bank of Ukraine, is used to assess only current financial stability in the financial sector. based on 20 indicators grouped by five sub-indexes: sub-index of the banking sector, household behavior, corporate securities, government securities, foreign exchange market. Each sub-index is assigned an initial weight according to the amount and impact on the country's financial sector.

Aggregation of sub-indices takes place with the help of econometric modeling (models of multivariate generalized autoregressive conditional heteroskedasticity, multivariate GARCH - generalized autoregressive conditional heteroskedasticity). The peculiarity of the method is to take into account changes in relationships between indicators (sub-indices) over time. Usually, the correlation between sub-indices increases during crisis events. The higher it is, the better the probability that the stress will spread to the entire financial sector, therefore, it will have a systemic nature [25].

Favorable and adverse financial and economic, social and political events affecting the development of the financial market are almost instantly reflected in the value of the IFS. The NBU has been calculating the IFS since 2008. The dynamics of the indicator presented in fig. 3 clearly demonstrates that financial stress increases/decreases in the financial market under the influence of the realization of certain events (adverse/favorable influence factors), which are points of increase/decrease of the IFS.



Fig. 3. Financial stress index for Ukraine for 2008-2022

Source: [25]

Analyzing the IFS for Ukraine, it needs to notice that the indicator reached its peak value during the financial crisis of 2008-2009. The highest value of the IFS (0.64) was recorded on 03/03/2009. The next significant increase of the index took place in 2015 after a series of events that had both financial and military-political contexts - the escalating of the military conflict in the East of Ukraine and the declaration JSC "Delta Bank" insolvent (March 2, 2015) [26]. That is why the IFS on 03/18/2015 rised to a value of 0.56. The value of the financial stress index for Ukraine for the period from 2017 to the beginning of 2022 was in the range of 0.10 - 0.15. However, at the beginning of March 2022, the value of the IFS reacted almost instantly to the full invasion of Russia on the territory of Ukraine. The indicator reached a local peak of 0.8 on 03/04/2022, but gradually decreased to 0.23 on 09/19/2022.

The contribution of each of the above-mentioned sub-indices to the value of the IFS is shown in fig.

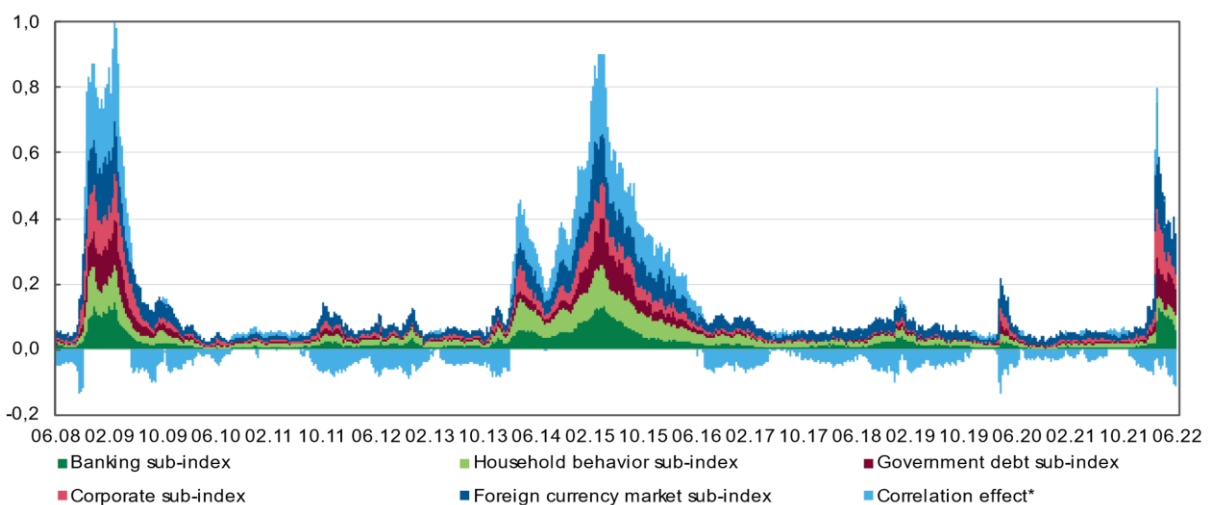


Fig. 4. The influence of sub-indices on the financial stress index for Ukraine

Source: [25]

Analytical display in form of table makes it possible to accurately display the contribution of each sub-index to the overall IFS during the periods of the local peak of the indicator (Table 7).

