MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
V.N. KARAZIN KHARKIV NATIONAL UNIVERSITY

Karazin Banking Institute

Department: **Banking Business and Financial Technologies**

Specialty: **072 Finance, banking and insurance**

Educational program: **Financial technologies and banking management**

Group: FM-23M **full-time mode of study**

QUALIFYING MASTER’S THESIS

on the topic:

BASICS AND FEATURES OF BANKING ACTIVITY IN MODERN CONDITIONS

submitted by the applicant of higher education

Zhao Shuang

The qualifying master’s thesis was accepted for defense by the decision of the Department of Banking Business and Financial Technologies

Minutes No 5 dated «6» December 2024

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Kharkiv 2024

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
V.N. KARAZIN KHARKIV NATIONAL UNIVERSITY

Faculty	EDUCATION AND RESEARCH INSTITUTE “KARAZIN BANKING INSTITUTE”
Department	Banking Business and Financial Technologies
Level of higher education	second (master’s) level
Specialty	072 Finance, banking and insurance
Educational program	Financial technologies and banking management

APPROVED
Head of department of
Banking Business and Financial Technologies
Doctor of Economics, Professor

_______________Galina AZARENKOVA

«25» September 2024

ASSIGNMENT
FOR A QUALIFYING MASTER’S THESIS
assigned to
Zhao Shuang

1. The topic of the thesis: "BASICS AND FEATURES OF BANKING ACTIVITY IN MODERN CONDITIONS".
Scientific advisor - Doctor of Economics, Professor Nataliia Pohorelenko

approved by the orders of the University dated: "17" September 2024, No. 4601-3k/1025 and "15" November 2024, No. 4601-3k/1491.
2. Deadline for submission of thesis by the student: 18.11.2024
3. List of questions to be researched:
In chapter 1: to investigate the essence and principles of organization of banking activity; to systematize the methodological foundations of the study of the content of banking activities; to substantiate the necessity of state anti-crisis regulation of banking activities.
In chapter 2: to analyze the current external and internal conditions for the development of banking in Ukraine; to describe the features and performance indicators of Ukrainian banks; to consider the technical and economic characteristics of JSC CB “PrivatBank”.
In chapter 3: to recommend measures to strength financial security as a key component of banking activities; to determine the target parameter of the bank development management system; to formulate proposals for the formation of a strategy for managing the bank's loan portfolio based on a static decision-making model.

4. Plan of qualifying master's thesis

№	Name of work stages
1	Selection of the topic
2	Approval of the plan and tasks of thesis
3	Implementation of thesis
4	Submission of thesis to the department to check for the presence of borrowings from other documents
5	Completion of the admission procedure for the protection of thesis
6	Defence of thesis

5. Date of assignment issuance 25.09.2024

Student	Zhao Shuang	Zhao Shuang
Scientific advisor		Nataliia Pohorelenko

ABSTRACT ON QUALIFICATION MASTER'S THESIS "BASICS AND FEATURES OF BANKING ACTIVITY IN MODERN CONDITIONS" OF ZHAO SHUANG

Qualification Master's Thesis contains 80 pages, 12 tables, 32 figures, 80 references.

Object of research is the banking system.

Subject of research is theoretical foundations, methodological and practical aspects of ensuring and developing banking activities in modern conditions.

Purpose of qualification master's work is generalization of the theoretical foundations of banks' activities, assessment of the peculiarities of their functioning and development of approaches to improving banking activities in the current environment.

Tasks of qualification master's work are:

- the essence and principles of organization of banking activities are investigated;
- the methodological foundations of the study of the content of banking activity are systematized;
- the necessity of state anti-crisis regulation of banking activity is substantiated;
- the current external and internal conditions for the development of banking in Ukraine are analyzed;
- the features and performance indicators of Ukrainian banks are described;
- the technical and economic characteristics of JSC CB “PrivatBank” are considered;
- measures to strengthen financial security as a key component of banking activities are recommended;
- the target parameter of the bank development management system is determined;
- proposals for the formation of a strategy for managing the bank's loan portfolio based on a static decision-making model are formulated.

According to results of the research, theoretical and practical conclusions are formed, which not only systematize the existing scientific and methodological base in this area of research, but also contribute to the implementation of generalized proposals for the development of approaches to improving banking activities in modern conditions.

The obtained results can be used not only in the formation of the theoretical framework on this issue, but also in the development of key components that shape the development trends of banks in the current environment.

KEY WORDS: BANKS, ACTIVITIES, ORGANIZATION, ANTI-CRISIS REGULATION, FINANCIAL SECURITY, MANAGEMENT, LOAN PORTFOLIO.

CONTENT

INTRODUCTION

The banking system plays a key role in the formation and development of the country's economy and affects the sustainability of interaction between various business entities. This is due to the functional tasks it performs in the system of economic relations and, above all, its ability to generate additional and redistribute free funds for the needs of all participants in these processes - the state, business entities, including banks, and households.

At the same time, any transformation processes, especially those related to a significant restructuring of the banking system and interaction between market participants in the provision of banking services, can fundamentally change not only the conditions for performing its functions, but also the functioning and development of the entire economic system. These are the processes that characterize the modern development of banking systems, which are characterized by constant restructuring and adaptation to the ever-changing conditions of the external and internal environment.

The main condition for restructuring the banking system of any country is its efficiency and functional focus on the needs of the country's economic development, the operation of individual business entities, fulfillment of obligations to bank customers and provision of financial services to the public. Achieving these goals is impossible without a stable and efficient banking system.

The research results presented in the master's thesis were based on a generalization of theoretical and practical provisions of scientific works of leading scientists and practitioners on the functioning and development of banking and determining its impact on the economy as a whole. These issues are actively studied by researchers: Baranovskyi O.I., Vovchak O.D., Dziublyuk O.V., Dyakonova I.I., Epifanov A.O., Karcheva I.Y., Kovalenko V.V., Krukhmal O.V., Leonov S.V., Primostka L.O., Savluk I.M. and many others.

The purpose of the paper is to summarize the theoretical foundations of banks' activities, to assess the peculiarities of banks' functioning and to develop approaches to improving banking activities in modern conditions.

The achievement of this goal determined the implementation of the following tasks:

- the essence and principles of organization of banking activity are investigated;
- the methodological foundations of the study of the content of banking activities are systematized;
- the necessity of state anti-crisis regulation of banking activities is substantiated;
- the current external and internal conditions for the development of banking in Ukraine are analyzed;
- the features and performance indicators of Ukrainian banks are described;
- the technical and economic characteristics of JSC CB “PrivatBank” are considered;
- measures to strengthen financial security as a key component of banking activities are recommended;
- the target parameter of the bank development management system is determined;
- proposals for the formation of a strategy for managing the bank's loan portfolio based on a static decision-making model are formulated.

The object of research is the banking system.

The subject of the study is the theoretical foundations, methodological and practical aspects of ensuring and developing banking activities in modern conditions.

The study used a number of general scientific and special research methods, namely: graphical method, methods of system-structural and comparative analysis - to study the current external and internal conditions of banking development in Ukraine, to assess the resilience of banks to the crisis and to present the technical and economic characteristics of JSC CB “PrivatBank”; methods of scientific abstraction, classification, systematic generalization and SWOT analysis - to systematize approaches to defining the essence and content of banking as a special type of business.

This issue has received more than considerable legal attention, which is reflected in general legal acts. This list is further elaborated by a considerable number of other special legislative and regulatory sources and regulations. The information base of the study is the data of the National Bank of Ukraine, the financial statements of PrivatBank JSC and other statistical sources.

The implementation of the research results presented in the master's thesis will help ensure the banking system's ability to withstand the challenges it faces and develop products and areas of operation that are adequate to current conditions and will ensure financial stability and trust from both internal customers and external investors in the future.

CHAPTER 1
THEORETICAL FOUNDATIONS OF BANKS' ACTIVITIES

1.1. Banking activity, its essence and principles of organization

Banking is a special area of economic activity and, therefore, a separate specific type of business. The above thesis is confirmed by the fact that sustainable development of banking plays a significant role in the process of economic reproduction. It is through banking that both monetary and capital resources are moved and redistributed. In a market economy, the analysis of financial flows generated by banking activities becomes a primary element in building an effective financial security system for each economic agent [1].

However, the question of whether banking is a mere intermediation or can still be considered a business still remains open. To answer this question, it is necessary to examine the concept of a bank in more detail and outline the areas of its functioning in the market.

The establishment and operation of commercial banks, just like other economic agents, is regulated by legislative and regulatory acts of Ukraine, the most important of which are shown in fig. 1.1.

There is a fairly common view that banking is just financial intermediation, and that banks do not create any added value or produce any goods. It is believed that banks only transfer ready-made value from the lender to the borrower. Therefore, they cannot have the status of a business entity. But in practice, this statement is false, which is confirmed by a detailed analysis of this issue. The main evidence is a detailed analysis of the banking product.

If we consider the product of banking as an additional mass of means of payment created by banking institutions through the multiplication mechanism, we will not take into account the important distinction between monetary and non-monetary goods that are products of non-banking production activities. Thus, this approach is incorrect, because the GDP produced in the production sector cannot be combined with the amount of money “produced” by banking institutions. But without such an “addition” there is no reason to consider banking as part of the creation of added value and GDP growth, and therefore to recognize its productive activity. It is more reasonable to consider the banking product as a set of services that banking institutions provide to their clients and the amount of money that is created in the course of servicing them.

Regulation of banking activity

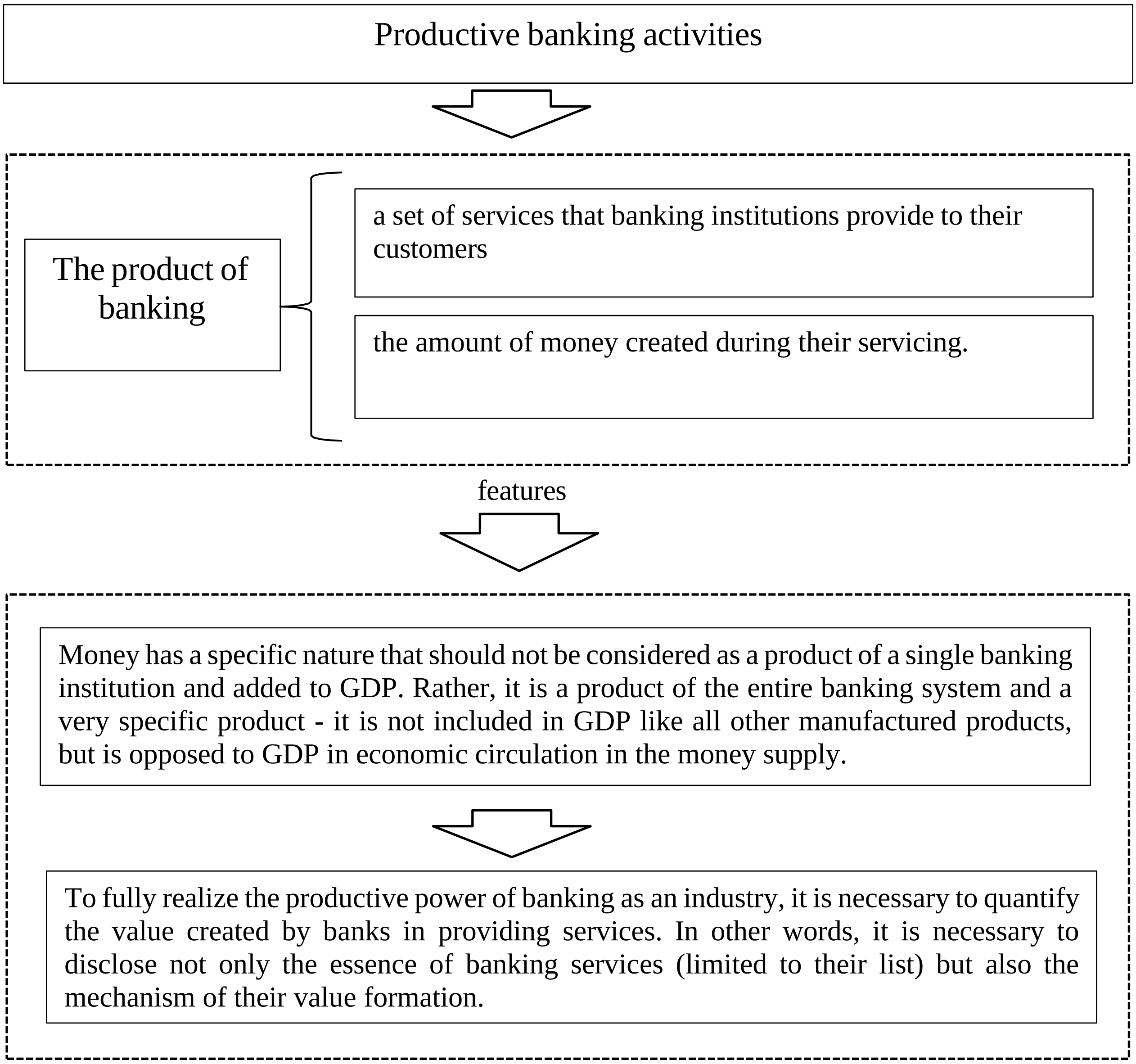
Special legislation:
- Law of Ukraine “About banks and banking activity”;
- Law of Ukraine “About National Bank of Ukraine”;
- The Law of Ukraine “About the system of guaranteeing deposits of individuals”;
- The Law of Ukraine “About payment systems and transfer of funds in Ukraine”
- Law of Ukraine “About Currency and Currency Transactions”, etc.

General legislation:
- Civil Code of Ukraine
- Commercial Code of Ukraine
- Tax Code of Ukraine
- Law of Ukraine “About Business Associations” [10], “About Capital Markets and Organized Commodity Markets”
- Law of Ukraine “About financial services and state regulation of financial services markets”
- Law of Ukraine “About State Regulation of Capital Markets and Organized Commodity Markets”
- Law of Ukraine “About Investment Activity”
- The Law of Ukraine “Preventing and Counteracting the Legalization (”Money Laundering“) of the Proceeds of Crime, Terrorist Financing and Financing the Proliferation of Weapons of Mass Destruction”, etc.

