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ENSURING FINANCIAL SECURITY OF BANKS: REALITIES AND PROSPECTS

Abstract. In the context of Russia's military aggression, Ukrainian banks have lost a significant portion of their customer base, and banking operations are focused on cash flows. Banks are forced to extend the repayment of their loan debt, and the sources of their own resources have significantly decreased. Household savings are no longer available as a channel for replenishing banks' resources due to rising unemployment, lower incomes, and additional medical and self-defense costs. Under these conditions, the issue of ensuring the financial security of banking activities becomes extremely relevant. Today, in order to maintain financially stable positions, Ukrainian banks need to develop and implement a set of measures aimed at improving the overall level of financial security of the banking system based on the latest Comprehensive Program for Ensuring Financial Security of Ukrainian Banks.

Key words: banking system, banks, indicators of financial security, threats, financial stability, financial security.

JEL classification: G21, E50

Introduction

The crisis, which is affecting the financial market, is raising the issue of ensuring a sufficient level of financial security of banks. It should be

borne in mind that there is a direct relationship between the financial security of the state and the security of the banking system in particular.

The leading role of the financial security of banks is due to the fact that by ensuring the stability of their financial component, they are able to address the issues of resource, personnel, information and physical security.

In the process of forming the financial security of both an individual bank and the banking system as a whole, we face a set of threats that affect the level of financial stability. The growing chain of banking activities is accompanied by an increase in the number of threats that are identified and minimized in the course of banks' operations.

The current state of development of banks is associated with the threats posed by the military aggression of the Russian Federation, constant outbreaks of the COVID 19 pandemic, the decline of the real sector of the economy, imbalances in the macroeconomic environment, and the growing shadowing of banking activities (Kovalenko, 2022).

In these conditions, banks use aggressive policies to maintain financially stable and competitive positions in the market.

During the war, banks lost a significant portion of their client base (emigration abroad); most banking operations are aimed at servicing cash flows. Banks are using such instruments as prolongation of loan repayment, and sources of their own resources have decreased.

Under the conditions of martial law in Ukraine, the formation of an effective mechanism for recognizing and neutralizing threats that impede a sufficient level of financial security of banks is becoming increasingly relevant for research.

Theoretical Foundations of the System of Ensuring Financial Security of Ukrainian Banks

Ensuring the financial security of banks is the process of achieving a state of protection of the bank's economic interests, which are manifested

in the process of implementing its statutory goals and objectives, and consists in creating favorable conditions for the implementation of all types of banking activities provided for by the charter (Kovalenko, 2016).

Discussions in academic circles indicate that there is no single approach to defining the economic essence of financial security of banks. In general, if we consider the global experience, it should be noted that foreign scholars generally do not consider this issue as a separate category. It is associated with uncertainty and risks that are inherent in a particular cycle of socioeconomic development. For example, Yang Hu and others have studied the relationship and impact of monetary uncertainty and other economic policies on the US data from 1986 to 2022 (Hu, Hong, Feng, Wang, 2022).

The authors of the article (Bianchi, Bigio, 2022), using the example of the 2008 crisis, built a model for balancing the unsystematic movement of deposits between banks through refinancing operations. The authors prove the importance of taking into account the liquidity problems of banks and the peculiarities of interbank lending in order to prevent full-scale bankruptcies.

Dario Caldara and Edward Herbst examined the impact of monetary shocks on economic activity (Caldara and Herbst, 2019). The authors prove that monetary policy shocks significantly depress real economic activity and the financial climate. The main component of such an impact is corporate credit spreads, which should be taken into account as an endogenous variable in monetary policy making.

Ukrainian scholars have the following views on the concept of financial security of banks. For example, O. Vasylyshyn understands financial security of banks as a dynamic state of all banks in the country (first and second level), which is characterized by the stability of their interrelations, uninterrupted implementation of their main functions, balance of financial indicators and cash flows, which allows to withstand external and internal threats to its financial stability and ensure the realization of the financial interests of the state without losses (Vasylyshyn, 2017).