The sub-index of the banking sector had the most negative impact on the growth of the IFS for Ukraine only in 2009. In 2015 and 2022, the sub-index of the foreign exchange market and the sub-index of the government securities sector had the greatest impact on the increase of the indicator, accordingly.

Table 7

**The influence of sub-indexes on the financial stress index for Ukraine**

Date	Banking sub-index	Household behavior sub-index	Government debt sub-index	Corporate sub-index	Foreign currency market sub-index	Correlation effect
03.03.2009	0,17162	0,12473	0,14750	0,15179	0,16210	0,22225
18.03.2015	0,13803	0,12870	0,15200	0,09819	0,18811	0,19504
04.03.2022	0,14909	0,06191	0,17899	0,17625	0,16350	0,07062

Source: [25]

The analyzed data on the IFS make it possible to note that the indicators of the banking sector, which are the basis for the calculation of this subindex (change in overnight interbank rate, liquidity of Eurobonds of large domestic banks, liquidity of banks, trust of individuals in banks [27, p. 9-10]), during the periods of the peak value of the indicator in 2015 and 2022 were not significant in shaping the dynamics of the general CPI. Therefore, it can be argued that the banking sector of Ukraine has become more stable and capable of more stable reaction to shocks.

The IFS shows only the current state of affairs, but does not indicate future risks. The financial stress index enables:

- to measure the stress level of the financial system;
- to assess the depth and duration of the period of instability of financial markets, as well as to compare it with the level of stress in past crises;
- to evaluate (along with other indicators) the effectiveness of anti-crisis measures;
- to determine the nature of shocks of the financial system and its individual components - systemic or episodic.

Fig. 3 shows the key events that affected the financial market of Ukraine. In particular, shortly after the bankruptcy of Lehman Brothers, it was recorded the peak value of the IFS. The next rapid growth of the IFS during the crisis of 2014-2015, although at a lower level, but significantly longer in time. Only after the start of negotiations on the restructuring of the public debt in 2015, the level of stress begin to decrease significantly. After the quarantine was announced in March 2020, the index temporarily increased, but already at the beginning of June it decreased to the level observed before the start of the COVID-19 pandemic. The invasion of Russia in 2022 caused a immediate increase of the index value. All its components grew, which indicates the systemic nature of stress for the financial sector. At first, the high values of the IFS were caused by the growth of returns on the securities market, the volatility of the exchange rate on the cash foreign exchange market, the high level of currency interventions and the refinancing of banks by the National Bank to maintain their liquidity. Only the level of the household behavior sub-index remained relatively low due to public confidence in the banking system and there was no outflow of deposits, which restrained the

growth of the general index. Over time, the values of most sub-indexes decreased. However, already in July, in anticipation of the restructuring of the state debt, the value of state and corporate securities raised quickly. Interest rates on household deposits also increased, volatility in the cash foreign exchange market remained. Therefore, the IFS raised to the March level.

We emphasize once again that the disadvantage of the IFS is that it shows only the current situation, it characterizes the stress level of the financial market when a certain shock has already occurred. This indicator is "turned" into the past, but it allows you to assess the effectiveness of anti-crisis measures during past crises, to see whether the stress on the financial market and its individual segments is systemic or episodic, and form an understanding of the level of stress compared to previous crises. In the context of monitoring the financial stability of domestic banks as a component of the anti-crisis regulation mechanism, it is worth, first of all, to analyze the dynamics of the main indicators of the financial stability of the banking sector, which is maintained within the framework of the Macroprudential Policy Strategy [28] and aggregates various methodological approaches to assessment. The direction of this policy is primarily related to the limitation of systemic risks in order to prevent crises or reduce losses from them. The goal of macroprudential policy is to maintain the financial stability of the entire financial system.

From this aspect the assessment financial stability consists of assessing, identifying and minimizing systemic risks. The assessment of the financial stability of banks within the framework of macroprudential analysis [29] is done on the basis of the calculation of the main and additional indicators of the financial stability of deposit corporations developed by the International Monetary Fund (IMF). The most common macroprudential instruments in international practice are listed in the table. 8.