Source: generalized from [2-15].

Fig. 1.1. Main regulatory legal acts of general legislation on banking regulation

However, even this approach is not perfect and contains nuances, as shown in Fig. 1.2.



Source: based on [16].

Fig. 1.2. Interpretation of the productive activity of banking

A modern commercial bank is primarily a producer of specific intangible services to meet the needs of expanded reproduction. By serving specific participants in this reproduction - economic agents - banks contribute to the growth of the economy as a whole.

Therefore, commercial banks should be studied from two perspectives: as sellers of certain services and as institutions that facilitate the normal functioning of the entire market mechanism by providing the economy with the necessary monetary resources and redistributing them among individual economic agents.

The range of specific banking products/services is quite wide, which suggests that banking as a specific type of business is not an easy industry to produce. This “complexity” is justified by the technological overlap between the production of banking services and their sale. This feature is inherent in all service businesses.

In practice, the production of banking services takes place in the form of specific operations, which are divided into active and passive (fig. 1.3). Their completion indicates the provision of the service to customers. This process demonstrates how a banking transaction seems to overlap with a banking service. For this reason, the literature often describes operations rather than services.

At the same time, for characterizing banking as a separate business sector, services are more indicative (because they are the final product), as opposed to operations (which constitute the technological process of providing a service [16]. Given the above, it is advisable to study banking services as a key element of banking in more detail.

In comparison with the sphere of material production, in banking it is advisable to distinguish products that contain both transferred and added value, i.e. banking operations, and those that include the added value of the service provided.

According to [17], the material form of the banking product is considered to be the money that has been attracted and invested by the bank in certain assets, and the expenditure of which will be divided in time, just as it happens in the field of material production.

It should be emphasized that there is no accumulation of value in the provision of banking services because consumption occurs in parallel with the provision of these services [17].

Modern scholars propose to consider the term “banking service” in different contexts (table 1.1).

Types of banking operations

Active operations

Cash funds
- accumulation of funds on the correspondent account with the NBU
account with the NBU;
- accumulation of funds in cash;
- placement of funds on correspondent
correspondent accounts with other banks (NOSTRO accounts); cash
NOSTRO ACCOUNTS);
- placement of funds on deposits in other
banks

Loan portfolio
- granting loans to legal entities in
national and foreign currency (including
overdue and extended);
- granting loans to individuals in
national and foreign currency (including
overdue and extended);
- granting interbank loans in
national and foreign currencies (including overdue and extended
overdue and extended)

Securities available for sale
- investments in government and corporate securities
securities available for sale
Investment portfolio
- investments in government and corporate securities and investments
securities and investments;
- investments in authorized capital of enterprises and and organizations

Property and intangible assets
- investments in fixed assets
- investments in inventories;
- investments in intangible assets

Passive operations

Involved resources
- Mobilization of funds from
depositors
(legal entities and individuals)
to demand accounts;
- mobilization of depositors' funds
(legal entities and individuals)
to term deposit accounts
accounts;
- mobilization of funds of
correspondent banks
correspondent banks to
correspondent accounts,
opened in this bank
(LORO accounts)

Borrowed resources
- obtaining loans from other
commercial banks;
- obtaining loans from the NBU;
- issue and placement of own
debt securities of the
of the bank

Own resources
- formation of the authorized
of the authorized capital;
- formation of the reserve
fund formation;
- formation of insurance
funds;
- formation of funds
economic stimulation funds;
- formation of other funds
special purpose funds;
- formation and distribution of
of profit

Source: based on [18, 19].

Fig. 1.3. Classification of banking operations according to the structure of the balance sheet

Table 1.1

Scientific approaches to the interpretation of the essence of the category “banking service”

Source	The meaning of the concept
[20-22]	A banking service is defined as the result of a banking transaction aimed at meeting the needs of consumers - clients of a banking institution
[23-24]	Defines services as an end result, a finished banking product, while operations are defined as a production process
[25]	Divides the activities of commercial banks into three types: active operations, passive operations and services, i.e., bank services are separated from operations and act as an independent component of bank products

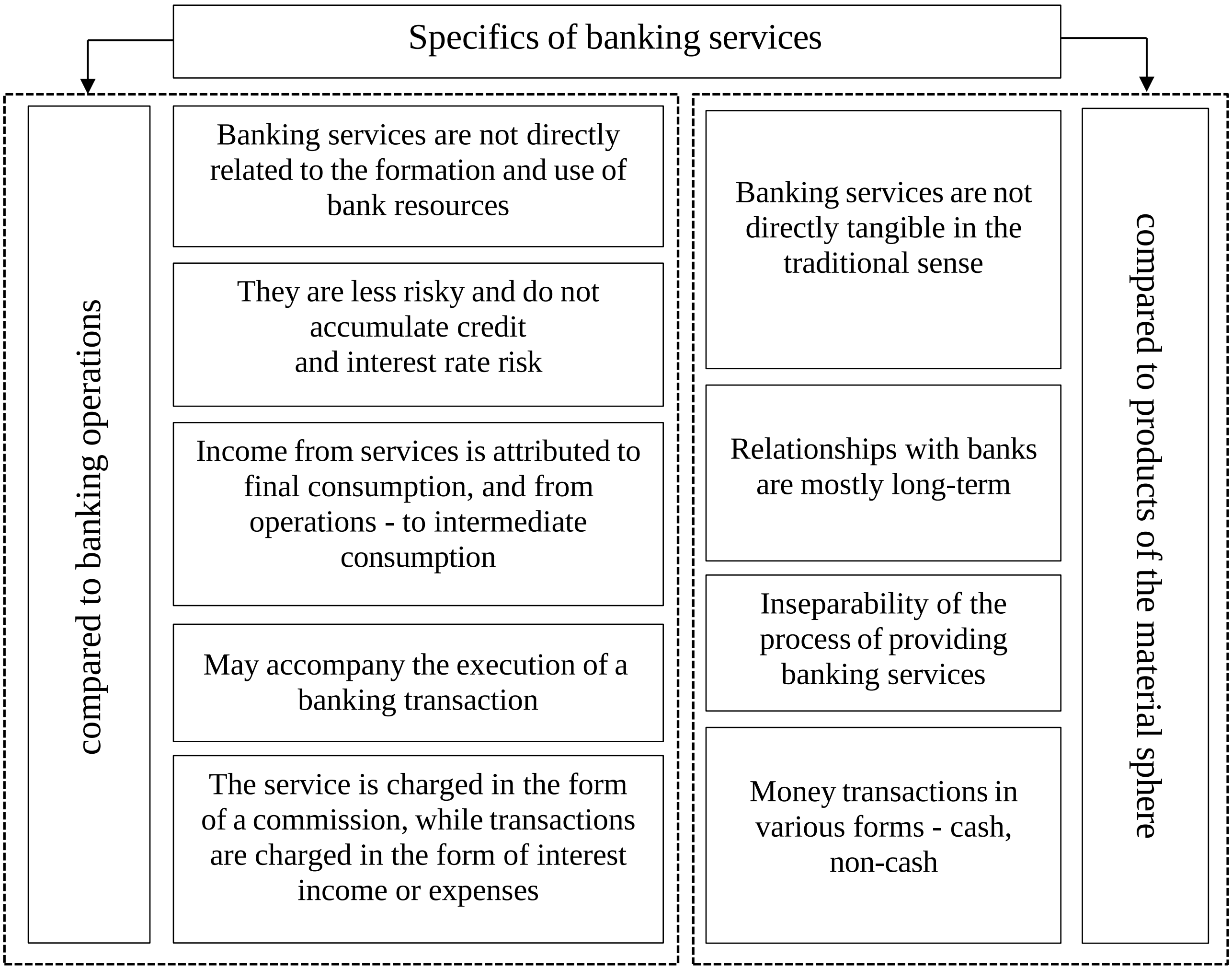
Source: generalized by the author on the basis of [20-25]

The above proves that banking services, unlike transactions, are inherently complex. There are also a number of other features that can be identified, as shown in the figure (fig. 1.4).

Thus, a banking service is an integral result of banking activities aimed at maximizing the satisfaction of the client's requirements that increase over time when conducting banking operations or accumulating temporarily available funds aimed at generating profit.

A banking service is an independent economic category that has certain peculiarities compared to other products of the material sphere of production and banking operations. The organization and management of banking operations also play an important role in banking, as they serve as the basis for technological improvement of banking services (from the business perspective - for the production success of banking); they are the basis for organizing the management of banks' income and expenses (from the business perspective - for the business success of banking) [16].

Thus, since banking can be considered a special type of business, it is necessary to outline its place in the economic system. According to [26], any national economy is an integral economic system, and the banking system is its separate subsystem.

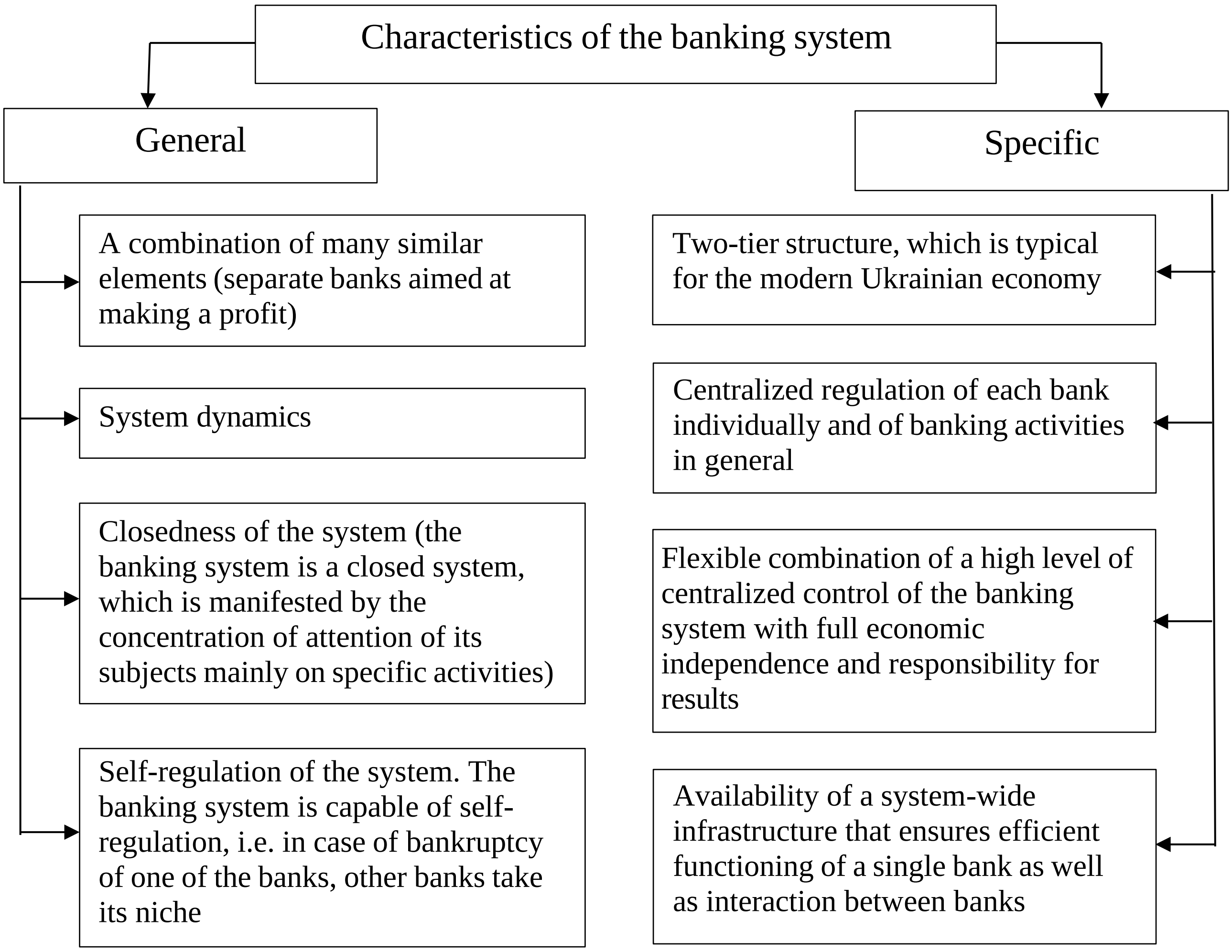


Source: compiled by the author based on [17].

Fig. 1.4. Specific features of banking services

The banking system itself is complex and contains elements that cooperate with each other on an ongoing basis and in close interconnection. And, like other systems, it becomes dependent on these elements (their characteristics, conditions necessary for productive operation, principles and reasons for their formation, etc.)

According to the study [28], the banking system as a subsystem of the national economy is subordinated to the general directions of economic policy, which is enshrined in the state. Its role is to ensure the optimal pace of economic development by stimulating the country's economy with a specific commodity - money. When comparing banking with existing types of business, [28] identifies specific features, the authors outline the banking specifics (fig. 1.5).



Source: based on [28].

Fig. 1.5. Characteristics of the banking system

Identification of a sufficient number of specific features makes it possible to distinguish banking as a special type of business that demonstrates high rates of dynamic development and adaptation to the changing economic situation in the country.

Taking into account the specifics of banking activities, table 1.2 summarizes the main principles of effective banking as a special type of business, which should be followed by the banking sector of Ukraine.

The foregoing proves that banking is a separate type of economic activity that should be considered as a separate independent sector of the economy and, therefore, business.

