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Original Research Article

Ensuring the stability of banks in the context of national security: Tasks for Ukraine

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ABSTRACT

The purpose of the study is the theoretical and methodological substantiation of the mechanism of forming the stability of banks as a component of state regulation of the state of national security. The research methodology is based on comparing the approaches of different countries to the formation of the national security system, identifying standard features and individual characteristics depending on national interests and the conditions of their socio-economic development. The results of the analysis of the experience of different countries are the basis for recognising the importance of Ukraine in ensuring the stability of banks, which depends on the possibility of crediting businesses and citizens, making non-cash payments, and paying pensions, including temporarily occupied territories. Identifying the factors affecting the stability of banks in the conditions of crisis phenomena and choosing the methodology for assessing the strength of banks made it possible to select the most effective instruments for influencing the stability of banks and to outline the tasks for Ukraine. In addition, the monitoring of indicators of the strength of banks and achievements in the sustainable development of the state and regions contribute to the assessment of the effectiveness of public administration at the appropriate levels.

Keywords: stability of the bank; assessment methodology; influence tools; national security; state regulation; management efficiency

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1. Introduction

According to the UN definition, the security of existence and livelihood is one of the main fundamental human values[1]. Ensuring the realisation of such a value is one of the priority tasks of the state of which a person is a citizen.

Even in the last century, the main guarantee of the state's integrity and its citizens' security was the military potential needed to protect the borders. However, globalisation and scientific and technological progress have led to the emergence of new crisis phenomena associated with man-made disasters, epidemics, natural disasters, demographic crises, and, thus, a change in priorities in the national security system. In today's conditions, even the most developed countries cannot independently ensure national security. Moreover, it is difficult for less developed countries with attractive natural resources and geopolitical potential to single-handedly prevent the loss of statehood under the pressure of aggressor countries.

In 1990, the world was shaken by Iraq's brazen seizure of the territory of Kuwait. Only the military intervention of a coalition of developed countries made it possible to restore the independence of a small country with mighty reserves of oil fields and punish the aggressor state. The following sad device was Ukraine, which longed for a peaceful life and agreed to get rid of nuclear weapons in exchange for a guarantee of integrity, which was guaranteed to be provided by the USA, Great Britain, and the Russian Federation (RF). However, one of the guarantors turned out to be an insidious aggressor. Therefore, for Ukraine, whose existence has been threatened since 2014 by its large neighbour—the Russian Federation, which initially seized part of the territory (Crimea and part of Donbas), and in 2022 unleashed a full-scale war, the problem of ensuring national security has become especially urgent.

Presidential Decrees approved the Law of Ukraine On National Security of Ukraine in 2018; the National Security Strategy of Ukraine in 2020; and in 2021, and the Concept of Ensuring Ukraine's National Stability[1–4]. Of course, in war conditions, attention is primarily focused on military security, information, and stability of the medical system. But all of them need financial support, in the provision of which the strength of banks plays an important role. It was the activities of the banks Raiffeisen (formerly Aval), PrivatBank, and Oschadbank that ensured the residents of occupied Kherson were able to receive their pensions on time, and the courage of the owners of pharmacies and shops contributed to the survival of the population thanks to the possibility of cashless payments even in the conditions of the ban on Ukrainian currency and the requirement of settlements in Russian Rubles. Therefore, in modern conditions, ensuring the stability of banks and state regulation of this process requires particular importance in ensuring national security. Thus, the study aims to substantiate the theoretical and methodological aspects of using the assessment of the stability of banks as a tool of state regulation of the state of national security.

2. Theoretical-methodological foundations of using the stability of banks evaluation in the management of the national security of the country

The concept of national security is multifaceted and is considered by specialists in various fields of activity, considering the peculiarities of their functioning and promoting the protection of specific national interests and values. A generalised interpretation of the national security of Ukraine is given in the relevant law. National security protects state sovereignty, territorial integrity, democratic order, and other national interests from actual and potential threats[1].

Ukraine's national security strategy is based on three principles: deterrence, stability, and cooperation. Deterrence is provided by developing defence and security capabilities, which will prevent armed aggression against Ukraine. Resilience consists of the formation of the ability of the state and society to quickly adapt to changes in the security environment in the event of threats and to ensure their sustainable functioning by identifying and minimising external and internal vulnerabilities. Interaction involves the development of strategic relations with key foreign partners and weighted mutually beneficial ties with states and international organisations.

Deterrence, as well as interaction, are specific types of activities that require financial support. Sustainability extends to all spheres and types of activity and contributes to the continuous functioning of industry, agriculture, and the service sector. Therefore, ensuring stability is a prerequisite for preserving people's lives and the possibility of their safe existence.

The concept of ensuring the national stability of Ukraine emphasises the basic elements, including financial and economic stability, the main task of which is to ensure the continuity of the main business processes. It is the financial and economic security and its stability that is considered an indisputable indicator of the effective policy of the country and, the activities of the government, and the quality of development[5].

The Concept of Ensuring National Sustainability of Ukraine notes the main problems of implementing a national sustainability system:

- the uncertainty of the institutional model for ensuring national stability;

- lack of general methodological principles for assessing risks and capabilities to justify and implement strategic decisions[3].