The main areas of analysis are: capital adequacy, asset quality, profit and profitability, liquidity, sensitivity to market risk.

Table 8

**The main indicators of the financial stability of Ukrainian banks in 2018-2022 (on the end of the period)**

The name of the indicator	2018	2019	2020	2021	2022*
I1 – Ratio of regulatory capital to risk-weighted assets	16,18	19,66	21,98	18,01	18,85
I2 – Ratio of 1 <sup>st</sup> level regulatory capital to risk-weighted assets	10,52	13,50	15,67	11,99	12,75
I3 – Ratio of non-performing loans excluding reserves to capital	60,20	25,28	21,91	11,40	24,21
I4 – Ratio of non-performing loans to total gross loans	52,85	48,36	41,00	30,02	33,63
I5 – Ratio of loans by economic sector to total gross loans (residents)	93,47	92,83	96,08	96,20	96,32
I6 – Rate of return on assets	1,60	4,70	2,77	4,46	0,73
I7 – Rate of return on capital	14,61	37,55	21,68	37,86	6,56
I8 – Ratio of interest margin to gross income	52,02	47,39	45,00	53,11	50,52
I9 – Ratio of non-interest expenses to gross income	61,92	55,58	60,79	61,22	47,70
I10 – Ratio of liquid assets to total assets	51,14	72,28	69,10	69,24	74,02
I11 – Ratio of liquid assets to short-term liabilities	93,52	94,35	86,82	89,13	88,80
I12 – Ratio of net open position in foreign currency to capital	46,99	47,44	32,85	30,67	43,70

Note: \* - data for 9 months of 2022.

Source: [23]

The dynamics of indicators I1–I4 listed in table. 8, confirms the conclusions made earlier regarding the gradual deterioration of the capital stability of Ukrainian banks and the quality of their loan portfolios from 2021. The growth of the I5 indicator in 2022 indicates a decrease in the part of loans granted to non-residents, which causes a decreasing the dependence of banks on the influence of the global economy.

Indicators I6 and I7 show that in 2019-2021 domestic banks in general began to generate significant profits, which created the conditions for strengthening their financial stability. But in 2022, the profitability of the banking system decreased significantly, which is reflected in the reduction of the rate of return on assets by 83.63% and the rate of return on capital by 82.67% in the 3 quarters of 2022.

The I8 indicator, despite certain fluctuations over a certain period, changes in a positive direction, as it confirms the diversification of the income base of Ukrainian banks. The trend of the change in the I9 indicator is also positive and indicates the strengthening of the savings regime in banks on non-interest expenses, which is reflected in the growth of their profitability, except for 2022. Also, as a sign of the positive impact on the financial stability of Ukrainian banks, it is necessary to note the fact of the sensitivity of domestic banks to currency risk during 2018-2021 (indicator I12).

During the period of 2018-2022, liquidity indicators (I10 and I11) significantly exceeded the normative values, which indicates not only the ability of banks to pay off their obligations on time, but also significant unused opportunities for investments in profitable assets, banks' lack of desire to take additional risks.

It is also worth to mention that starting from September 2, 2019, liquidity standards N4 and N5 have been removed from the list of regulatory indicators and are not calculated by banks. Instead, banks are required to calculate the LCR liquidity coverage ratio (LCR<sub>v</sub>, LCR<sub>r</sub>) on a daily basis, which more effectively reflects the level of banks' financial resilience to short-term liquidity shocks. Its normal values are set as follows: for LCR<sub>v</sub> - at least 80%; for LCR<sub>r</sub> - at least 50%. Today, the median LCR liquidity coverage ratio (which in peacetime must be at least 100%) is 304% [30]. This means a sufficient reserve of funds for payments to depositors and conducting monetary transactions of clients, a sufficient level of resistance to short-term liquidity shocks and contributes to strengthening the level of financial stability of domestic banks.