Table 1.2

Principles of effective banking as a special type of business

Principle	Role in improving the efficiency of banking
Management - development of banking institutions on the basis of regulation, organization, incentives, control, forecasting, planning and programming	Promotes the formation of a rational and efficient structure of the banking sector
Evolutionary - a progressive, staged, phased and natural course of development	Transfer of experience for further development
Efficiency - includes the effectiveness of banking for the economy and customers	Ensuring continuous development
Functional completeness - the presence of all necessary elements of the sector in the right proportions	Rational distribution of elements forms an effective structure
Self-development - the ability to withstand threats, the ability to improve, and adapt to new conditions	Stimulates banking to continuous improvement, increase the competitiveness of its entities and expand their activities
Openness - freedom of entry and exit from a particular banking sector, civilized relations between banking entities and information transparency of their activities	Obtaining the necessary information by customers helps to increase demand for services and banking products, as well as stimulate further development of banks in a competitive environment, influencing the continuous development of banking
Adequacy to the real sector of the economy	Efficiency and duration of the processes of recovery of the real sector of the economy and its further development
Adequacy of banking elements to each other on the basis of compatibility and coherence of their actions	Permanent interconnection of system elements ensures efficient functioning
Manageability and susceptibility of banks to regulation	The NBU's control and regulation of banks' activities ensures the sustainable development of banking and the economy as a whole
Responsibility - each subject of banking legal relations is responsible for violation of the current legislation	Confidence and security of banking entities, restriction and regulation of their actions
Legitimacy - banking operates within the framework of the established rules and regulations of the country	
Purposefulness - the regulatory policy of each bank should be aimed at achieving the main goal - the stability of the banking sector and protection of the interests of creditors and customers	Continuous improvement of banks' operations to achieve the goal of improving the functioning of banking in general

Source: based on [26, 29, 30, 31].

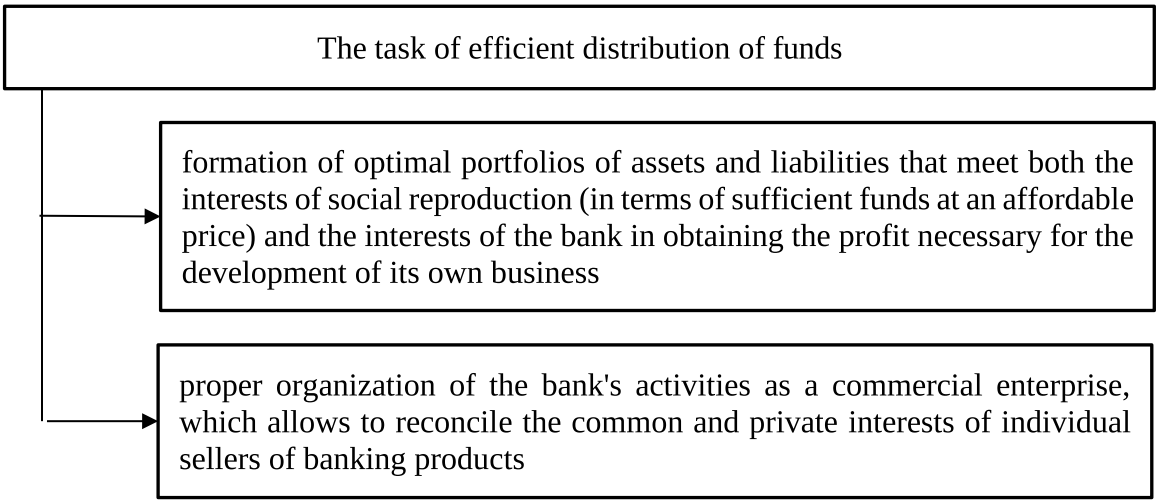
After all, it includes all the necessary components, such as the employment of a large number of labor and a significant share of social capital, the presence of a large number of firms (banks), the presence of its own special market segment with the sale of its own products, the creation of added value and participation in GDP production, payment of taxes to the budget, etc. Therefore, for a more detailed study of the operating conditions and factors of banking development as a business component, it is necessary to analyze its input and output flows, which will be discussed in the next section.

1.2. Methodological basis for studying the content of banking activities

The previous section of the master's thesis proved that banking in a market economy is essentially a business. The above thesis is supported by the fact that banking institutions are established and operate to maximize their profits and increase their equity, namely its market value. This clearly demonstrates the business nature of their activities. If these goals are not properly achieved, it is more expedient for the owners to focus their capital on more profitable areas, which will lead to the sale or liquidation of the bank. The business nature of banking can best be revealed by using the flow approach, which clearly shows the mutual influence of various flows that appear in the course of banking activities. The flow approach will allow for an aggregated study of cash flows and financial resources with the ability to assess their impact on each other [32]. In order to optimize their own activities, banks need to perform the main tasks of efficient distribution of funds, which can be summarized into two generalized components, as shown in fig. 1.6.

The business aspect of banking is more clearly reflected in the consolidated balance sheet of a bank, the scheme of which essentially represents its financial model (table 1.3).

The consolidated bank balance sheet structure structurally demonstrates the specifics of the banking business. More details on the components of each part of the bank's balance sheet can be found in fig. 1.7.



Source: built by the author on the basis of [32].

Fig. 1.6. The task of efficient distribution of funds in banking

In general, sources of funds for a banking institution can be divided into liabilities and equity. The peculiarity of liabilities in comparison with equity is their temporality and payment, which is why they directly affect such key components of the banking business as profitability and liquidity.

Obviously, there is a direct correlation between the share of liabilities in total liabilities and their price (interest rate). If the price increases, it becomes more difficult for a bank to maintain its liquidity and increase profitability. In contrast, a bank's equity capital becomes a liability, because its funds cannot be suddenly withdrawn from circulation, so they do not threaten its liquidity and contribute to its strengthening. And their gratuitousness has a positive impact on profitability and, accordingly, on the business results of banking. Thus, returning to the business essence of banking, it is important to consider the process of generating bank profits.

In the study [16] defines profit from banking business “as a part of the bank's cash income that remains at its disposal after covering all current expenses related to its activities from the income”. This interpretation shows the essence of the concept, but does not reveal the specifics of banking. However, there are important differences in the formation of banking profit, which are directly related to the specific object of banking, since the object of purchase and sale is money itself.

Table 1.3

Consolidated balance sheet of Ukrainian banks (enlarged view)

Assets	Liabilities
Cash and cash equivalents	Obligations
	Funds received from the NBU
Financial assets at fair value through profit or loss	Banks' funds
	Customer funds:
	including legal entities
	including funds of individuals
Funds from other banks	Financial liabilities at fair value through profit or loss
Loans and customer debt	
Securities at fair value through other comprehensive income	Debt securities issued by the bank
	Liabilities for current income tax
Securities carried at amortized cost	Deferred tax liabilities
	Reserves for liabilities
Investments in associates and subsidiaries	Subordinated debt
	Total liabilities
	Capital
Investment properties	Authorized capital
Current income tax receivable	Emission differences
	Unregistered authorized capital
Property, equipment, and intangible assets	Reserve and other bank funds
	Revaluation reserves
Other financial assets	Retained earnings (uncovered loss)
Other assets	Total equity capital
Net assets, total	Total sources of funds

Source: based on [33]

Assets	Liabilities
↓	↓
Areas and amounts of funds placement	Sources and amounts of funds received
↓	↓
ASSETS depending on the use of funds are divided into a number of items that can be grouped according to their intended purpose into the following groups: - reserve assets, assets that ensure liquidity and solvency of the bank (cash funds - in full; funds with other banks and securities - partially) partially); - earning assets that ensure the formation of income and profits of the bank (loans and other debts of customers, securities, funds securities, due from other banks); - assets intended for material and technical and technological support of the bank's of the bank's activities (fixed assets and intangible assets, other assets, accrued income receivable).	LIABILITIES reflects other people's funds that the Bank has mobilized for temporary use. use on a temporary basis: - attracting deposits (current, term deposits, savings deposits, etc;) - borrowing from the central and other banks, and non-bank entities (through the issue of their own securities, interbank loans). interbank loans). These are temporary and paid sources. ↓ EQUITY CAPITAL reflects the funds contributed by the owners of the bank at its creation and formed by the bank itself by the bank in the course of its activities at the expense of income and profits. They are constantly in circulation and are free of charge.

Source: on the basis of [16]

Fig. 1.7. Structural model of the bank's balance sheet

These features are illustrated in fig. 1.8, which shows that all cash flows passing through the bank can be divided into two groups - incoming and outgoing.

At the same time, the flows attributed to each of these groups may have different economic purposes. Therefore, in addition to such a classification feature as the direction of movement, flows can be divided into two more types.

The first type ensures the formation of the bank's liabilities and assets, while the second type ensures the formation of income and expenses, and therefore directly affects its profit.

		Incoming flows	Outgoing flows
Flows of the first type provide the formation of liabilities and assets of the bank, on which all its activities are based on maintaining of liquidity, risk optimization, ensuring profitability and profitability, etc.	→	Bank deposits, loans from other banks, contributions to the bank's equity, etc.	Loans, purchase of securities, etc.
		The purpose of these flows requires their complete balancing, when all liabilities are placed in assets, as evidenced by the bank's balance sheet, which reflects cash flows of this type.	
Flows of the second type provide the formation of income and expenses of the bank and are directly related to its profit. It is on these flows directly is the basis the business success of the bank – its profit, which is measured by the excess of income over expenses.	→	Separate types of income include interest, commission, trading, equity income, etc.	Separate types of expenses include interest, commissions, general administrative, personnel costs, etc.
		These flows are not reflected on the bank's balance sheet; they have a completely different purpose than passive funds and their investment in assets. Therefore, in managing these flows, there is no requirement to fully balance them, but rather the requirement to exceed incoming flows (income) over outgoing flows (expenses), which forms the bank's profit.	

Source: built by the author on the basis of [16]

Fig. 1.8. Content of key groups of banking flows.

An interesting approach is the one described in [34], where the financial flows of banking are proposed to be considered using a logistic approach.

According to the author, logistics of banking should become a key tool for solving the problems of increasing the efficiency of banking activities through proper management of financial resources, which will allow to realize the strategic tasks facing the country and economic agents, in which banks are a kind of catalyst for economic processes [34].

At the same time, the authors of different approaches agree that the main focus of banking is on the formation of profit as an aggregate positive result of its economic, financial and commercial activities, which is the main element of banking stability. It is assessed using a system of special indicators shown in fig. 1.9.

Undoubtedly, profitability plays a key role in banking, as achieving the minimum required level of profit allows not only to increase capital, but also to form the basis for the efficient operation and development of banks, a sufficient level of dividend payments to shareholders, etc.

Bank profitability indicators		
↓	↓	↓
Return on banking assets (ROA)	Return on equity (ROE)	Interest rate margin (SPRED)
essence of the indicator		
Characterizes the ratio of net profit of the bank (profit after after taxation) and to the bank's assets. It shows how much of net profit is generated by a unit of the bank's assets. This is an indicator of of the efficiency of the bank's managers, it shows how they cope with the task of obtaining net profit from the assets of the banking institution's assets.	Characterizes the ratio of net profit to shareholders' equity. The value is especially is of particular interest to shareholders of the bank, as it is is approximately equal to the amount of net profit that will be received by shareholders will receive from investing their capital, i.e. the level of dividend rate.	It shows how well successfully the bank performs the function of intermediary between depositors and borrowers and how fierce competition in the money market, in which the banking institution is a participant. Increased competition leads to a reduction of the difference between income on assets and expenses on liabilities.

Source: based on [35, 36].

Fig. 1.9. Key indicators of bank profitability

At the same time, one should always remember that the level of profitability and the level of risk are directly related: minimizing risk allows for stable profit, albeit low. Conversely, a high level of risk creates potential opportunities for increasing profits. Therefore, finding the balance between profitability and risk, which is possible through the successful management of a bank's financial flows, becomes the most important, but also the most difficult task of effective banking.

1.3. Anti-crisis regulation of banking activities

State management of the process of selecting and implementing anti-crisis measures should be coordinated at the method, macro, and micro levels, taking into account the specific features of the functioning of banks, their importance for the state, including the state's participation in the capital of banking institutions and the economy as a whole (table 1.4).

Table 1.4

Matrix of participation of management entities in the functioning of banking institutions and systems

Management authorities	Normal operation mode	The first signs of a crisis	Crisis
Legislative bodies	+	-	+
Institute of the Presidency	+	-	-
Government as a higher executive authority	+	+	+
The central bank, the Ministry of Finance or other public authorities involved in the management process	+	+	+
Shareholders and managers of banking institutions	+	+	+
International organizations	+	+	+
Supervisory authorities of other countries	+	+	+

Source: summarized by the author

It should be noted that the relevant system of anti-crisis measures must have an appropriate system of evaluation criteria for effectiveness, both at the macroeconomic and microeconomic levels (fig. 1.11).

The use of financial instruments is typical of a systemic crisis when a problem with the liquidity of the banking system arises.

MACROECONOMIC LEVEL

→ **Liquidity support mechanism**

refinancing of banks: loan volumes, weighted average interest rates on loans and deposits, provisions for active operations, the ratio of assets, liabilities, and capital to GDP, the level of return on assets, and cash flow management.

→ **Deposit guarantee**

amount of retail deposits, level of deposit coverage, GDP per capita, level of payments on deposits of bankrupt banks, amount of guaranteed deposit compensation, including interest, number of depositors, average deposit size.

→ **Increase of capitalization**

reliability ratio, financial leverage ratio, capital participation ratio, ratio of authorized capital to equity, capital adequacy ratio, capital gearing, capital multiplier, capital to deposits ratio.

→ **Financial recovery of banks**

effectiveness of reorganization measures: reorganization, introduction of interim administration, and the institution of curatorship.

MICROECONOMIC LEVEL

→ **Management of distressed assets**

transfer of distressed assets to a third party for management; sale of distressed assets to an unrelated financial company on a factoring basis; transfer/sale of distressed assets to a related financial company (onshore/offshore SPV); securitization of assets; loan restructuring.

→ **Internal standards and limits**

financial, customer financial, risk-sensitive limits, material.

→ **Reorganization of banks on their own initiative**

changing the organizational structure, changing the composition of participants, joining banking groups, reengineering business processes.

→ **Special events**

benchmarking, outsourcing

Source: [37].

Fig. 1.11. A system of evaluation criteria for effectiveness at different levels of anti-crisis measures.

In this case, the central bank's actions are aimed at:

- improving the quality of banking assets
- settlement of liabilities;
- direct improvement of capital;
- reducing the mandatory reserve requirements;
- regulation of the discount rate;
- restructuring of banks' tax liabilities;
- providing government guarantees on deposits.

In other words, measures to improve banks' balance sheets and restore their solvency are being identified.