Financial security is provided by the following sectors: budgetary, monetary, investment, currency, banking, and stock insurance. To ensure financial safety, the banking sector must be able to finance the state's and the population's needs, and the issue of the National Bank of Ukraine (NBU) must not exceed 20%[6].

Since the beginning of the military aggression, the level of financial security of the banking sector of Ukraine (FSBSU) was assessed as dangerous in 2015 (normalised assessment taking into account the weighted values of the indicators was 53.80), in 2016–2017, it became critical (49.61 and 50.59), in 2018 – dangerous (54.20), and in 2019 – unsatisfactory (48.83)[7]. The change of individual indicators in subsequent years also had a negative character. Thus, in 2020, the amount of cash to GDP exceeded the threshold value by 3.08 times, and the growth of the NBU's primary issue reached 31.39%. A low share of long-term loans is also a drawback. Loans to corporations for up to 1 year reached 51% of the total volume. Loans with more than five years term accounted for only 3% of GDP[8]. For comparison, long-term loans for more than five years in France and Austria reach 63%–64% of the total volume of loans and 33%–34% of GDP[9].

It should be noted that the perception of users of banking services and interested parties about financial security is reflected in different terms: reliability, stability, and sustainability. The most common term, "reliability", characterises the ability to inspire trust. It is used by clients, staff, shareholders, and potential investors. At the same time, they are guided by various criteria that are subjective and reflect the interests of evaluators. The term "stability" characterises the bank's ability to maintain a state of equilibrium for a long time or to recover in cases of short-term disruption. The state is added to the circle of subjects interested in the stability of banks. The only evaluation criterion is the preservation of the stability of indicators. The most important thing in modern conditions is stability, which means the ability of banks to function and develop in the needs of a changing environment and the emergence of crisis phenomena. Sustainability assessment is carried out by specialists: business analysts and risk managers. At the same time, quantitative indicators with established threshold values are used[10].

Although there are different views of scientists on the economic meaning and correlation of the concepts of financial stability and financial sustainability, we support the point of view of scientists who believe that stability depends on sustainability. After all, the bank's stability lies in the ability to avoid the adverse effects of both internal and external shocks at the current moment. Stability provides the possibility of continuous operation over a long period. However, stability is a necessary but not the only prerequisite for the stability of commercial banks[11].

The stability of banks is a complex characteristic and depends on the ability to solve tasks at different levels. In particular, interconnection with the economy as a whole at the state and regional levels ensures the interconnection of banks in the banking system safe functioning of an individual bank. At the same time, the stability of an individual bank consists in providing solvency and liquidity at a safe level. The ability to respond to changes in the macroeconomic environment affects the strength of the entire banking system.

Effective functioning of the financial sector is impossible without adequate state regulation and supervision of various areas. The main drawback of state regulation and supervision of the financial system of Ukraine is that it does not meet modern requirements and does not ensure compliance with the principle of unity in regulation.

Each state, based on the study of the experience of different countries and the characteristics of the influencing factors in the country, forms its own model of activity supervision and regulation. But at the same time, specific requirements of international organisations must be taken into account. As Ukraine strives for integration into the EU, it must be guided by the Directives and regulations of the EU countries. Thus, activities in the field of insurance are regulated by Directive 2009/138/EC[12], and the requirements for activities on the markets of financial instruments are defined in EU Regulation No. 500/2014[13] and Directive 2014/65/EC[14]. The activities of credit organisations and prudential supervision of their activities as well as investment companies, are regulated by Directives 2013, 36, EU[15] and Regulation (EU) No. 575, 2013[16].

There are also international standards that are of a recommendatory nature. In particular, they do not contain special requirements for the model that will be used to supervise and regulate the financial sector. Therefore, the models chosen by different countries differ significantly. Thus, Austria, Belgium, Estonia, Germany, Poland, and Finland preferred the consolidated model. In these countries, all supervisory functions are concentrated in a single supervisory body. Instead, Greece, Italy, Spain, Lithuania, Luxembourg, Slovenia, and France prefer a sectoral model, where separate responsible bodies control and regulate the activities of the securities market, insurance organisations, banks, etc. Great Britain chose a functionally oriented model, in which the powers are divided between prudential supervision and market supervision[17].

In Ukraine, until 2019, preference was given to the sectoral model. However, the development of financial groups, which include representatives of various sectors (insurance companies, banks), as well as the involvement of non-bank market participants in lending, led to the introduction of a more integrated model of two agencies. The National Bank of Ukraine (NBU) extended its supervision to insurance, leasing, financial companies, pawnshops, and credit unions. The National Securities and Stock Market Commission (NSSMC) regulates construction financing funds and non-state pension funds.

In the process of managing the stability of banks, problems of various dimensions and importance are solved. From the point of view of national security, it is essential to assess the strength of the banking system on the basis of complex indicators. At the same time, purely centralized (directive) management cannot be flexible and sufficiently effective. Management of the banking system should be carried out according to the principle of managed democracy, which involves the combination of centralised management with the self-organisation of both bank clients and their staff.