I. Prikhno, understands financial security as a financial condition of a bank that contributes to its effective operation and allows to identify and eliminate potential threats as soon as possible and minimize risks that prevent them from developing normally and performing their functions efficiently (Prikhno, 2018).

The most complete definition of financial security is provided by O. Baranovsky, who considers it as (Baranovsky, 2004):

a set of conditions under which potentially dangerous actions or circumstances for the financial condition of banks are prevented or reduced to a level where they are not able to harm the established procedure for the functioning of banks, the preservation and reproduction of its property and infrastructure, and prevent it from achieving its statutory objectives;

the state of protection of financial interests of banks, its financial stability, and the environment in which it operates.

Also, the definition provided by M. Barilyuk is appropriate, as he believes that the financial security of a bank is a state of the bank in which its financial and economic activities are focused on meeting the interests of the state, owners, top managers and staff of the banking institution, its customers and counterparties and are protected from existing and potential external and internal threats (Barilyuk, 2017).

Thus, it can be argued that the financial security of a bank is an integral characteristic aimed at ensuring the financial stability and sustainability of banks, identifying and neutralizing threats that cause crisis situations in the bank and neutralizing them.

Characterization of Threats to the Financial Security of Ukrainian Banks

The essence of the concept of "threat" is considered in the following ways:

one of the forms of danger (Yermoshenko, Horyacheva, Aushev, 2005).

a phenomenon, a factor (set of factors) that can actually create conditions or cause the complete or partial impossibility of realizing interests (Sungurovsky, 2001).

external and internal potentially possible or real events, processes, circumstances or actions of persons, intentional or unintentional, which lead to the loss of equity capital of the enterprise or the emergence of conditions for its bankruptcy (Kyrychenko, Kim, 2008).

The scientific community has different views on the classification of threats to the financial security of banks (Table 1).

Table 1: Current views on the classification of threats to financial security of banks

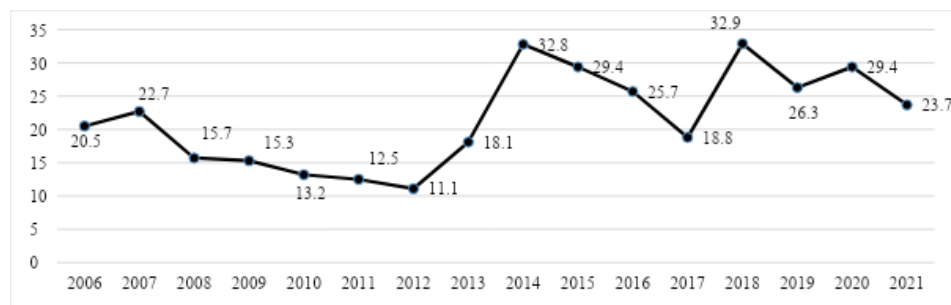
№	Authors	Threats
1	Vasylchyshyn, A. (Vasylchyshyn, 2018)	high level of development of shadow economic relations, in particular, the shadow foreign exchange market (formation of an alternative to bank deposits savings channel, which in the conditions of deteriorating economic conditions leads to an outflow of foreign currency deposits; loss of profit from foreign currency conversion operations; loss of financial resources in the form of deposits of legal entities and individuals)
2	Kvasnytska R., Dotsenko I., Prystupa D. (Kvasnytska, Dotsenko, Prystupa, 2021).	global or local financial crises; falling demand for loans and banking services; the level of distrust on the part of legal entities and individuals in the banking system; the volume of refinancing and the size of the discount rate; low investment activity in the country; mistakes in strategic planning and forecasting; irrational use of banks' potential; low return on assets
3	Kubakh, T., Rudenko, E. (Kubakh, Rudenko, 2021)	high level of overdue debt; monopolization of the market by a few banks as a result of reduced competition will lead to higher lending rates and lower deposit rates; concentra-

	.	tion of significant funds in a rather small group of banks; low level of public confidence in economic agents; low level of business activity of economic entities; high level of capital investment in government bonds; insufficient level of capitalization of banks.
4	Baranovsky, O., Putintseva, T. (Baranovsky, Putintseva, 2021)	threats to resource, deposit, credit, currency, debt, investment, income and expenditure security, and security in international settlements and payments.