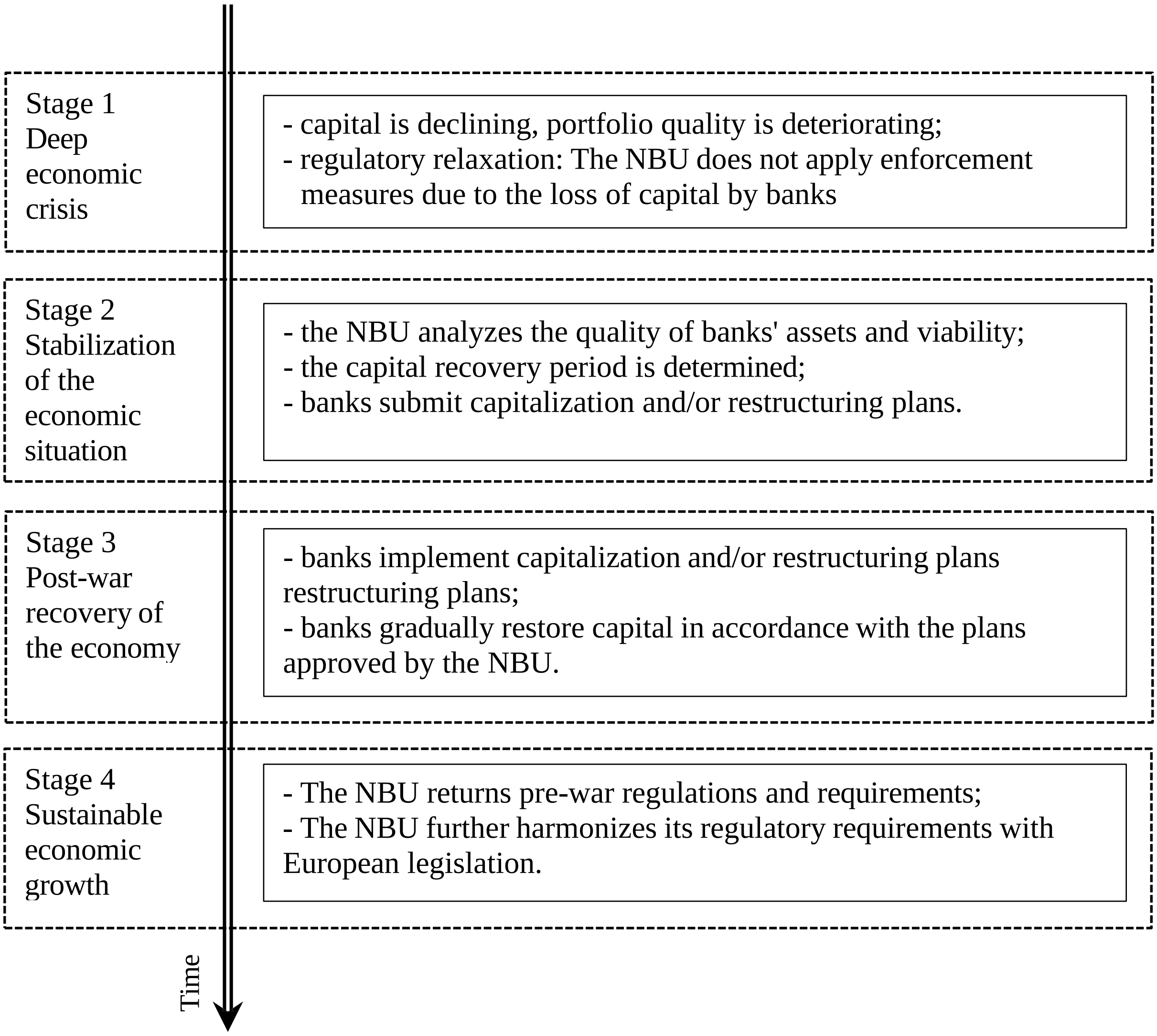
The effectiveness of anti-crisis management of financial stability in banks will only be possible if managers are able to anticipate and predict complex economic phenomena. A flexible approach to the management process can help achieve these goals.

The main stages of prudential regulation of banking in times of crisis are summarized in fig. 1.11, which highlights the main measures taken by the NBU at each of the four stages.

The rapid development of effective anti-crisis measures to minimize banking risks was facilitated by the experience gained from previous crises.

The following decisions were crucial for restoring the financial sector's health:

- fixing the exchange rate and restricting cross-border capital flows, except for “critical import needs”
- making blanket refinancing of up to 30% of households' funds available to banks for a period of 1 year starting February 24. Of course, such loans have additional conditions for obtaining them, but they significantly expand the capabilities of domestic banks;
- the possibility of postponing the submission of financial and partially statistical reports to the National Bank of Ukraine without applying penalties for violations. Banks will also be given time after the end of the war to bring their activities, and thus their reporting, into compliance with regulatory requirements;



Source: based on [38].

Fig. 1.11. Stages of prudential regulation of the banking sector

- a ban on the payment of dividends, so as not to lead to the distribution of the bank's capital;
- temporary guarantee of the full amount of retail deposits;
- “loan repayment holidays” for borrowers during martial law and for another 30 days after its termination;
- application of a number of operational measures, including the use of cloud services of other countries, allowed to save financial data from the threat of destruction, etc.

The timeliness and effectiveness of the anti-crisis measures taken by the National

Bank of Ukraine to minimize banking risks helped to offset the grave consequences and neutralize panic in the most difficult period of the war. It was the prompt response to the changing dynamic conditions of today and the use of the experience gained that enabled the banking sector to withstand the severe crisis and maintain proper functioning for the national economy.

CHAPTER 2
ANALYSIS OF THE FUNCTIONING OF BANKS

2.1. Assessment of the current banking environment

Under martial law, through coordinated actions of the regulator and banks, the banking system of Ukraine functions fairly stably and ensures the continuous operation of financial institutions. There were no significant changes in the structure of the banking market, but the infrastructure of banks underwent a certain transformation. In addition, current trends in the banking market demonstrate the presence of obvious difficulties in the work of banks, which are due to the influence of martial law.

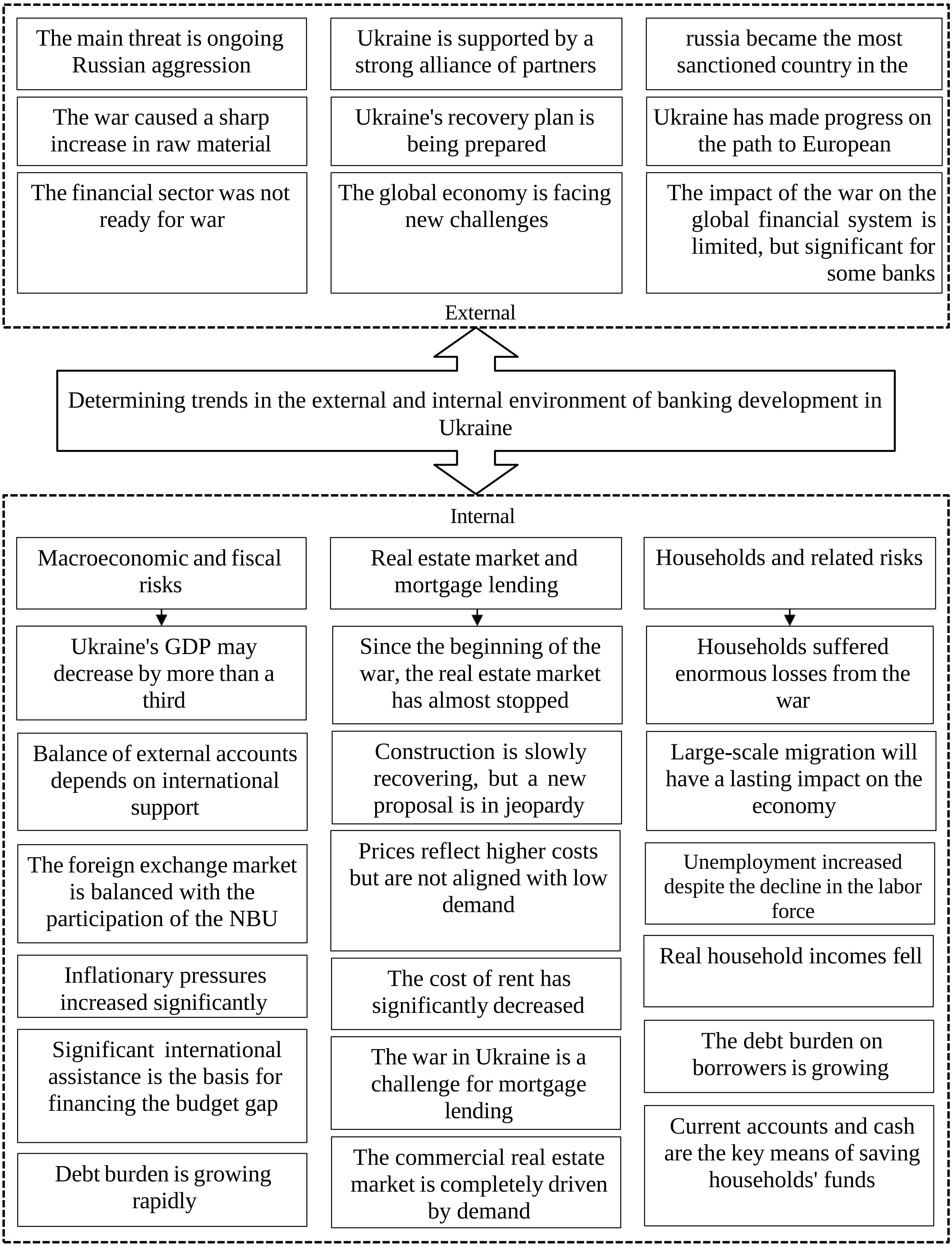
Since banking is a special type of business and a component of the country's economic system, it is impossible to consider the specifics of its activities and development factors without a detailed study of the external and internal conditions in which it operates. The main trends in the external and internal environment that directly or indirectly affect the development of banking in Ukraine are summarized in fig. 2.1.

Let us consider some of them in more detail.

Obviously, the key factor is the ongoing Russian aggression, which causes significant fluctuations and negative consequences for the entire global economy. The consequences for Ukraine can be clearly seen using an important tool for monitoring the current state of the financial system, namely the Financial Stress Index (FSI), which includes complex indicators of stress in financial markets [42].

The advantage of this index is that it is an integral indicator of stress in the financial market, which makes it easier to interpret. It can be used to compare the state of the financial system with previous periods, but it should be borne in mind that it does not allow for future forecasts.

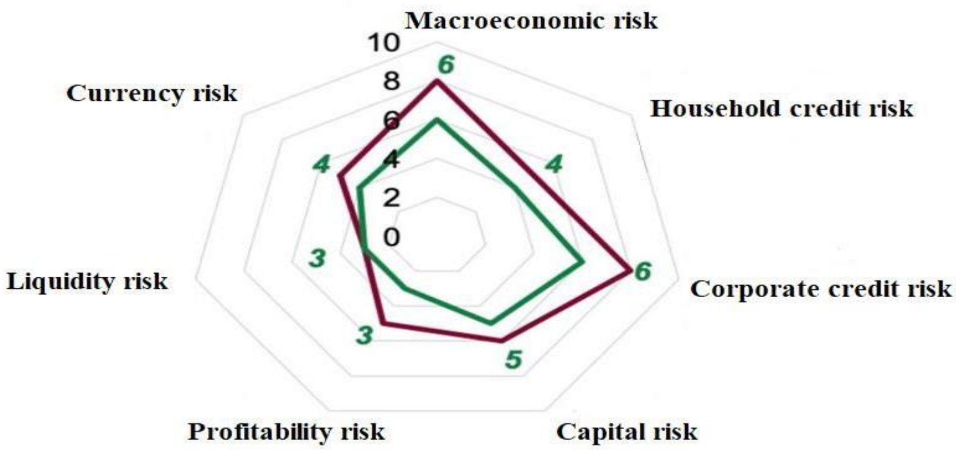
The FSI in Ukraine consists of 5 sub-indices: the banking sector sub-index, the household behavior sub-index, the government securities sub-index, the corporate securities sub-index, and the foreign exchange market sub-index [43].



Source: generalized by the author based on the literature analysis.

Fig. 2.1. Trends in the external and internal environment of banking development in Ukraine

The risk map of the banking sector for the period 2015 - June 2023 is as follows (fig. 2.2).



Source: based on data from [44].

Fig. 2.2. Risk map of the banking sector

As can be seen from fig. 2.2:

- macroeconomic risk - decreased (-2) due to the resilience of the energy system and stronger domestic demand;

- household credit risk decreased (-1), primarily due to an actual improvement in loan portfolio quality and more optimistic expectations of banks regarding it;

- corporate credit risk - decreased (-2), along with the debt burden of businesses;

- capital risk - decreased (-1), thanks to banks' profits;

- profitability risk - decreased (-2) to a moderate level;

- liquidity risk - remained unchanged;

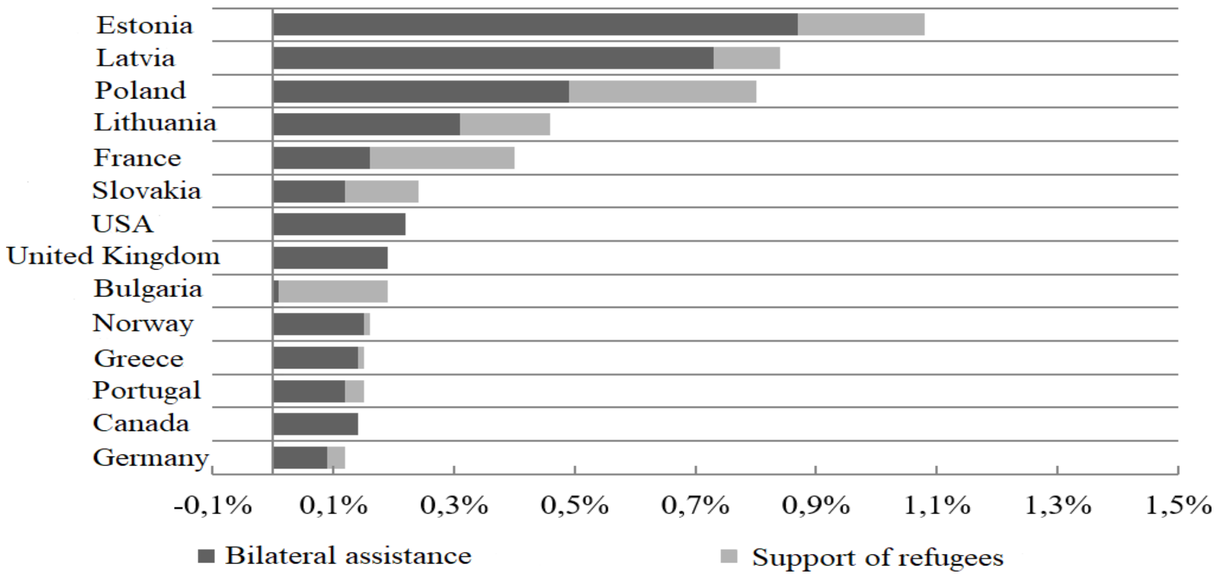
- currency risk - decreased (-1).