To effectively manage national security, it is necessary to assess the stability of individual components in detail, identify factors influencing stability, and substantiate the instruments of state regulation.

3. Analysis of the possibility of using the results of the method of assessing the stability of banks for the management of national security

To manage national security, it is necessary not only to assess the existing state but also to identify the factors influencing it. In the 2015 analytical report of the National Institute of Strategic Studies (NISD), "Conceptual foundations of the development of the system of ensuring national security of Ukraine", it was noted that the national security system in force at that time was incapable of performing its functions. Therefore, to ensure peace in Ukraine, it is necessary to form a new national security system of Ukraine, taking into account significant changes in the internal and external security environment, which will allow, even in conditions of limited resources, to resist any threat in the long term. The primary task was to ensure the effective functioning of the security and defence sector[18].

To effectively manage the national security system (NSS), it must be characterised by indicators that cover different areas of activity. After a large-scale invasion, the importance of economic, social, energy, and information security has increased. Each of them should be evaluated by the corresponding integral indicators. Although there is no single approach to evaluating different types of security yet, most scientists believe that the banking system directly affects economic security. Comparative characteristics of the security index of various EU countries and Ukraine are presented in **Table 1**.

Table 1. Sharing of EU countries and Ukraine by the integral indicator of security, 2018.

Stability zone (0.8–1.0)	Moderate security zone (0.70–0.799)	Probable security zone (0.50–0.699)	Danger zone (0.40–0.499)	Critical condition (0–0.399)
Denmark	Sweden	Belgium	Lithuania	Greece
Luxembourg	Netherlands	Ireland	Cyprus	Croatia
Finland	Germany	Spain	Latvia	Bulgaria
-	Austria	Slovenia	Poland	Ukraine
-	Great Britain	Portugal	Hungary	-
-	France	Malta	Romania	-
-	-	Czech Republic	-	-
-	-	Italy	-	-
-	-	Estonia	-	-
-	-	Slovakia	-	-

Source: compiled according to Gryshova et al.[19].

In 2018, the stability zone included Denmark, Luxembourg, and Finland. Ukraine is included in the group of countries with a critical state of economic security. Moreover, the value of the indicator is very low—0.086. The closest country in terms of rating—Bulgaria—has an indicator value of 0.331.

The comparison of the level of Ukraine's economic security with the group of countries that are the largest trading partners: Germany, Italy, and Poland, from 2017 to 2021 is disappointing. The results for some indicators are presented in **Table 2**.

Indicators of comparability of economic development and comparative solvency are determined by the ratio of GDP per person in a certain country or the average annual salary to the average indicators for a selected group of countries. Indicators of export and import dependence are determined by the ratio of the value of exported or imported products to GDP.

Showing indicators specify the presence of financial and social threats but do not reflect the connection between the banking system and national security.

Economic security is formed due to various components, including production security, demographic security, energy security, foreign economic security, investment and innovation security, food security, social security, and financial security. For calculating the integral security indicator in Ukraine, a financial security weighting factor of 0.1294 is used. In turn, financial security depends on debt, currency, monetary, banking security and security of the non-banking financial market. Some scientists define the importance of banking security as 0.1723[20].

Table 2. Indicators of economic security of some countries in 2017–2021.

Indicators	Ukraine		Poland		Italy		Germany	
	2017	2021	2017	2021	2017	2021	2017	2021
Comparability of economic development (share)	0.09	0.15	0.44	0.51	0.93	1.38	1.43	1.38
Comparative paying capacity of the population (share)	0.06	0.11	0.32	0.39	0.89	0.88	0.89	0.90
Economy's export dependence, %	51.28	49.77	26.07	62.07	31.78	37.32	43.25	45.73
Economy's import dependence, %	56.11	44.86	22.80	57.50	32.82	37.38	41.10	46.96
Imbalance of foreign trade (trade balance to GDP), %	–4.84	–0.08	3.26	–4.57	2.57	2.55	0.44	0.44
Country's international export significance, %	0.24	0.31	1.32	1.52	2.86	2.74	8.16	7.32

Source: compiled according to Zubko[21].

According to some calculations, the Integral indicator of banking security was 0.341 in 2016 and 0.387 in 2017, corresponding to a dangerous level. In subsequent years, the value of the indicators increased slightly to 0.484 in 2018 and decreased to 0.450 in 2019. But they were already at a slightly higher (unsatisfactory) level[22].

A full-scale war was started by the Russian Federation on 24 February 2022 and became a severe test for the banking system of Ukraine, an impetus for exacerbating existing risks and generating new ones. In December 2022, the National Bank of Ukraine published the Report on Financial Stability, which analysed the damage caused to the banking sector, countermeasures against crisis phenomena, and the ability to maintain stability[23].

Despite the war, the banking sector of Ukraine is building liquidity thanks to international aid and issuance, which is equivalent to more than half of the 2022 budget spending. Also, from the beginning of the war to November, funding from the population and businesses increased by almost 20%. However, the credit risk of households remains at an average level.