Source: systematized by the authors

The newest threat to financial security is Russia's military aggression, which provokes all the threats faced by both the banking and financial systems of Ukraine as a whole. In this aspect, the threat to the control of the system of combating money laundering and terrorist financing should be prioritized. In 2021, terrorists killed 29692 people (Fig. 1).

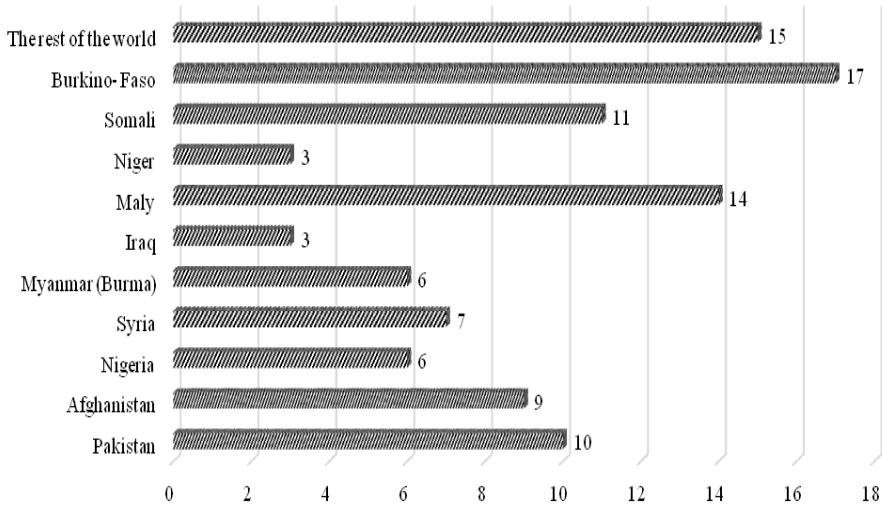
Fig. 1: Number of deaths as a result of terrorist attacks in the world in 2016-2021, thousand people



Source: Compiled by the authors based on the materials from the STATISTA, 2022

Burkina Faso had the highest share of terrorism-related deaths in 2022, accounting for 17% of all deaths. Mali came in second with 14%, which underscores the growth of terrorism in West Africa in recent years (Fig. 2).

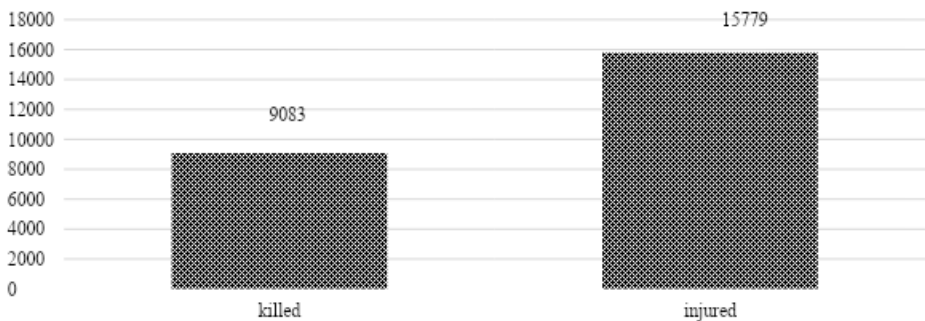
Fig. 2: Countries with the highest share of deaths from terrorism in 2022, %.



Source: Compiled by the authors based on the materials from the STATISTA, 2022

It is also worth paying attention to the number of people killed in Ukraine as a result of Russia's military aggression, who could potentially be users of banking services (Fig. 3).

Fig. 3: Number of civilian casualties in Ukraine during the Russian invasion, as of June 20, 2023.



Source: Compiled by the authors based on the materials from the STATISTA, 2023

The Office of the United Nations High Commissioner for Human Rights (OHCHR) has confirmed a total of 9,083 civilian deaths during Russia's invasion of Ukraine as of June 20, 2023. In addition, 15779 people are reported to have been injured.