Overall, the NBU improved its risk assessment in the financial sector. This was facilitated, in particular, by the resilience of the energy system, growth in domestic demand, and bank profits.

The total score of the financial sector risk card has decreased by 22.5% since December 2023, from 40 to 31, and now corresponds to the average range.

The key threat to the external conditions for the development of banking in Ukraine is the ongoing Russian aggression, which requires the economy to operate for a long time in extreme conditions. The growth of all its components proves that the stress is systemic for this financial sector.

This situation leads to the threat of a deep and protracted crisis in Ukraine. To mitigate its impact on all sectors of the economy, Ukraine is being actively supported by a broad coalition of international partners, although the impact of the war is also evident in the global economy (fig. 2.3).



Source: based on data from [38].

Fig. 2.3. Countries-leaders in support of Ukraine in relation to their own resources, % of GDP

International partners provide Ukraine with significant amounts of financial support to cover budget expenditures, and the weapons received significantly reduce budget expenditures on military needs.

Along with direct financial support, measures to temporarily lift restrictions on exports from Ukraine to the EU countries; an agreement with the UK to eliminate import duties and tariff quotas; the expansion of a free trade agreement with Canada, etc. are also important. Significant support is also provided through various forms of humanitarian aid.

The sanctions imposed on Russia have had a significant impact on the functioning of the financial sector. It has been subject to sanctions since 2014 and is currently the most sanctioned country in the world. The sanctions result in an increase in the cost of capital, other operating expenses, and the cost of bringing activities into compliance with new regulations (compliance). As a result, more than 1,500 international corporations are leaving the russian market.

So, if we look at the impact of the war on the global financial system, we can see that the impact is limited. But for banks with subsidiaries in Ukraine or russia, the impact is much stronger. According to the results of the reporting for the first quarter of 2023 submitted by foreign banking groups, it was found that only 4 of them (Procredit Bank, Raiffeisen Bank International, OTP Bank, PKO Bank Polski) from Eastern and Central Europe consider their business activities organized in Ukraine and russia to be significant in terms of the size of shares in the group's assets and profits (table 2.1).

Table 2.1

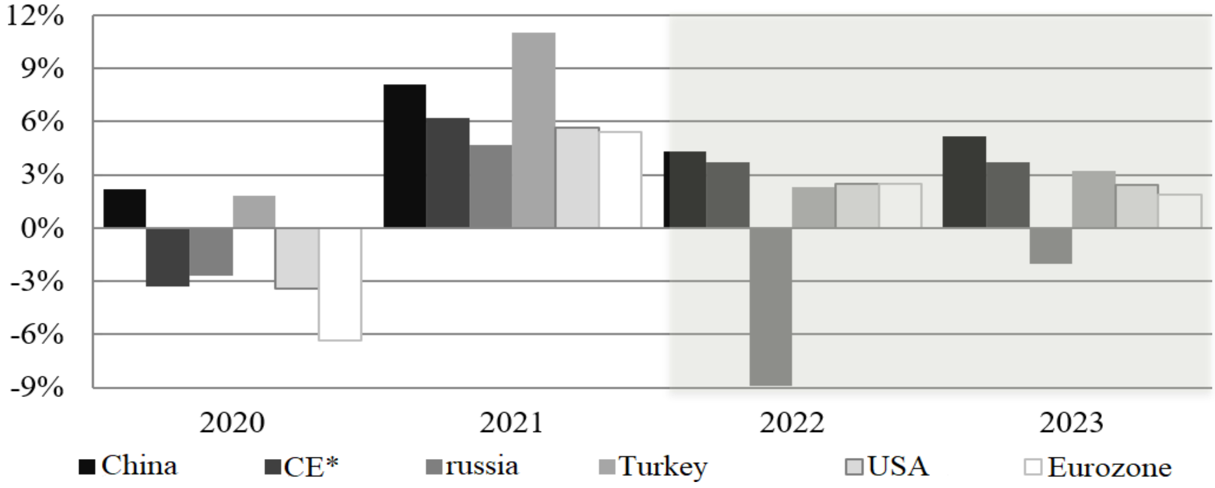
The share of Ukrainian and Russian subsidiary banks in the assets and profits of international banking groups, %

Bank	Share of assets		Profit share in 2023	
	Ukraine	russia	Ukraine	russia
ProCredit Holding	12,72	–	31,08	–
Raiffeisen Bank International	2,11	9,75	8,08	31,42
OTP Group	3,57	2,90	7,85	7,57
PKO Bank Polski	1,21	–	9,81	–
Citibank	0,05	0,42	0,29	0,01
Piraeus Bank	0,23	–	2,03	–
SEB	0,03	0,20	0,06	0,26
ING Bank	0,04	0,09	0,19	0,06
Intesa Sanpaolo	0,03	0,10	-0,19	0,12
BNP Paribas S.A.	0,10	0,03	0,50	0,03
Deutsche Bank	0,01	0,11	0,01	0,30
Credit Agricole Group	0,08	0,03	0,55	0,01

Source: [38]

The vast majority of international banks have already reduced or ceased operations in russia due to the sanctions imposed. At the same time, no foreign bank has announced plans to leave Ukraine. The official position of the National Bank of Ukraine has not changed and states that international banks should strictly adhere to their statements during the period of the full-scale invasion and withdraw from the russian market. The NBU sees this direction - toughening sanctions and external pressure on the russian economy - as the key one for itself today.

The global economy is facing new challenges. According to the World Bank, the global growth rate is almost halved compared to the previous year, 2023 (fig. 2.4).



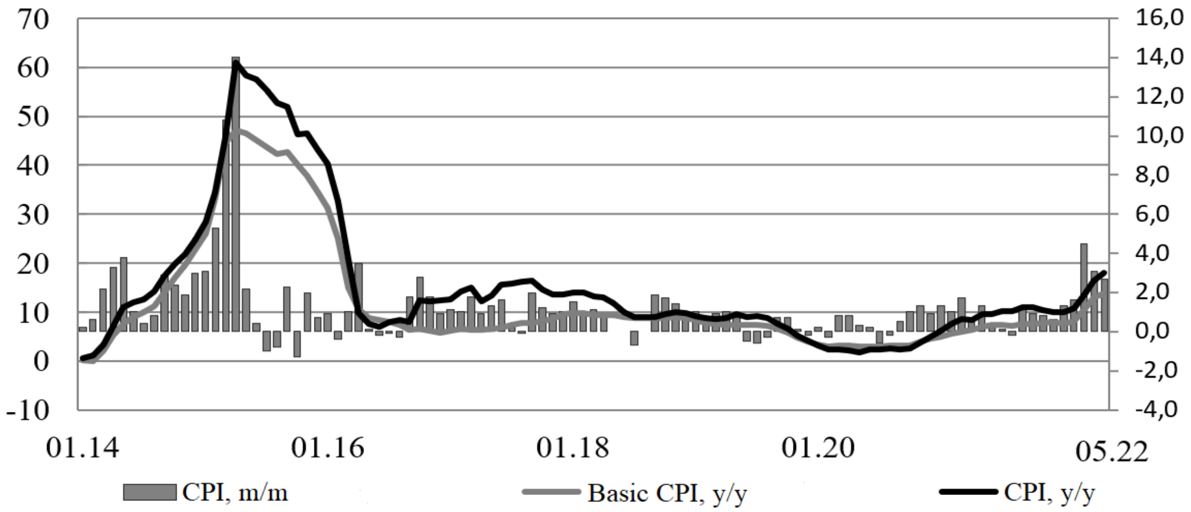
* Central Europe: Bulgaria, Poland, Romania, Hungary, and Croatia.
Source: based on data from [45].

Fig. 2.4. Changes in GDP of the countries - major trading partners of Ukraine.

Inflation in developed countries is accelerating to 5.7%, while in developing countries it is rising to 8.7%. This, in turn, prompts the central banks of these countries to apply tighter monetary policy measures. In response, borrowing costs are rising. Ukraine's and Russia's neighboring countries also face the risks of a war and its spread, which is undoubtedly reflected in economic growth.

As for the internal conditions for the development of banking, it is necessary to focus on macroeconomic and fiscal risks. After all, the full-scale war caused a sharp decline in the Ukrainian economy. The situation is further aggravated by the fact that the fighting continues in the regions that generated about half of our country's GDP. The damage to the energy infrastructure, about 40% of which has been destroyed, is also a negative factor hindering recovery.

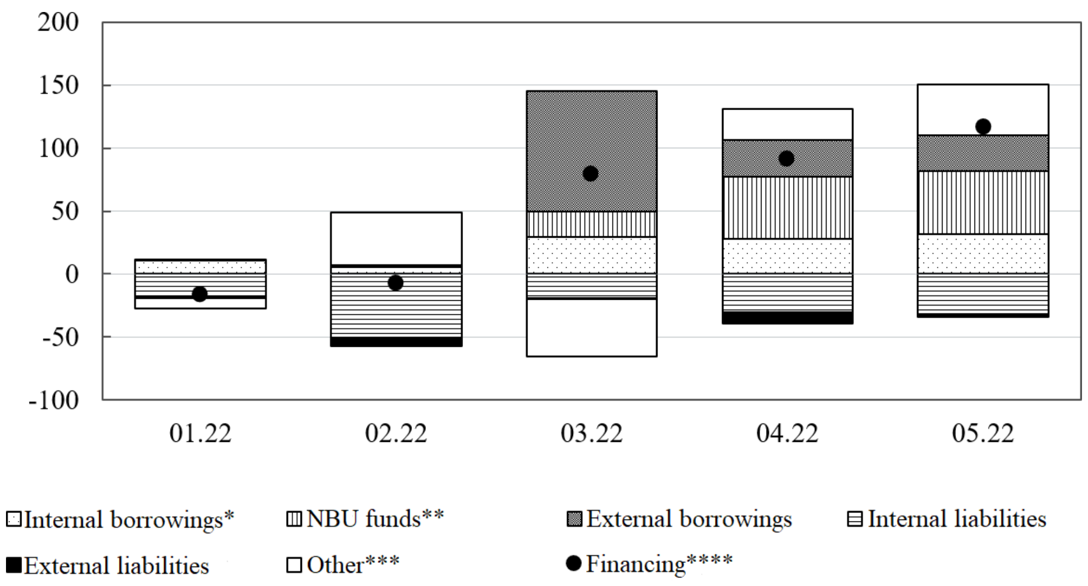
The war caused inflation to rise, reaching 18.0% in May (fig. 2.5). The National Bank of Ukraine did not change its key policy rate at the beginning of the war. The exchange rate, which was fixed with the introduction of martial law, was used to maintain price and financial stability. However, in order to stabilize inflation expectations, the NBU did increase the key policy rate to 25% per annum on June 2, 2023.



Source: based on data from [46].

Fig. 2.5. Inflation in 2015-2023, %, in UAH

Debt is growing significantly (fig. 2.6). About two-thirds of all international aid is made up of loans from partner countries and international financial organizations. The advantage is that the terms of their provision are favorable (lower interest rates, long term), but there is a possibility of currency risks in the future. The funds raised by the government in the domestic market for the relevant period do not exceed repayments. Also, Ukrainian banks have a significant potential to increase their portfolio of domestic government bonds due to sufficient liquidity.



* Excluding the NBU,
** Funding is provided by the NBU during martial law by purchasing government military bonds on the primary market,
*** Changes in budgetary funds (including foreign currency reserves), financing from the single treasury account, and privatization proceeds,
**** Negative values are budget surpluses.

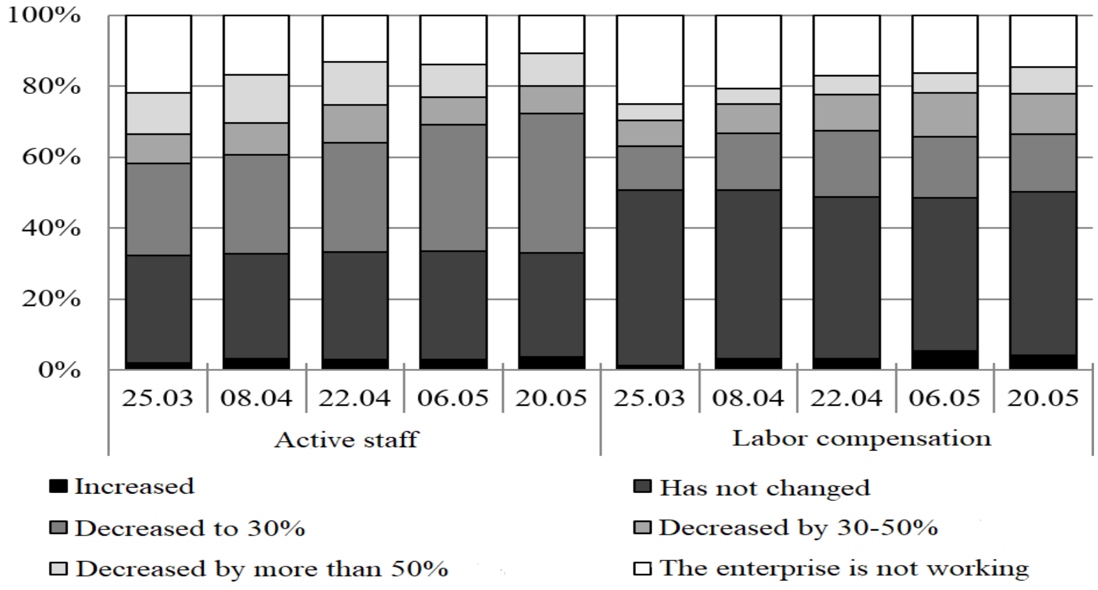
Source: based on data from [47].
Fig. 2.6. Financing of the state budget in 2023, UAH billion.