The risk of capital sufficiency due to the stock accumulated before the war also remains at an average level. It is positively affected by the recovery of banks' profitability in the second half of the year. Business is gradually adapting to work in war conditions. However, the situation is expected to worsen as a result of Russian strikes on critical infrastructure and the occurrence of blackouts. It should be noted that international aid in the form of generators and other equipment "mitigated" the consequences of the destruction of critical infrastructure in early 2023.

The decrease in production level compared to the pre-war period and the great uncertainty in the future led to a practical absence of capital investment and demand for long-term loans. In the first months of the war, mortgage lending practically stopped. Significant risks and deterioration of the material situation do not allow displaced people to meet their housing needs in the real estate market.

However, the banking sector of Ukraine maintains higher profitability compared to past crises. The number of operationally unprofitable institutions after the first half of the year decreased to the level of 2021. For 11 months, despite the losses at the beginning of the war, banks are making profits; the average profitability is 9.3%.

To prevent crisis phenomena in the financial sector of the economy, the National Bank of Ukraine plans to conduct an assessment of the stability of a group of banks based on the results of their activities in 2023 and to publish the assessment results in 2024. They will become the basis for improving the method of assessing the stability of banks and implementing regulatory measures. The list of banks whose strength will be checked includes JSC CB PrivatBank, JSC Oschadbank, JSC Raiffeisen Bank, JSC Sens Bank, JSC Universal Bank, JSC PUMB, JSC Ukreximbank, AB "Ukrgazbank", JSC "OTP Bank", JSC "UkrSibBank", JSC "Credi Agricole Bank", JSC "Credo Bank", JSC "A-Bank", JSC "TASKOMBANK", JSC "Pro Credit Bank", "Joint Stock Bank Pivdenny", JSC "Bank Kredit Dnipro", PJSC "Bank Vostok", PJSC "MTB Bank", and JSC "PRAVEX Bank". An assessment of the property value report is expected, considering the land plot, the required level of capital adequacy, the forecast level of credit risk (for three years), and stress testing[24].

It should be noted that the regions of Ukraine exceed some European countries in terms of territory and population. Their conditions of existence during the war are also significantly different. A part of the territories of some regions was occupied back in 2014. Fierce battles are taking place in some regions. During the liberation of territories, everything is destroyed. In the countryside, many destroyed, almost deserted villages and fields are mined. The post-war restoration of territories will have its characteristics and require different management approaches.

Unfortunately, even after the end of the war, the threat of a new invasion will not disappear. Each of Ukraine's regions must take care of its security and the right to use approaches to security assessment and levers of its regulation that are appropriate to the specifics of the situation in socio-economic development.

In the process of building a regional system for assessing the economic security and stability of banks, it is advisable to take into account approaches to evaluate the economic security of countries and regions in

European practice. Thus, for the countries of Northern Europe, the NORDSTAT system is used, in which indicators are divided into three groups: group A contains quantitative indicators that are easily calculated and compared between countries; group B includes quantitative indicators whose calculation methods differ in different countries (unemployment statistics, etc.), their use requires adjustment for adequate comparisons; group C includes specific, incomparable indicators that characterise the payment of social benefits, the level of poverty, etc.[25]. The methodology developed by the Department of Transport, Local Government and Regional Development of the United Kingdom (DTLP) can be useful for Ukraine. It contains indicators of the current state, target orientations and results of the assessment of satisfaction with the quality of services and activities of local administration. Similar monitoring systems are used in Sweden (Local Welfare Management Systems) and Finland (VERTI project).

One of the main conditions for the economic security of regions is their self-sufficiency in ensuring the vital needs of the population in food, water supply, energy, communication, medical care, protection from external invasion, as well as the formation of the potential for further development. The banking system provides "feeding" with the financial resources of the population and business processes.

Target guidelines of regional development are reflected in the relevant strategic plans. For the banking system of the region, it is advisable to form target guidelines regarding the region's needs for credit resources, priority areas of investment, interaction with the business environment of the region, availability of means of autonomous energy supply and communication to ensure continuity functioning during critical infrastructure failure. The organisation of cooperation between the banks of the region will allow to optimally distribute the target tasks between the banks, taking into account their experience of cooperation with individual business structures, available opportunities and limitations.

It is sufficient to assess the current state of the bank's stability according to the existing methodology recommended by the NBU. However, at banks' request, it is possible to strengthen the block of risk management responsibility and supplement it with an expert assessment by clients of the quality of services and organisational mobility to prevent crises.

4. Instruments for state regulation of bank stability

The test of the state's ability to maintain the stability of banks began in February 2022 with the beginning of full-scale Russian aggression. The main task of state regulation was to prevent the development of panic among the population and loss of confidence in the banking system.

For residents of the territories threatened by occupation, no restrictions were imposed on the withdrawal of funds, both in national and foreign currency, if they were available in bank branches. In other regions, a ban on cash withdrawals over UAH 100,000 per day and a complete ban on cash currency withdrawals have been introduced. The National Bank of Ukraine fixed the hryvnia to the foreign currency exchange rate as of 24 February 2022. At the same time, influence measures were being cancelled for banks for violation of capital, liquidity, and credit risk standards, limits of open currency positions, deadlines for submitting statistical reports, and formation and storage of mandatory reserves. Permission was granted to use cloud services on the territory of the EU, Great Britain, the USA and Canada, which contributed to the stable operation of the banking system[26].