The threats that cause a negative impact of the anti-crisis measures of the National Bank of Ukraine on the financial security of banks include the introduction of administrative restrictions, in particular, the introduction of a fixed official hryvnia exchange rate. This is due to the NBU's refusal to pursue a lexical, orthodox inflation targeting policy (Sharov, 2022).

The economic security of financial institutions should include financial, human resources, technical and technological, information, legal, market, operational security, reputational security, cybersecurity, as well as psychological and physical security, the role and importance of which have become more relevant in the context of Russia's military aggression against Ukraine. (Myskiv, Vinichuk, 2022).

Generalized assessment of the level of financial security of Ukrainian banks

Today, the financial security of banks depends on how resilient the financial sector of Ukraine's economy is.

The main trends in the development of the financial sector of Ukraine since the beginning of 2023 are as follows: with the decrease in the effectiveness of air attacks, the operation of bank branches has stabilized, but their number is still declining; the inflow of hryvnia deposits of households to the banking sector slowed down, with their volumes remaining almost unchanged in the first quarter, while the inflows of non-financial corporations continued to increase; in the first quarter of 2023 the volume of term hryvnia deposits of individuals grew, although the change in the term structure of deposits is still slow; interest rates on term deposits for households continue to grow steadily, banks are reviewing their product

lines, so retail funding costs are almost not growing; demand for loans remained unmet, and the net corporate loan portfolio continued to decline; mortgage lending stopped after a short surge due to a lack of funds for government programs; the growth of credit losses of banks due to the war slowed down.

The current realities of the functioning of Ukrainian banks are accompanied by significant destructive phenomena, the existence of real and potential threats, which in general have a destabilizing effect on the country's financial security. Indicators of the level of financial security of the banking sector of Ukraine's economy confirm the deepening of crisis phenomena and their destabilizing impact on the country's financial security (Table 2).

Table 2: Dynamics of Financial Security Indicators of the Ukrainian Banking Sector in 2016-2022

Indicators	Mar gin va- lues	Years						
		2016	2017	2018	2019	2020	2021	2022
Share of overdue loans in total loans granted by banks to residents of Ukraine, %.	2-7	30,47	56,45	53,10	46,36	41,00	30,02	38,1
Share of foreign capital in the authorized capital of banks, %.	20-25	48,61	56,05	41,45	37,02	37,41	36,37	34,01
Return on	1-	-	-1,93	1,69	4,25	2,44	4,09	1,08

assets, %.	1,15	12,62						
Ratio of liquid assets to short-term liabilities, %.	90	92,09	98,37	93,52	94,35	89,13	89,36	88,80
Share of assets of the five largest banks in total assets of the banking system, %.	50	55,73	60,40	64,08	61,45	61,01	55,41	59,85
Ratio of bank loans and deposits in foreign currency, %.	100	134,50	109,36	117,04	83,50	167,18	151,28	118,28
Ratio of long-term (over 1 year) loans and deposits, times	3	4,13	3,90	3,90	1,08	2,15	2,78	3,6

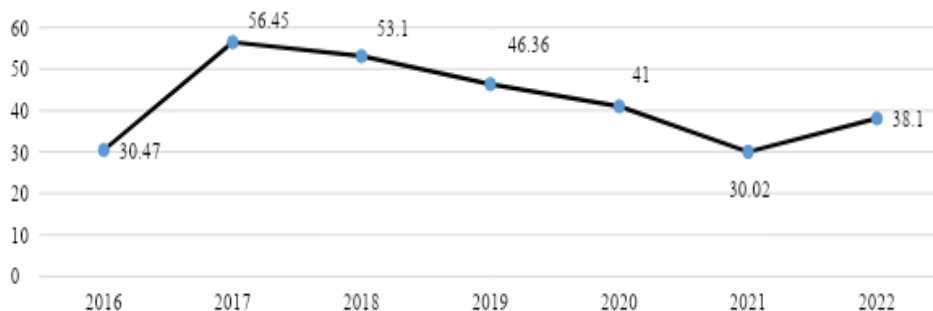
Source: compiled by the authors based on the materials
SUPERVISORY STATISTICS, 2023

According to the Guidelines for Calculating the Level of Economic Security of Ukraine, the optimal value of the overdue loan debt ratio in

the total volume of loans is only 2%, and the critical value is 7%. However, according to Table 1, in the period from 2018 to 2022, its value is high, with the highest value of 56.45 % in 2017.