At the post-crisis stage of assessing the financial stability of banks, stress testing is used to determine the direction of rehabilitation regulation. Assessment of the financial stability of banks based on stress testing helps to clarify the impact of shocks on various indicators of banking activity. In addition, stress tests are a tool that allows you to quantitatively measure possible changes in the bank's balance sheet, the structure of its costs, potential losses on loans and deposits. All this enables the regulator to estimate the possible amount of losses of the entire banking sector and determine the level of reserves that banks need to accumulate in order to overcome negative shocks in the economy the most painlessly. Bank management does stress testing, first of all, for better understanding the most vulnerable aspects of banks' activities today, as well as to optimally change indicators in order to increase the stability of the entire sector in general.

There are various types of stress tests and methodical approaches to their implementation [31-35]. A generalized description of the main analysis methods used during stress testing is presented in table 9.

**Methods of analysis used during stress-testing of banks**

Analysis method	Characteristics of the method
Sensitivity analysis	Identification of risks and likely reactions of banks to shock situations (changes of the exchange rate, asset prices, interest rates)
Scenario analysis	Checking the stability of banks for possible scenarios of economic development
Analysis of "contagion"	Assessment of the transmission of shocks transmitted from an individual bank to the whole banking sector

*Source: compiled on the basis of [33, 35, p. 4]*

One-factor stress tests (sensitivity analysis) make it possible to form an idea about the amount of losses or profits that can hypothetically occur in the bank if the shock situation develops according to the established assumption. The advantage is the simplicity and speed of calculations and also the possibility of analyzing the impact of a separate factor on the indicators of the bank's activity (for example, capital), which allows quick management decisions.

The advantage of multifactor stress tests (scenario analysis) is the flexible formation of possible events, since the change of several risk factors at the same time is studied. However, there can be a situation when it is practically impossible to determine the probability of an event that has not occurred before. The disadvantage is a sufficiently complex calculation algorithm and the risk of unreliable interpretation of the influence of any factor, which can lead to an incorrect interpretation of the scenario implementation. Multifactor stress tests assume the need to choose risk aggregation [34]: summing the risks, sustainable diversification method, variance-covariance approach, copula method, full simulation method. Scientific approaches to the formation of methodological base for stress testing of bank market risks, based on aggregation conditions, made it possible to identify a number of functional advantages and disadvantages, to approve the mechanism of their application, combination and integration into the system of assessing the financial stability of banks.

In 2022, the National Bank of Ukraine planned to conduct stress testing of 22 banks that, according to the results of the last two assessments, had more than required levels of capital adequacy or entered the list for the first time. However, due to the war, the regulator canceled the stress testing of banks, as it did in 2020 due to the crisis caused by the spreading of COVID-19.

In 2021, 30 banks were doing stress testing, which as of the beginning of 2021 collectively owned 93% of the assets of the banking system. It found capital problems in 20 of them. Ten banks successfully passed stress tests. Most of them are with foreign capital, and also the state-owned PrivatBank. Also, according to the results of the stress tests, PUMB and A-Bank did not need additional capitalization.

Based on the results of the sustainability assessment, the required level of regulatory capital adequacy (N2) and core capital adequacy standard (N3) was determined for banks. The necessary level of capital adequacy standard is calculated in such a way as to ensure that banks meet the minimum requirements of N2 and N3 under the base scenario (10% and 7%, accordingly) and the reduced requirements under the specified standards under the unfavorable scenario (5% and 3.5%, accordingly) on the entire three-year forecast horizon (up to and including 2023).

The results of the evaluation under the base and adverse scenarios are not forecasts of financial indicators. The scenarios are designed to identify the possible impact of the main risks on the bank's activities in its current state. Stress test results should be interpreted only in the context of

key model assumptions. First, the banks' balance sheet was assumed to be static, so it was affected only by changes in the quality of assets and the exchange rate. Secondly, the capitalization of current profits throughout the entire forecast period was assumed.

The need of capital for banks, for which capital risks have been identified, is mostly determined by the following factors:

- the high cost and short term of funding, which creates a significant interest rate risk for banks in adverse conditions;
- significant administrative costs;
- keeping an excessive amount of non-core assets on the balance sheet. According to the established rules, the basic capital of banks is gradually reduced by the value of non-core assets;
- the unsatisfactory financial state of some large borrowers.