In order to protect citizens' hryvnia savings from the risk of exchange rate fluctuations and to preserve the country's international reserves, from 21 October 2022, the opportunity to buy US dollars has been provided at the official rate of the National Bank of Ukraine, on the condition that they will be placing on a term deposit account (the term from six months) and sold back at the end of the time of the deposit at the official rate on the day of the reverse transaction. This right is also granted to banks to level their currency risk. Also, the NBU concluded agreements with the central banks of Belgium, Italy, Latvia, Lithuania, Malta, the

Netherlands, Germany, Poland, Sweden, and Switzerland on the possibility of exchanging hryvnia cash for euros by emigrants from Ukraine. At the same time, the exchange is carried out at a fixed exchange rate to the euro determined by the NBU. And the transaction fee is standard for currency exchange—2.5 euros[27].

So far, the banking system of Ukraine is coping with new challenges. Even in occupied Kherson in the first months of the occupation, JSC KB "PrivatBank", JSC "Oschadbank", and JSC "Raiffeisen Bank" ensured the operation of some ATMs, made it possible to get cash in stores where payments were made through the system of a particular bank. That's why the population kept their trust in the banking sector.

Despite the continuation of martial law, the state is trying not only to stabilise the situation but also to provide conditions for rapid positive changes after the liberation of its territory. For this, it is necessary to systematise the instruments of influence on the banking sector's stability for different levels of management. The author's vision of this system is shown in **Figure 1**.

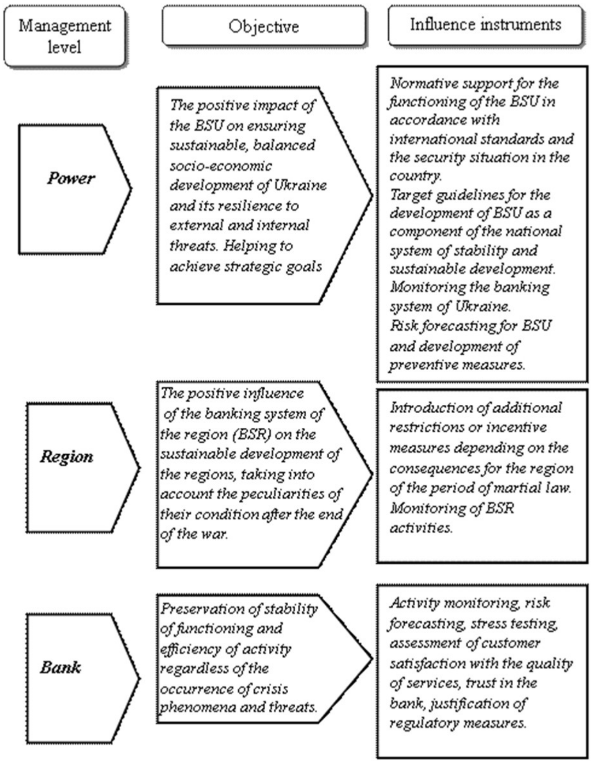

Figure 1. Components of an instrument system for managing the contribution of the Banking System of Ukraine (BSU) to ensuring the sustainability of Ukraine's national security.

Even before the beginning of the full-scale invasion of the Russian Federation, the Financial Sector Strategy of Ukraine until 2025 was developed. The Ministry of Finance of Ukraine, the National Bank of Ukraine, the National Commission for State Regulation in the Field of Financial Services Markets, and Individual Deposit Guarantee Fund (IDGF) participated in the development.

The Vision and Mission of the Financial Sector of Ukraine (FSU) were formulated in the strategy. In the vision, the financial sector of Ukraine is seen as stable and competitive, integrated into the international space, dynamically developing and making a significant contribution to the sustainable economic growth of Ukraine. The mission of FSU—to be a driver of sustainable and inclusive development of the economy of Ukraine and to contribute to the growth of citizens' well-being by ensuring the effective accumulation, distribution, and circulation of financial resources in the economy.

The strategy envisages the development of the financial sector in five main areas: strengthening financial stability; promotion of macroeconomic development and economic growth; development of financial markets;

expansion of financial inclusion; and implementation of innovations in the financial sector.

Among the areas of ensuring financial stability, it is also envisaged to increase the requirements for internal control of financial institutions, regulatory measures and supervision of banks and non-banking financial institutions, which are provided for in the Agreement on the Association of Ukraine and the EU. Economic development is planned to be stimulated by intensifying lending to small and medium-sized businesses.

The directions of promoting the development of financial markets are related to stimulation through currency liberalisation, the creation of markets for corporate shares and bonds, as well as the demotivation of making inefficient financial services and those that do not comply with EU practice.

To expand financial inclusion, it is envisaged to increase the protection of the rights of consumers of financial services, boost the system of deposit guarantees, develop stimulating measures for the development of payment infrastructure for non-cash transactions, and intensify the use of targeted programs for improving the financial literacy of the population.