With the outbreak of the war, economic agents not only reduced their activities but also reduced the number of employees. Therefore, even as the labor force declined due to migration, the unemployment rate increased (fig. 2.7).

The situation is now improving, but rather slowly.

Thus, the analysis of the external and internal conditions for banking development showed that the full-scale war caused a sharp decline in the Ukrainian economy.

The banking sector was no exception. Overcoming the consequences of the war for the economy will be a long and difficult process. Support from international partners will be needed.



Source: based on data from [38, 48].

Fig. 2.7. Changes in wages and the number of active workers compared to the pre-war period

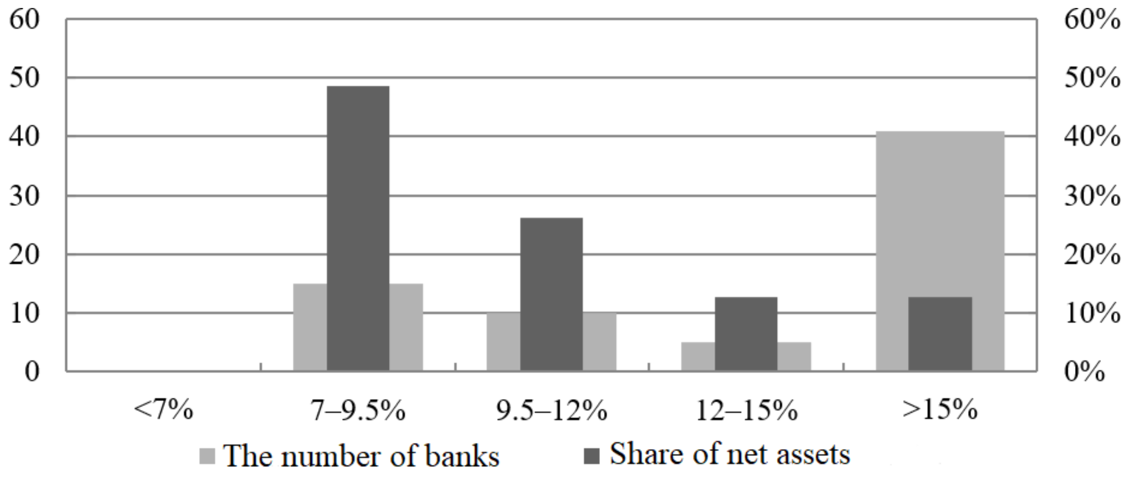
However, given the specifics of banking as a special type of business, a detailed analysis of the results of the resilience assessment of Ukrainian banks deserves special attention. After all, a prudent policy and a series of timely and effective anti-crisis measures have minimized the destructive impact of the external and internal environment on banking.

2.2. Overview of features and performance indicators of Ukrainian banks

A study of the external and internal conditions of banking development shows that Ukrainian banks had a fairly high level of capital and high profitability at the beginning of the war. However, the current crisis caused by Russia's military aggression may be deeper than the previous ones. This significantly increases bank credit risk. However, before the war broke out, banks had managed to accumulate a substantial capital reserve.

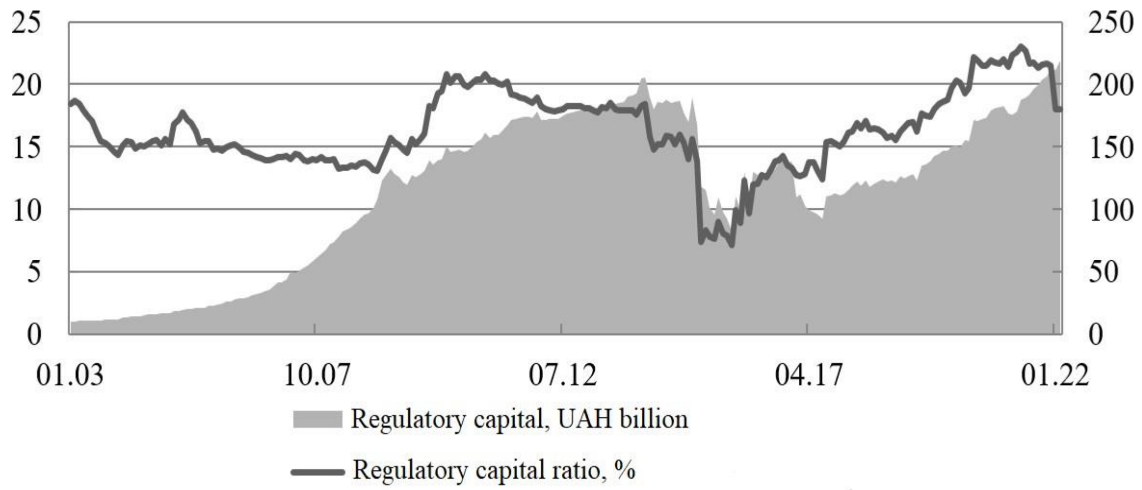
In February 2022, the adequacy of banks' core and regulatory capital was almost twice as high as the NBU's minimum requirements (fig. 2.8, fig. 2.9).

This level is sufficient to cover operational, currency, and credit risks, which was the first time in the history of Ukrainian banking [38].



Source: based on data from [38].

Fig. 2.8. Distribution of banks' core capital adequacy ratios (as of January 1, 2024)



Source: based on data from [38].

Figure 2.9. Total regulatory capital (RC) and regulatory capital adequacy ratio (N2) of banks

At the same time, not only was the capital adequacy well above the minimum requirements. The quality of the regulatory capital components was also significant, as the National Bank of Ukraine has quite high requirements for them. For example, the stress test conducted in 2023 assumed an average loss of about 15% of the bank loan portfolio. Therefore, Ukrainian banks had six months until the end of 2024 to improve their resilience.

This year, the NBU used reverse stress testing to assess the banks' resilience to the crisis, as the classic stress test is meaningless in a deep crisis (table 2.2).

Only the reverse stress test and scenario analysis meet these conditions.

Table 2.2

Parameters of the 2023 adverse stress test (AST) scenario

and current estimates for 2024

Indicator	Assumptions of AST 2023	Expectations for 2024
Real GDP, % p/p	-2,2	≈ -33
Consumer price index, % p/p	8,6	> 20
Exchange rate (UAH/USD),% p/p	-16,4	Temporarily fixed

Source: based on data from [38].

The results showed that the twenty largest banks have enough capital reserves and pre-accumulated profits to cover about a quarter of their loan portfolio. It is noteworthy that the vast majority of banks will be able to maintain positive capital even in the face of greater losses.

Reverse stress testing allows us to identify the largest amount of asset losses that a bank can incur and still remain solvent (fig. 2.10).

Given the specifics of banking, it is clear that banks suffer the greatest losses when credit risk is realized. Therefore, we estimated the maximum share of the loan portfolio that banks can lose before their core capital turns negative.

Key assumptions for reverse stress testing of banks in 2023

Based on the statements as of January 1, 2023

The horizon for the implementation of the negative scenario is 12 months

- depressed demand for banking services due to the decline in economic activity will lead to a 15% decrease in fee and commission income
- interest rate risk is not realized, as banks have been able to keep funding costs low so far due to high depositor confidence in banks and stable funding. Deposit rates will continue to rise, but the interest rate spread over lending rates is expected to remain narrow
- due to the realization of operational risks and inflation, banks' administrative expenses increase by 20%
- currency risk is not realized, as banks have an almost balanced currency position

Source: compiled on the basis of [38].

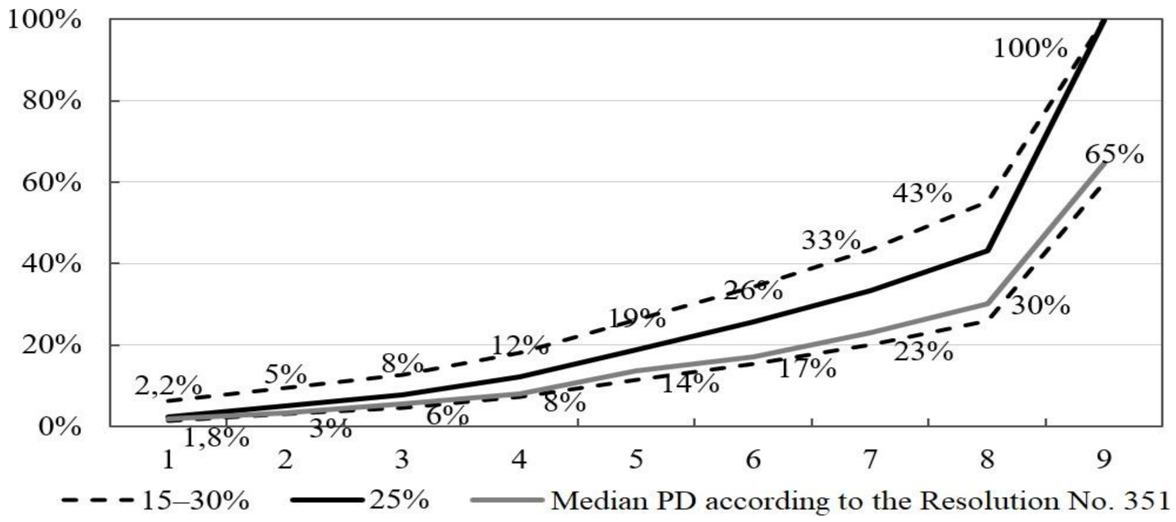
Fig. 2.10. Key assumptions for reverse stress testing of banks

The above estimates were made for the twenty largest banks, which hold 89% of the assets of the Ukrainian banking sector [38].

In addition to the assumptions shown in fig. 2.10 assumptions, it is also taken into account that, given a certain level of reduction in the performing portfolio, it is the banks with higher quality loan portfolios that will suffer lower losses.

Although, technically, lower quality corporate loans may have higher loss rates, as shown in fig. 2.11, these assumptions do not apply to the retail loan portfolio.

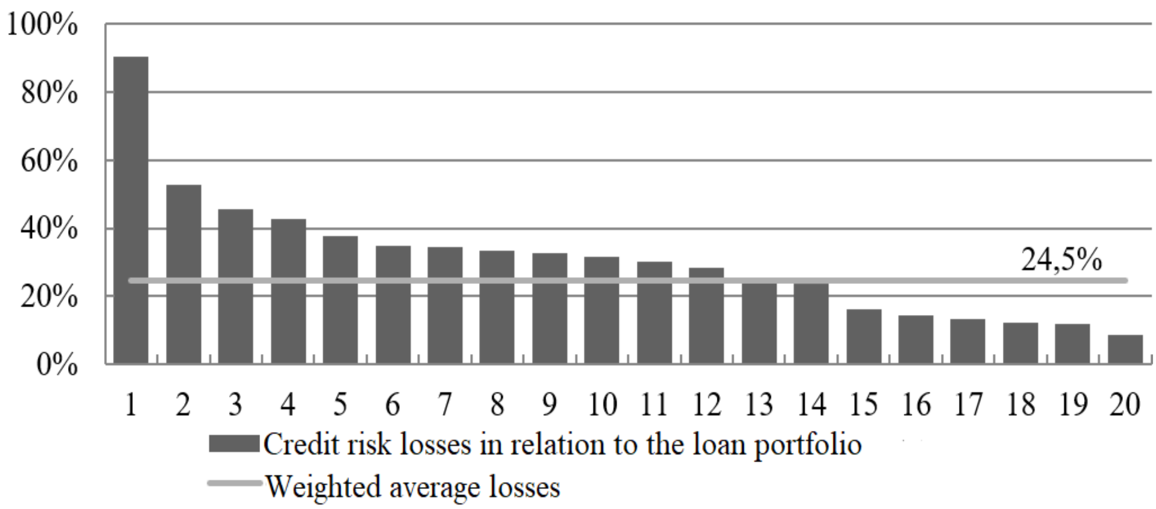
The reverse stress test revealed that the available core capital of the twenty largest Ukrainian banks surveyed is sufficient to reimburse about 24.5% of the lost loan portfolio (fig. 2.12).



Source: based on data from [38].

Fig. 2.11. Losses of performing loans by classes of corporate borrowers at different levels of total credit losses

According to these data, more than half of the banks surveyed will also have some operating profitability.



Source: based on data from [38].

Fig. 2.12. Credit risk losses that the largest banks can cover from their core capital (including profits of previous years)

Looking at specific banks, 13 out of 20 will have positive equity even if they lose a quarter of their loan portfolio due to credit risk.

Fig. 2.13 shows the results of a scenario analysis of banks' resilience to the crisis conducted by the National Bank of Ukraine.