During the stress testing conducted by the National Bank of Ukraine, all the shortcomings of future periods, including the beginning of military operations on the territory of Ukraine, could not be taken into account, therefore the results of the stress testing were much more optimistic than the results of the banks' actual activity. This was facilitated by unpredictable macroeconomic scenarios, as well as taking into account the previous results of supervision and more successful risk management in the banks' activities. This especially applies to credit risk.

A additional method of assessing the financial stability of banks at the phase of post-crisis regulation can be a rating assessment. This non-parametric method of assessing the financial stability of banks includes assigning a certain rating to a banking institution by assigning the bank to the appropriate rating class or determining its place among other banks. The higher the ratings of the bank, more stable it is. The rating can be indicated by a number (for example, as in CAMELSO), a combination of letters, numbers, symbols (Fitch Ratings), a position in the ranking line (for example: 1st place by the size of banking sector assets). There are three main methods of building bank ratings (table 10).

It should be noted that during creating ratings, agencies usually combine different methods. Methods of assessing financial stability, which are the basis of ratings, can be invented by individual authors, independent rating agencies (international and domestic) and banking supervision institutions.

Table 10

**Basic methods of building bank ratings**

Name of the method	Characteristic
Numbering method	Assigning a bank a certain number in the rating based on the construction of a ranking range, where the values of certain indicators of the bank's financial condition are evaluated
Point method	The study of the bank's financial state is carried out by assigning it points for each of the evaluation indicators; the combined score makes it possible to determine whether the bank belongs to one or another group of banks
The index method	Based on the calculation of the index of each of the estimated indicators of the bank's financial condition; after calculating the indices for individual indicators, proceed to the determination of the combined indexes

*Source: compiled by the author based on [36, p. 65-66]*

The results of our comparative analysis of the most well-known methods of analyzing the financial stability of banks (in particular, rating) are given in table. 11.

Table 11

**Comparative analysis of methods for assessing the financial stability of banks**

Methodology	Information support	Quantitative indicators	Qualitative indicators	Expert assessment	Rating
1	2	3	4	5	6
Rating models of assessment					
CAMELSO	The bank's public reports, the bank's data from the mass media, the results of on-site inspections	+	+	+	+
SREP	The bank's public reports, the result of on-site inspections	+	+	+	+
PATROL	The bank's public reports, the result of on-site inspections	+	–	–	+
ORAP	The bank's public reports, the result of on-site inspections	+	+	+	+
Statistical models					
SAABA	The bank's public reports	+	–	–	–
FIMS	The bank's public reports	+	–	–	–
Comprehensive assessments of banking risk					
RATE	The bank's public reports, the result of on-site inspections	+	+	+	–
RAST	The bank's public reports, the result of on-site inspections	+	+	+	–
Coefficient models					
BAKIS	The bank's public reports	+	–	–	–
Author's methods, rating agencies' methods					
Methodology of RA "Credit-Rating"	The bank's public reports, internal bank data at the agency's request	+	+	+	+
Methodology of NRA "Rurik"	The bank's public reports, internal bank data at the agency's request	+	+	+	+
Methodology of RA "Expert-Rating"	The bank's public reports, internal bank data at the agency's request, public databases	+	+	+	+
Methodology of the Ministry of Finance portal	The bank's public reports	+	–	+	+
Kromonov's method	The bank's public reports	+	–	+	+

*Source: systematized by the author based on [36-39]*

Evaluating the rating of banks held by the NBU, it is worth noting that the regulator has currently integrated the CAMELSO rating system into the SREP (Supervisory Review and Evaluation Process), which is based on risk-oriented and forward-looking approaches, where the main areas of assessment are business models, corporate governance and risk management, capital, liquidity and funding risks.

The rating of Ukrainian banks for September 2022 was compiled basing on the official statistics of Ukrainian banks, provided by the NBU with the participation of banking market experts, looks like this:

1. Raiffeisen Bank Aval (Raiffeisen Bank, Austria).
2. Credit Agricole Bank (Credit Agricole, France).
3. Ukrsibbank (BNP Paribas Group, France).