Innovations in the banking sector should contribute to its security due to the development of technologies for processing large data sets, particularly cloud technologies, and increasing the use of non-cash transactions by introducing new technologies for payments and transfers, the development of the BankID remote identification system.

It should be noted that public sector banks form the main component of the banking sector in Ukraine, especially in terms of servicing individual depositors and large state corporations, investments in securities and operations on the interbank market.

The nationalisation of large banks, together with the subsequent increase in investments in the capital of state-owned banks, led to a high level of privatisation of the banking system, which is justified in the conditions of a systemic crisis. After passing its peak, the state is faced with the problem of attracting strategic investors to banks with the state capital, which corresponds to the principles of the market economy and the Strategy for the Development of State Banks[28].

A significant state share in the banking sector of Ukraine in terms of assets, capital, customer funds and other parameters imposes on the Government of Ukraine, the Ministry of Finance of Ukraine and the National Bank of Ukraine, special responsibility for proper control and support of state banks, taking into account the consequences of possible strategic and tactical decisions regarding development their business models for the purpose of implementing nationwide measures to stimulate economic growth, developing appropriate conditions for sustainable growth. In the conditions of ensuring by the National Bank of Ukraine an equal competitive environment for conducting banking business, state investments in the capital of banks should bring appropriate income in the form of dividends and from the sale of a share of state participation to strategic investors. The task of introducing a system of strategic planning and control over the state's implementation of strategies in state-owned banks is becoming urgent.

At the same time, the large share of non-performing loans (NPL) formed in the banking sector threatens financial stability and hinders the economy's financing.

The dynamics of NPL by main clusters of banks are shown in the **Table 3**.

The analysis of the data from **Table 3** gives grounds for conclusions regarding the existence of a particular time delay in the reaction of the banking sector of Ukraine to specific events. In particular, the consequences of the global financial crisis of 2008–2009 were manifested only in 2010. The annexation of Crimea and the beginning of military operations in Donbas in 2013–2014 gave impetus to the deterioration of the situation only in 2015. Although the nationalisation of Privat Bank in 2017 instantly worsened the general situation

Table 3. Dynamics of the volume of non-performing loans in the balance sheets of Ukrainian banks, %.

Year	Total	State-owned banks (excl. PrivatBank)	PrivatBank (state-owned from 2017)	Private banks	Foreign banks
2006	5.1	5.3	10.5	4.5	2.8
2007	3.7	3.1	7.7	3.5	2.2
2008	3.5	2.3	5.3	3.2	3.3
2009	8.8	4.7	10.5	9.3	10.1
2010	15.9	13.2	12.1	14.8	20.5
2011	17.3	16.6	12.3	14.6	22.9
2012	18.1	17.5	18.4	15.4	19.9
2013	18.4	17.3	18.6	14.0	21.9
2014	17.6	20.7	12.0	11.4	20.9
2015	25.2	34.6	13.1	17.7	31.4
2016	32.9	49.3	14.4	23.3	38.3
2017	53.0	56.8	84.8	25.2	25.4
2018	51.8	58.1	85.0	24.9	17.7
2019	46.9	50.9	81.2	21.9	13.6
2020	44.1	47.6	78.1	19.0	14.9
2021	33.4	38.4	71.6	12.8	8.9
2022	30.6	30.9	68.6	15.0	10.8

Source: calculated according to National Bank of Ukraine data[29].

regarding the amount of negatively classified assets in the balance sheets of Ukrainian banks.

In recent years, there has been a tendency towards a gradual reduction in the amount of non-performing loans (NPL) in the banking system, including in public sector banks. However, the share of non-performing loans (NPL) in the banking system remains quite significant. The Law of Ukraine, "On Financial Restructuring", dated 14 June 2016, No. 1414-VIII, did not provide the expected results, although, in 2019, the Verkhovna Rada of Ukraine extended the validity of this law for three years. The limited use of this Law in practice did not create conditions for a comprehensive solution to the problem.

Since 2015, one of the priorities of the Ministry of Finance of Ukraine has been the development and implementation of approaches to work with non-performing loans to reduce pressure on the balance sheets of public sector banks and maximise their residual value. For such banks, compared to banks of the private sector, the toolkit for working with problem loans is significantly limited in terms of selling claims on them at a discount, which makes it impossible to clear the balance sheet from them. Instead, a distressed asset (even one that has undergone financial restructuring) is accounted for, requires provisioning and maintenance and continues to generate losses. Thus, it is necessary to focus as much as possible on the development of tools for solving the mentioned problem, the practical implementation of which in the near future will contribute to increasing the efficiency of working with non-performing loans in public sector banks and, therefore, their investment attractiveness.