A slight decrease in this indicator was observed in 2019 - to 46.36%, but this level still exceeds the critical level. In our view, this behavior of the indicator is associated with a significant deterioration in the quality of loan portfolios. The increase in NPLs requires banks to increase allocations to insurance reserves and prevents them from intensifying lending. However, the downward trend in the dynamics of this indicator indicates positive aspects even during the period of martial law (Fig. 4).

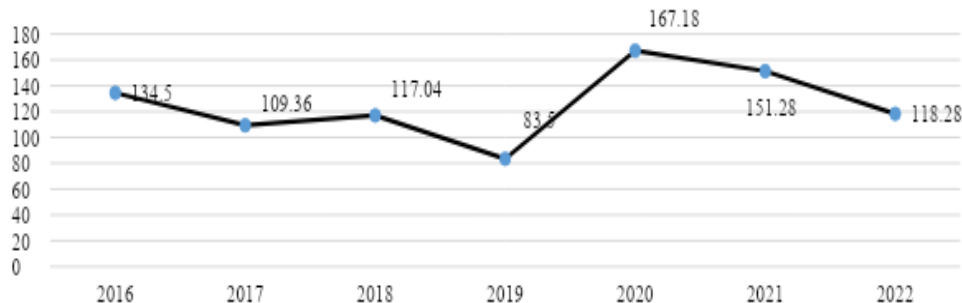
Fig. 4: Share of overdue loans in total loans granted by banks to residents of Ukraine in 2016-2022, %.



Source: Compiled by the authors based on the materials from the NBU, 2023

The ratio of bank loans to deposits in foreign currency is a mixed-type indicator according to the Methodological Recommendations for Calculating the Level of Economic Security of Ukraine, i.e., an increase in the indicator to 83.50% indicates an increase in the level of financial security of security banks, and an increase above 110% causes threats to banking activities. The dynamics of this indicator throughout the analyzed period was fluid, which mainly has a destabilizing effect on the level of financial security (Fig. 5).

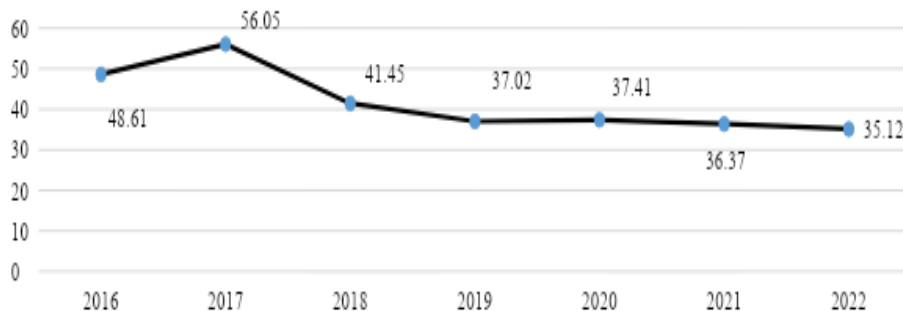
Fig. 5: Ratio of bank loans and deposits in foreign currency in 2016-2022, %.



Source: calculated by the authors

Figure 6 shows the dynamics of the share of foreign capital in the authorized capital of Ukrainian banks.

Fig. 6: Dynamics of the share of foreign capital in the authorized capital of banks, %.