Corporate \ Retail	15	17	19	21	23	25	27	29
15	7,8	7,4	7,1	6,7	6,4	6,0	5,6	5,2
17	6,7	6,3	5,9	5,5	5,1	4,7	4,3	3,9
19	5,5	5,1	4,7	4,3	3,9	3,5	3,1	2,6
21	4,2	3,8	3,4	3,0	2,6	2,2	1,7	1,3
23	3,0	2,6	2,1	1,7	1,3	0,8	0,4	0,0
25	1,7	1,2	0,8	0,4	-0,1	-0,5	-1,0	-1,4
27	0,3	-0,1	-0,5	-1,0	-1,5	-1,9	-2,4	-2,8
29	-1,0	-1,5	-1,9	-2,4	-2,9	-3,3	-3,8	-4,3

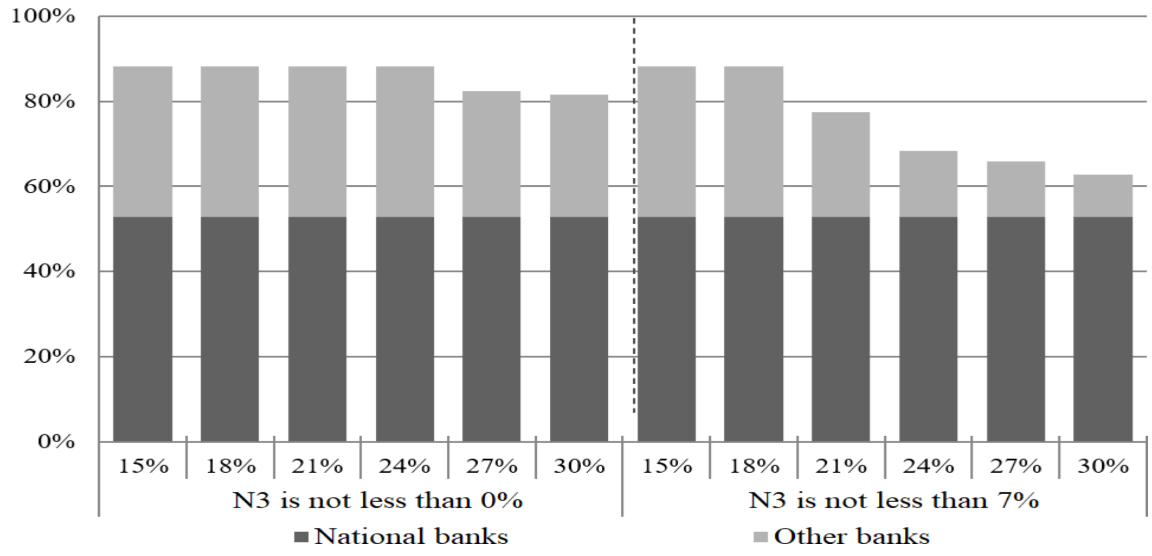
>7%   ≥0%   <0%

Source: based on data from [38].

Fig. 2.13. Matrix of the weighted average core capital adequacy ratio (N3) of banks depending on credit risk losses, %

The above matrix allows us to clearly see how the weighted average capital adequacy ratio is affected by different ratios of losses of both corporate and retail loans. For this purpose, the most likely range of 15% to 30% was chosen.

Summarizing the results, it is clear that the banks that collectively own the majority of assets have ensured sufficient resilience even to the loss of 30% of their loan portfolio. Thus, these banks have a good basis for successfully overcoming the crisis. This group can also include those state-owned banks that receive unconditional support from the government regardless of their insufficient capital. This approach allows us to state that the banks, which own about 82% of assets, are quite resilient even to the most conservative macroeconomic scenario (fig. 2.14).



Source: based on data from [38].

Fig. 2.14. Banks that comply with the regulatory value of the N3 ratio as a percentage of assets at different levels of credit risk losses

Certainly, the credit risk is manifesting itself gradually. However, banks are already taking measures to offset its negative impact, such as the “loan repayment holidays” offered to customers in the spring by almost all banks. This approach helped to reduce the pressure on customers caused by the threats of economic uncertainty associated with russia's military aggression against Ukraine. The “loan repayment holidays” also allowed debtors to resume operations more quickly due to a decrease in liquidity outflows at the beginning of the war.

Banks are now starting to restructure loans and partially recognize credit losses. The restructuring process must take into account the financial position of the debtors, which is determined by information on the current state of the debtor's industry, the security situation in the location of the debtor's business and the state of the production itself, etc.

The National Bank of Ukraine requires banks to assess credit losses in a timely and complete manner to determine the impact of destructive factors on asset quality. In this case, the number of days the debt is overdue is an informative indicator of loan quality.

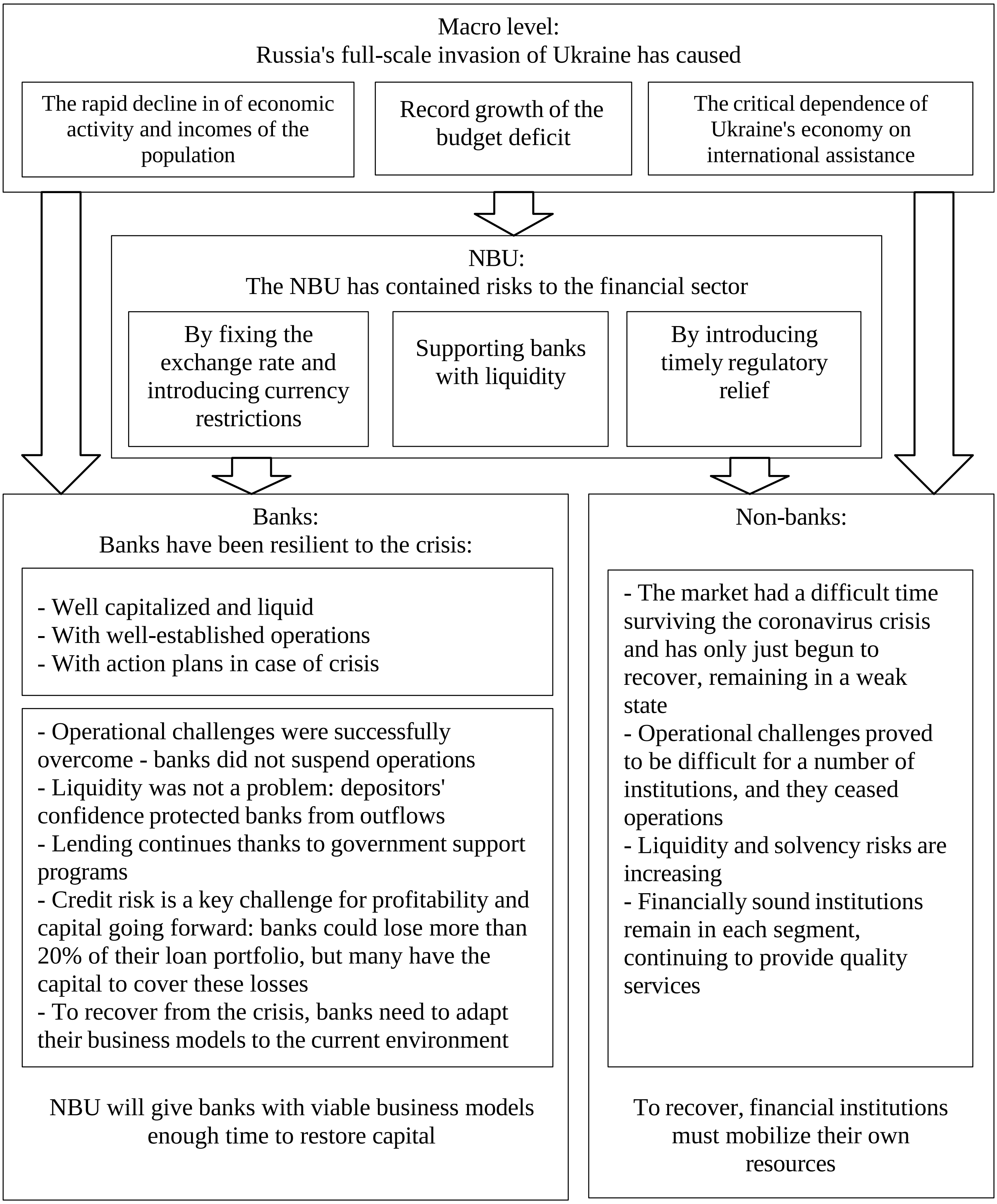
Assessment of credit risk exposure in the current environment is complicated by the fact that the financial statements of economic agents for previous periods are often irrelevant and cannot be relied upon alone. There may also be no current reporting, as it is legally permitted to prepare it after the end of martial law.

So, in general, it should be noted that banks have been resilient to the crisis. Figure 2.15 shows that this was facilitated by the effective anti-crisis measures taken by the National Bank of Ukraine, which helped to reduce the negative impact of Russia's full-scale invasion on the domestic banking sector. Measures such as exchange rate fixation, liquidity support and timely regulatory relaxation allowed banks to continue their operations, not only remain liquid, but also continue lending (thanks to government support programs).

The National Bank of Ukraine has relaxed a number of standards for the work of commercial banks. The measures taken have allowed to stabilize the work of banks, stimulate them to change their own business models, and also to concentrate available resources in favor of lending to industries important for the Ukrainian economy with the support of the state. First of all, of course, we are talking about financing farmers for the successful sowing campaign. The government has approved a number of programs aimed at financial support for business through bank loans. There are no official statistics on the volume of such loans, but state-owned banks confirm that loans are already being issued to a "significant number of clients" in the field of agriculture, various types of small and large businesses.

However, despite the stabilization of work, there are still many risks and problems that banks find difficult to cope with in wartime conditions. And they are forced to take radical steps in order to adapt to the new difficult realities. Including being forced to reduce the number of branches, increase requirements for debtor clients, and also move away from long-term and medium-term strategies in favor of short-term planning.

These changes are designed to ease the situation for Ukrainian borrowers during the war and at the beginning of the post-war economic recovery, since not all borrowers are able to service their loans on time under current conditions.



Source: built by the author on the basis of [38].

Fig. 2.15. The impact of Russia's full-scale invasion of Ukraine on the resilience of banks

Nevertheless, negative effects are still evident in the realization of credit risk, as described above. To recover from the crisis, Ukrainian banks need to adapt their business models to the current environment.

The NBU's reverse stress testing and scenario analysis of banks' resilience to the crisis showed that they are highly capable of absorbing losses arising from credit risk. Credit risk manifests itself gradually. Banks should take measures to prevent it, namely, to restructure loans in a timely manner that would help maintain the solvency of debtors. It is also important to maintain their loan portfolios at an appropriate level, optimize existing assets and operations to generate operating income.

2.3. Technical and economic characteristics of JSC CB PrivatBank

JSC CB PrivatBank is a systemic bank and the largest among national banks [49]. It is one of the leading banking institutions in Ukraine in the field of sales and servicing of banking services, with an emphasis on supporting small and medium-sized businesses and selectivity in terms of servicing the corporate sector.

The Government of Ukraine is the ultimate controlling body of the bank, and the Ministry of Finance became the sole shareholder after nationalization. The bank's principal activity is to conduct commercial banking business in Ukraine and provide services to legal entities and individuals.

The distribution of property rights and functions between the State and management bodies is implemented on the basis of relevant corporate governance standards, based on which the State exercises its rights as the owner of the Bank, and the management bodies perform their functions in accordance with the best corporate governance standards, which take into account relevant European regulations on the management of enterprises and banks, developed both at the level of international regulators and at the level of the Bank itself.

Of course, these principles are applied insofar as they do not contradict the mandatory standards of Ukraine. The supreme body of the Bank exercises management of the social rights of the State. Its competence includes issues determined by the current supreme body, which does not participate in the current management of the Bank.

Thus, the Bank's activities are carried out in accordance with the provisions of the Law of Ukraine "On Banks and Banking Activities" [2] and other legislative and regulatory acts regulating banking activities.

On December 18, 2016, a decision was made to nationalize the bank. The Ukrainian government decided to become the sole shareholder of the bank through the Ministry of Finance. This decision helped to protect more than 20 million Ukrainian citizens who keep money and use its services.

The bank is now operating normally. It fully fulfills its obligations to clients, partners and the state as a whole.

In its work, JSC CB PrivatBank meets all the requirements of the current legislative and regulatory framework of Ukraine and is based on the provisions of the Laws of Ukraine: “On Banks and Banking” [2], ‘On Business Associations’ [10], ‘On Joint Stock Companies’ [50] and other laws and regulations.

The Bank is fully authorized to carry out all types of banking activities to provide banking services, as well as to carry out other activities specified by the Law of Ukraine “On Banks and Banking Activities” [2].

In accordance with the Bank's charter, the main banking services are:

- raising funds and precious metals for placement of funds from an unlimited number of legal entities and individuals;

- opening and maintaining existing customer (agent) accounts, including bank accounts;

- placement of deposits and deposits, including current accounts, funds and precious metals on its own account, on its own terms and conditions and at its own risk (lending operations).

The Bank's administrative policy is focused on the appropriate management of all types of resources. This includes improving the monetary characteristics of banking operations and increasing the Bank's value. This necessitates the integration of the Bank's Development Strategy into the corporate governance process - regular formulation, review and approval of the Bank's Development Strategy. This is what determines the priority areas for certain types of activities and the Bank's activities in general.

The Bank has always declared the following as its key priorities

- ensuring the quality and range of banking and financial services;
- compliance with the requirements of the current legislation;
- expanding lending while maintaining high credit quality;
- improvement and development of the product range;
- improvement of infrastructure.

All of these principles form the updated Bank's Development Strategy until 2024 [51], which was approved by the CMU Resolution on August 11, 2021. It was prepared taking into account the Bank's development history and current business model. The Strategy takes into account the existing needs and projected macroeconomic conditions of the Bank's development, the development of the Ukrainian banking market and the Bank's customers. This allows further development of business management and banking culture, implementation of consumer protection measures, expansion of financial literacy and awareness of the population, and increase of the level of trust in the banking sector in general [51].

The Strategy ensures the implementation of the following strategic goals:

1. To build a strong and competitive bank by improving public perception and by expanding the range of products for retail customers and SMEs (the Bank will promote economic growth and fight fraud to achieve this).

2. Long-term profitability, security of operations, and a generally stable banking environment.

3. Implementation of the model of targeted activities in an efficient and cost-effective manner.

4. Strengthening the bank through organizational transformation and digitalization of operations.

5. Ensuring the ability to pay dividends and ensure financial stability by:

- strengthening the business profile and creating a cost-effective business model;

- transforming into a true leader in the details of the retail industry;

- increasing the profitability of Gero bankas, relying on healthy and diversified lending;

- increasing profit through niche business.

6. Turning the bank into a promising investment target by ensuring its stabilization and strengthening of its position in the coming years.