Possible ways of resolving the problem of problem assets (taking into account international experience) may be:

- Creating a resolution bank to manage distressed assets.
- Swiss experience: the Central Bank Special Purpose Fund was established at the expense of the CBs and bonds of Switzerland's largest bank, UBS AG. In fact, a hybrid scheme was implemented with elements of the redevelopment bank and the insurance company. The Fund has been given management of bad assets by UBS, and the government has sold bank bonds (UBS), which can be converted into 10% of the bank's shares.
- Sweden's experience: the creation of two publicly funded financial companies. The assets of the banks were conditionally divided into "good", "problem", and "bad". The first group of assets remained in the management of the banks, the second group was purchased by the Financial Companies, and the third group was written off. Financial companies bought distressed assets from

banks at the expense of the state, which was partially transferred by the banks' shares (in fact, partly by nationalisation). Financial companies worked with distressed assets, that is, to some extent, performed the functions of a resolution bank.

- US experience ("Geithner's plan"): the Central Bank, together with the Federal Deposit Insurance Corporation, created the Private-Public Investment Fund. The mechanism of operation was as follows: banks formed a pool of distressed assets, after which the Federal Deposit Insurance Corporation (FDIC) held an auction for the sale of distressed assets at a discount. If the seller sold the asset, then the private investor financed the transaction by issuing debt security guaranteed by the FDIC. Then financing is carried out at the expense of the state and the private investor (in a ratio of 6 to 1). And often, the investor receives a pool of problem assets in management[30].

From the point of view of national security, the stability of regional banking systems and the development of tools to influence them require special attention.

In the joint report of the World Bank, the Government of Ukraine and the European Commission, "Rapid assessment of damage and recovery needs—August 2022", the regions of Ukraine are divided into four categories: front, support, rear and returned to the control of the Government of Ukraine. The autonomous republic of Crimea, annexed in 2014, and the occupied parts of Donetsk and Luhansk regions in 2014 should be added to these categories.

The highest level of damage caused by military aggression was experienced by the Republic of Crimea, the occupied parts of Donetsk and Luhansk regions, frontline territories and territories returned to the control of the Government of Ukraine. A high level of damage is inflicted on the support area, and an average level of damage is imposed on the rear areas.

Depending on the primary state of the natural resource potential and the economic complex, as well as the degree of damage, the necessary transformations and the necessary resources, the author proposed the following models of territorial development in post-war times: preservation, restoration and modernisation, reconstruction based on innovation[31].

The first model (preservation) is acceptable for rear regions that have suffered the most minor damage. They can develop according to strategic plans developed even before the war, taking into account the need to increase the resistance of the territories to external threats and food security and ensure the need for new workplaces for internally displaced persons. It is rational to carry out socio-economic development without significant changes in the structure of economic complexes. It is appropriate to pay special attention to developing tourist activities and the service sector.

The model of restoration and modernisation is most appropriate for the supporting territories, which mostly had a sufficiently robust potential and significant achievements in socio-economic development before the war. Therefore, it is essential for these territories to ensure the restoration of the residential sector, industrial and agricultural complexes, taking into account the needs for their modernization.

The war front areas will definitely become liberated. But they suffer the most significant losses. Therefore, for many regions, it is necessary to form an economic complex with a new structure, considering ecological requirements, compliance with food and energy security, and ensuring the resistance of the territory to external threats. That is, the economic complexes of the liberated territories need to be reconstructed on an innovative basis. The actual destruction of the economic complexes of the regions creates prerequisites for forming a balanced economy, which will ensure self-sufficiency, stability of the regions, optimisation of its structure, and efficiency of resource use. It is necessary to seize the opportunity to implement technological changes.

When developing the freed territories, it should be considered that many rural areas have been destroyed. Their revival should take place based on integrated development, considering rural infrastructure and the service sector, creating opportunities to increase the solvency of villagers. Rural tourism is a promising direction for developing entrepreneurship in rural areas, contributing to the diversification of agriculture and the reduction of population outflow.

The formation of the stability of the banking systems of the regions must be carried out, taking into account the preservation of the risk of a repeated invasion of the Russian Federation into the territory of Ukraine and the attractiveness of specific regions for it. Yes, even on the eve of the 24 February 2022, invasion, despite Russia's desire to destroy Ukraine as an independent state, it had more realistic strategic priorities. Among them is providing Crimea with water. For this, it was necessary to occupy the Kherson region, including the dam of the North Crimean Canal, which was carried out in the first days of the war. Kherson was the only regional centre of Ukraine that was occupied. After his release, the occupiers blew up the Kakhovskaya HPP, which not only caused incredible damage to the population and the ecological state of the territory but also deprived the possibility of supplying water to the territory of the Autonomous Republic of Crimea for many years. More ambitious intentions regarding the land connection of Crimea with Russia require the occupation of the entire territory of the southern part of Donetsk Oblast and Zaporizhzhya. This would also make it possible to deprive Ukraine of the opportunity to use the ports and maritime areas of the Sea of Azov. In order to gain control over the Black Sea ports of Ukraine, it is necessary to occupy the Odesa and Mykolaiv regions (at least their southern parts). Kharkiv and Dnipropetrovsk regions border Donbas and are industrially developed regions. Poltava and Sumy regions can also be considered attractive regions for Russia. Poltava region ranks 4th in terms of contribution to the volume of industrial products sold in the country. The Sumy region has fertile chernozems, oil, gas, and quartz sand reserves. Dnipropetrovsk, Donetsk, Zaporizhzhya, Poltava, Kharkiv, and Sumy regions together were been providing almost 50.0% of the volume of sales of industrial products in Ukraine.