Source: calculated by the authors

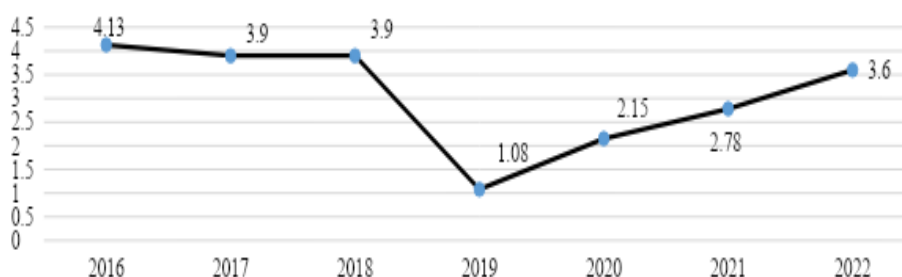
As shown in Figure 6, this indicator characterizes the tendency for crisis situations to occur in terms of outflows. In the Methodological Recommendations for Calculating the Level of Economic Security of Ukraine, this indicator is classified as a mixed-type indicator. Its optimal values are in the range of 20% to 25%, and satisfactory values are in the range of 18% to 20%, on the one hand, and 25% to 30%, on the other.

Our calculations show that in 2016-2022, the share of foreign capital in the authorized capital of Ukrainian banks was within the satisfactory ran-

ge. To prevent negative impacts and reduce the level of danger to the banking system, the NBU is forced to increase control and regulation of banks with foreign capital. However, this situation during the period of military operations is due to the attraction of foreign funds to support the Ukrainian economy.

Let's look at the dynamics of the indicator "ratio of long-term (over 1 year) loans and deposits", which is a stimulant (Fig. 7).

Fig. 7: Dynamics of the share of foreign capital in the authorized capital of banks, %.

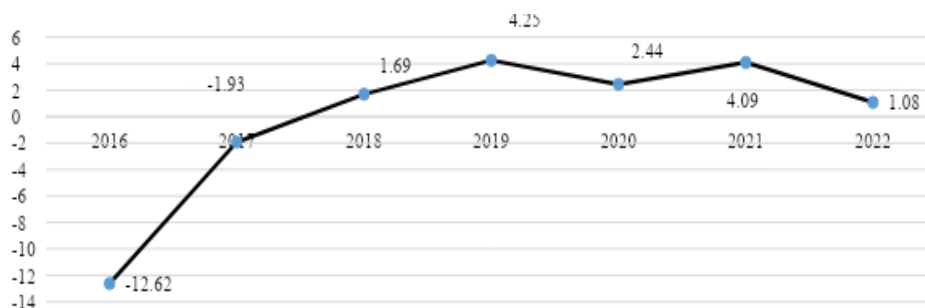


Source: calculated by the authors

The optimal value of this indicator is 1.0, satisfactory - 1.2, unsatisfactory - 1.8, dangerous - 2.2, critical - 3. According to the calculations, the value of this indicator was higher than the critical value throughout the entire analyzed period. Despite the decrease in 2021 to 2.78 times, its further growth in 2022 indicates a threat of a shortage of so-called "long resources" to meet the existing needs of households and nonfinancial corporations.

An important indicator in assessing the financial security of banks is their return on assets, which is a mixed-type indicator (Figure 8).

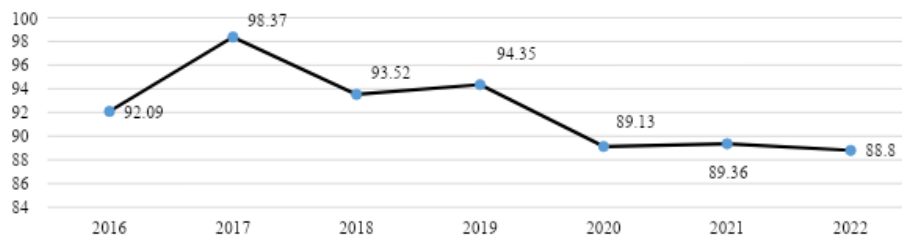
Fig. 8: Dynamics of return on assets for the period 2016-2022, %.



Source: calculated by the authors

Of the presented indicators that characterize the level of financial security, only the ratio of liquid assets to short-term liabilities corresponds to the optimal value (Fig. 9).