4. PrivatBank (state).
5. Oschadbank (state).
6. Ukreximbank (state).
7. Kredobank (PKO Bank Polska, Poland).
8. Ukrgasbank (state).
9. OTP Bank (OTP Bank, Hungary).
10. ProCredit Bank (ProCredit Bank, Germany).
11. CITIbank Ukraine (Citigroup, USA).
12. ING Bank Ukraine (ING Group, Netherlands).
13. Pravex Bank (Intesa Sanpaolo, Italy).
14. PUIB (SKM Finance / Rinat Akhmetov, Ukraine).
15. Universal Bank (Bailican, Cyprus / Serhiy Tihipko, Ukraine).

During the compiling the rating of the most stable Ukrainian banks, it was taken into account the bank's ability to return deposits without delay if it has financial problems or problems with repaying loans and increasing customer debt, as well as the level of support from shareholders and the state.

It should be noted that the banking sector of Ukraine passed the first months of 2022 with medium losses thanks to the immediate actions of the National Bank of Ukraine and commercial banks to maintain the activity of financial institutions without interruption using the tools of proactive, reactive and rehabilitation regulation.

In general, the mechanism of anti-crisis regulation of the banking system should take into account and combine a set of components that allows to comprehensively develop, implement and apply programs of anti-crisis regulation of the financial activities of banks based on integrated indicators for the identification of internal and external threats, assessment of crisis phenomena and situations, crisis depth and the applying of preventive, reactive and rehabilitation measures of anti-crisis regulation at the pre-crisis, crisis and post-crisis phases, accordingly.

In this work, we suggest that one of the elements of the anti-crisis regulation mechanism of the banking system – the assessment of the financial stability of banks – should be done with the help of an analytical toolkit based on coefficients, which include 6 groups of indicators, systematized by subject, and allow identifying real and potential crisis phenomena and threats. The methodical approach, which is based on a comprehensive analysis of indicators of the financial stability of banks with the identification of real and potential crisis phenomena and threats, can be used for an integral assessment of the level of the crisis state of the banking system and involves the calculation of an integral indicator of the assessment of the crisis state of banks and the determination of the scale of gradation of the levels of the crisis state of banks, according to the type and depth of the crisis.

Estimated values of the integral indicator of the crisis state of Ukrainian banks shows its growth in 2019 and 2022. The conducted calculations of the indicator allow us to ascertain unstable trends in the development of the domestic banking system, increasing level of problems and crisis phenomena.

In addition to the conducted analysis and assessment of the financial stability of Ukrainian banks in the context of identifying crisis phenomena and threats for 2018-2022, the financial stress index was studied, which is used specifically to assess the current financial stability at the phase of the developing of crisis phenomena to determine preventive measures of anti-crisis regulation.

Domestic banks have significantly increased their resistance to crisis phenomena over the past 5 years, which was reflected in the reduction of their aggregated impact on the financial stress index.

In the context of monitoring the financial stability of banks at the next crisis phase, it is proposed to analyze the dynamics of the main indicators of the financial stability of the banking sector based on the calculation of the main and additional indicators of the financial stability of deposit corporations developed by the International Monetary Fund (IMF). The dynamics of the indicators confirm the conclusions made earlier regarding the need to use tools of reactive regulation of the banking system. It is observed a gradual deterioration of the capital stability of Ukrainian banks and the quality of their loan portfolios, and in 2022 there is a significant reduction in the profitability of the banking system and an increase in the sensitivity of domestic banks to currency risk.

At the post-crisis phase of regulation of the banking system, stress testing should be used to assess the financial stability of banks and determine the trend of rehabilitation regulation. Assessment of the financial stability of banks on the basis of stress testing helps to clarify the impact of shocks on various indicators of banking activity and to identify weak points and directions for their decreasing in order to ensure efficient operation without interruption of the banking system. Due to stress testing by the National Bank in previous years, the banking system of Ukraine is stable and successfully copes with crises triggered by the COVID-19 pandemic and the military operations. This statement is also confirmed by the rating of domestic banks for 2022, that are confidently overcoming the risks caused by the war.

Therefore, the important moment in the formation of the mechanism of anti-crisis regulation of the banking system is the definition and reasoning of the sequence of actions and decisions to identify, evaluate and apply measures to overcome the crisis state based on a comprehensive assessment of the financial stability of banks, argumentation of the type and depth of the crisis, the selection of appropriate methods and tools of anti-crisis regulation, assessment of the effectiveness of anti-crisis measures, their monitoring and control over the making of appropriate management decisions.

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