To ensure the variability of territories in financing their development, it is desirable to create a system of regional banks, which is dominant in the US banking system. The number of regional banks in the USA is more than 70% of the total number. The activities of regional banks are regulated by the legislation of the states in which they operate. When fulfilling the Federal Deposit Insurance Corporation (FDIC) requirements, the countries provide the regional bank with the opportunity to become a member of the FDIC at its request. Regional banks do not have branches[32].

In Ukraine, the banking system includes the NBU and state and commercial banks of a national scale, which have branches in the regions of Ukraine. The disadvantage of this system is that the stability of BSU can be high even with the loss of individual banks, let alone branches. Banks are considered regional, which are registered in a particular region. As of 1 January 2017, 62 banks were registered in the Kyiv region and Kyiv city, eight banks in the Dnipropetrovsk region, five banks in Lviv region, 4 in Kharkiv region, 3 in Odesa region, 2 banks each in Poltava and Chernihiv regions. National banks are not interested in developing all territories where their branches are located. Regional banks are often created by business entities to serve their specific needs. During the period from 2015 to 2017, the number of loans issued significantly exceeded the number of funds on deposit accounts in Kyiv and Dnipropetrovsk regions, which indicates that these regions are credited at the expense of others. There is also experience in the operation of municipal banks in European countries. Thus, in Germany, their number reaches 40% of the total number[33].

Therefore, for Ukraine, creating a network of municipal banks would become an essential tool for increasing the national stability of the country. After all, regional banks are more interested in meeting the population's needs and small and medium-sized businesses because banks' profitability depends on them. Regional banks should pay special attention to forecasting crisis situations and risk assessment, stress testing, assessment of customer satisfaction with the quality of services, and trust in the bank.

From the point of view of the country's national security, it is expedient to evaluate the performance of bank managers based on a comparison of the achieved results with the established goals.

It is advisable to use a similar approach to evaluate civil servants' effectiveness at all management levels.

5. Conclusions

The research results indicate the growing importance of the stability of the banking system and individual banks in martial law conditions. The banking system affects national security through its direct impact on economic security. Comparison of the integral indicators of the economic security of Ukraine and EU countries even before the full-scale invasion of the Russian Federation into Ukraine testify to the critical state of the economic security of our country. The Ukrainian economy is characterised by the low solvency of the population, high export and import dependence, foreign trade imbalance, and low international export importance. However, from the first days of the war, the banking system of Ukraine demonstrated its ability to prevent the population from panicking and losing confidence in banks. Thanks to international support, the banking sector is increasing liquidity, and in the second half of the year, profitability has been restored. Gradually adapts to work in the conditions of war and business.

Unfortunately, even after the end of the war, the threat of a new invasion will not disappear. Therefore, it is necessary to strengthen the banking system's stability further.

The effectiveness of the functioning of the financial sector in conditions of constant threats cannot be ensured without adequate state regulation and supervision in various directions. Considering that purely centralised (directive) management cannot be flexible and efficient enough, it is advisable to manage the banking system according to the principle of managed democracy. It is necessary to ensure the combination of centralised management with the self-organisation of regional banking systems and individual banks. Therefore, in the system of tools for managing the contribution of the Banking System of Ukraine to ensuring the stability of the national security of Ukraine, three levels are allocated: state, region, and banks.

The stability of the entire banking system is affected by the ability to respond to changes in the macroeconomic environment to ensure compliance of activities with international standards. Therefore, at the state level, it is expedient to carry out forecasting of external threats, development of preventive measures, regulatory support and monitoring of the banking system and its individual components.

One of the problems that threaten Ukraine's national security is the large share of non-performing loans in the banking sector. A possible solution to the issue of problem assets (taking into account international experience) may be creating a recovery bank to manage problem assets or forming a particular purpose fund at the NBU.

From the point of view of national security, the process of ensuring the stability of regional banking systems and the development of tools for influencing it requires special attention. An essential tool for increasing the national strength of the country can be the formation of a network of municipal banks, which will be interested in supporting the sustainable development of regions and more fully meeting the needs of the population in banking services.

The stability of an individual bank consists in ensuring solvency and liquidity at a safe level, as well as the ability to respond to new challenges and maintain a positive image. Therefore, risk forecasting for the region, monitoring of banks' activities, assessment of customer satisfaction with the quality of services, and trust in the bank are of great importance among the tools of influence on the movement of regional government banks.

To evaluate the effectiveness of public authorities at all levels of management, it is advisable to compare the achieved results with the established goals.

Author contributions

Conceptualization, MM and OT; methodology, OL; software, MM; validation, MM, OL and OT; formal analysis, OL; investigation, OT; resources, MM; data curation, MM and OT; writing—original draft preparation, OL; writing—review and editing, MM and OT; visualization, OL; supervision, MM; project administration, MM; funding acquisition, MM. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

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