Fig. 9: Dynamics of the ratio of liquid assets to short-term liabilities in 2016-2022



Source: calculated by the authors

Next, we calculate the generalized indicator of financial security of Ukrainian banks (Table 3). The integral indicator of financial security of Ukrainian banks is calculated according to the Methodology for Calculating the Level of Economic Security of Ukraine, approved by the Order of the Ministry of Economy of Ukraine.

Table 3: Dynamics of aggregate indicators of financial security of the banking sector of Ukraine for the period 2016-2022

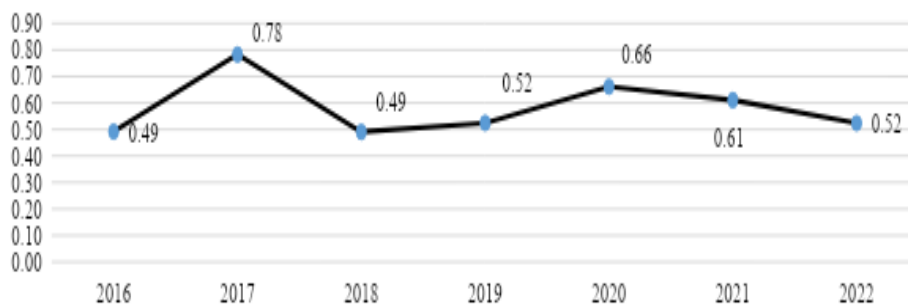
Indicators	Scales	Years						
		2016	2017	2018	2019	2020	2021	2022
Share of overdue loans in total loans granted by banks to residents of Ukraine, %.	0,1510	0,0460	0,0852	0,0802	0,0700	0,0619	0,0453	0,0575
Share of foreign capital in the authorized capital of banks, %.	0,1371	0,0666	0,0768	0,0568	0,0507	0,0512	0,0496	0,0466
Return on assets, %.	0,1496	-0,0189	0,2436	-0,0326	0,0718	0,1037	0,0998	0,0442
Ratio of liquid assets to short-term liabilities, %.	0,1359	0,1252	0,1337	0,1271	0,1282	0,1211	0,1214	0,1207
Share of assets of the five largest banks in total assets of the banking system, %.	0,1351	0,0753	0,0816	0,0866	0,0830	0,0824	0,0749	0,0809
Ratio of bank loans and deposits in foreign currency, %.	0,1425	0,1917	0,1558	0,1668	0,1190	0,2382	0,2156	0,1685

Ratio of long-term (over 1 year) loans and deposits, times	0,1487	0,0061	0,0058	0,0058	0,0016	0,0032	0,0041	0,0054
Integral indicator of the level of financial security of banks		0,492	0,7825	0,4907	0,5243	0,6617	0,6107	0,5238

Source: calculated by the authors

The result of the integral indicator of financial security of banks is shown in Figure 10.

Fig. 10: Dynamics of the integral indicator of financial security of Ukrainian banks in 2016-2022.



Source: calculated by the authors

As shown in Figure 10, the integral financial security indicator has a fluid trend. Its highest value was in 2017. Its lowest value was in 2022, amounting to 52 % , which indicates the problems that arose in the banking system due to political and economic instability.

Conclusions

The results of the assessment of the level of financial security of Ukrainian banks are extremely important for clarifying both the current situation and for the reasonable determination of strategic and tactical plans for the future.

The identification of threats to the financial security of Ukrainian banks allowed us to classify them as those caused by structural imbalances in the economy; affecting the level of financial security of the banking system; and affecting the level of financial security of the bank. Today, military aggression is an extraordinary threat, which puts the threat of criminal proceeds and terrorist financing in the first place.

Based on the methodology of the Ministry of Economic Development and Trade of Ukraine, the level of financial security was determined by calculating an integral indicator. The calculation of individual indicators included in the integral indicator and their dynamics indicate an insufficient level of the Ukrainian banking system's ability to withstand the negative impact of external and internal environment factors in 2016-2021. Therefore, it is necessary to develop and implement a set of measures aimed at improving the overall level of financial security of the banking system, which determines the prospects for further research based on the formation of a new Comprehensive Program for Ensuring Financial Security of Ukrainian Banks.

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