In the future, in accordance with the provisions of the Strategy, the Bank will focus on

- maintaining a high level of its position in key customer segments;

- profitability and payment of dividends to the owner and preparation for privatization.

The implementation of strategic tasks has already begun, and restructuring operations are ongoing. The Bank is successfully implementing a new model of corporate governance and improving its decision-making process.

Despite the challenges, the Bank remains innovative and is always ready to surprise its customers with new products, giving preference to digital services. The Bank attaches great importance to research and development, which contributes to the development of innovations [49]. They are aimed at creating new products and improving the convenience of services offered to customers.

Back in 2021, the bank was the first to introduce money transfer technologies, especially to develop and improve them. An example: transfers by phone number, including to cards of other banks. Many customers already use this service.

In addition, the Bank focused its attention on improving the services provided to legal entities:

- Initiating the registration of payment transactions in the Internet cloud and land management;

- the Dealer24 online cloud enabled the launch of affiliate programs for the sale of company vehicles, agricultural machinery, equipment, roads and construction materials;

- the Terminal mobile application was made available on the Google Play market, which allows a merchant to turn an Android smartphone into a full-fledged POS terminal for accepting payments for products and services;

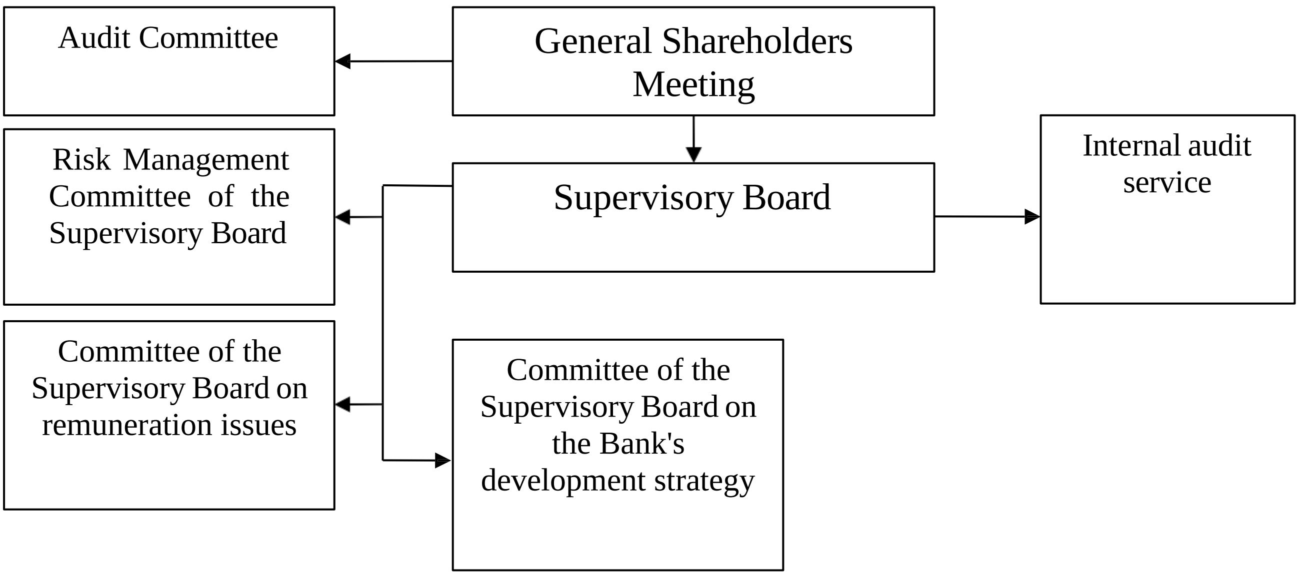
- a new payment service based on NFC tags;
- acceptance of payments for goods and services using ApplePay or GooglePay without a point of sale.

Payment methods were expanded and a chatbot was created that actively uses Telegram.

The Bank's awards include 1st place in the prestigious PaySpace Magazine nomination for “Best Financial Chatbot” (“PrivatPayBot by PrivatBank”) [49].

According to the organizational and legal form, JSC CB PrivatBank is a joint-stock company, so the management powers of the bank's shareholders are exercised through its governing bodies, the highest of which is the General Meeting of Shareholders.

The organizational structure of JSC CB PrivatBank is shown in fig. 2.16.



Source: based on data from [49].

Fig. 2.16. Organizational management structure of JSC CB Privatbank

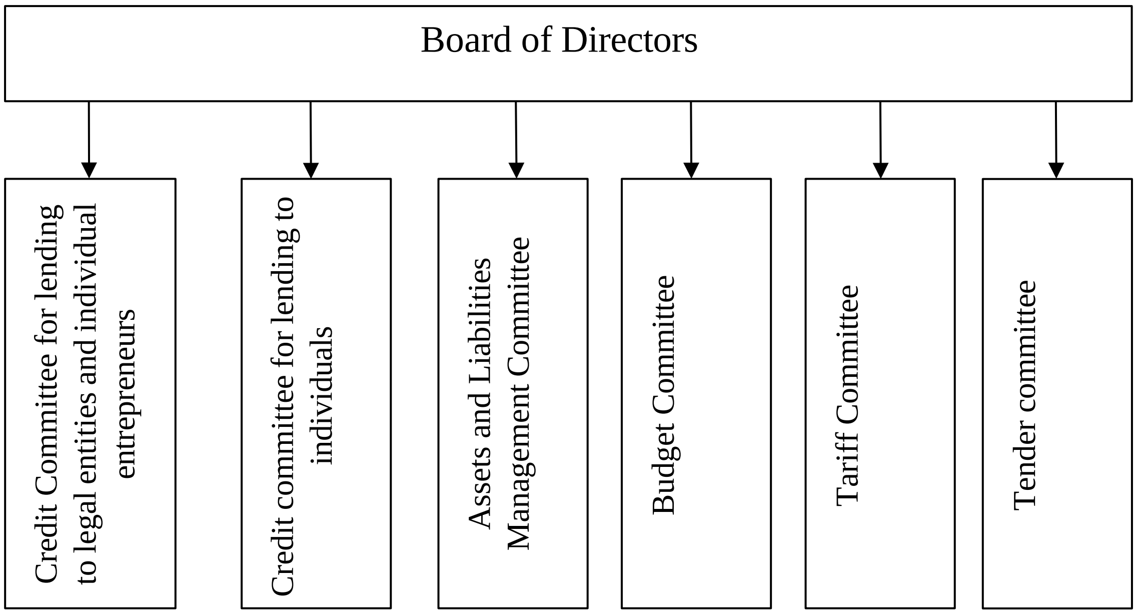
In order to protect the rights and interests of shareholders, the Bank ensures comprehensive, independent, objective and professional control of its activities.

The Bank's governing bodies are responsible for the results of its activities within the limits of their authority, professional competence and qualifications.

In case of need and to ensure effective work, the Bank's Supervisory Board has established standing committees to oversee the Bank's activities for compliance with domestic and international banking standards [49, 52].

The Management Board may create other committees taking into account the size of assets, specifics of the bank's activities, nature and scope of banking and financial services, the bank's risk profile, and the bank's systemic importance.

In 2024, the Supervisory Board approved several changes to the bank's organizational structure, according to which the Executive Body was reduced from seven to six seats. These changes are illustrated in fig. 2.17.



Source: based on data from [49, 52].

Fig. 2.17. Subordination to the Management Board of JSC CB PrivatBank

As of the end of 2023, JSC CB PrivatBank is the leader of the Ukrainian banking market. The bank ranks first in terms of retail deposits and third in terms of corporate accounts.

As of 1.06.2024, the Bank had 20 branches and 1475 outlets in Ukraine, providing its customers with a wide range of banking products and services.

The Bank's business model reflects its focus on the retail segment and support of small and medium-sized businesses. “Privat 24 is a recognized efficient transaction platform that ensures customer satisfaction and an appropriate level of fee and commission income for the Bank.

Payment security is an area of activity to which the Bank pays much attention. In partnership with the Mastercard and Visa payment systems, the Bank supports new security standards and technologies, including constant software updates.

The resources involved in the Bank's business activities are financial, technological and human resources. They largely allow the Bank to ensure the proper organization of risk management systems and, accordingly, the Bank's financial stability measures. The Bank's organizational system includes a sufficient number of structural units whose purpose is to identify and effectively manage banking risks.

A separate “block” of the Bank's activities is overdue debt management, which is organized on the basis of a separate internal Regulation on debt write-off.

The Code of Conduct (Ethics) is the basis on which the activities of both the Bank's governing bodies and communication between the Bank's employees and clients are built. It is based on competence, legality, transparency, as well as principles that ensure compliance with both ethical standards and the rights of creditors and consumers of banking products.

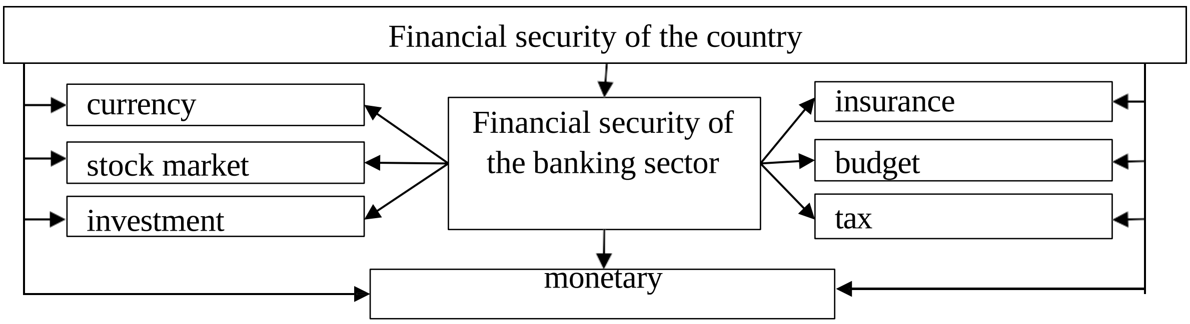
As a result, PrivatBank is a recognized leader in the Ukrainian banking market both in terms of the number of active clients (including both legal entities and individuals (small and medium-sized businesses)) and the range of financial services it offers to them.

CHAPTER 3
DEVELOPMENT OF APPROACHES TO IMPROVING OF BANKING ACTIVITIES IN UKRAINE

3.1. Financial security of banks as a key component of banking activities

Banking is one of the key elements of the national economy, which requires building a stable and financially sound environment to avoid the impact of threats existing in an economically unstable environment. A low level of financial security of at least one component or participant of the banking system may have significant negative consequences not only for the entire financial system but also for the Ukrainian economy. It should be noted that maintaining a high level of financial security of banks is a task not only at the national but also at the international level. Therefore, the selection and implementation of effective actions to ensure an adequate level of financial security of a bank should be based on a detailed assessment of all possible threats that banks may face.

The financial security of the banking system is a component of the financial security of the state, without which it is impossible to ensure the effective functioning of the domestic economy and, accordingly, its growth and development (fig. 3.1).



Source: based on [53].

Fig. 3.1. The place of financial security of the banking sector in the structure of financial security of the country

The main goal of the financial security of the banking sector is to maintain the competitiveness of the entire banking system by supporting the efficient functioning of each banking institution, preventing losses or loss of at least a part of the profit due to the realization of possible threats to its operations, because, as shown in fig. 3.1, it is the resilient banking sector that is the key to the financial security of the country.

Table 3.1 summarizes the most pressing threats to the financial security of the banking sector and their implications for the state financial security.

Table 3.1

Consequences of the Impact of Threats to the Financial Security of Banks on the Country's Financial Security

Threats to the financial security of banks	Implications for the financial security of the country
Deterioration of the political and economic situation in the country	Inefficient attraction and use of free funds, increase in the share of non-performing assets
Military and political conflict on the territory of Ukraine	Termination of financial institutions, payment of salaries, pensions, and benefits
Sharp fluctuations in the exchange rate, an increase in the share of speculative transactions	Devaluation of the national currency, the hryvnia, and revaluation of assets at an inflated rate
Insufficiency of banks' own funds	The outflow of own and foreign capital abroad and the unsatisfactory state of the economy's capitalization
Intrusion into bank computer networks, leakage of business information	Attackers' access to banking confidential information and its use for their own benefit
Imperfect structures for ensuring internal and external security of banking institutions	Deterioration of the criminogenic situation, increase in crime
Lack of highly qualified banking and credit specialists in law enforcement agencies	Public distrust of the country's financial system

Source: generalized by the author based on [53].

Existing threats to the financial security of the banking system are traditionally categorized as external and internal. The main possible threats and their consequences are summarized and presented in tabl. 3.2.

Table 3.2

Threats to the financial security of the bank and their consequences

Internal threats		External threats	
Threat type	Consequences	Threat type	Consequences
Inefficient credit policy of the bank	- Decrease in the quality of the loan portfolio; - Increase in the amount of mandatory loans; - Decrease in competitiveness	Imperfection of banking legislation	- Changes in licensing conditions and variability of regulations; - Excessive international standards; - Dependence on political factors
Poor quality of the bank's asset and liability management	- Decreased liquidity level; - Increased level of risky assets; - Imbalance of assets by maturity	Low investment activity	- Lack of investment-attractive projects in the domestic market; - The bank's inability to attract investments due to inefficient operations
Incompetence of top management	- Low level of strategic planning; - Inefficient management decisions are made	Unfair competition	- A sharp decline in deposit lending rates by unstable institutions; - Compromise by partners; - Artificial bankruptcy of enterprises
Incompetence of bank staff	- Disclosure of confidential information; - Weakening of competitive positions	High level of distrust in banks	- Distrust on the part of depositors and creditors; - bankruptcy of banks; - Deterioration of banks' reputation

Source: generalized by the author based on [54, 55].

The above shows that the existing approaches to ensuring the financial security of banks should be studied simultaneously with methods of preventing existing and potential threats.

The results of the SWOT-analysis of the domestic banking sector in terms of increasing its financial stability are presented in tabl. 3.3.

Table 3.3

SWOT-analysis of the banking sector of Ukraine

from the point of view of ensuring its financial stability

STRENGTHS	WEAKNESSES
1. Presence of banks with foreign capital. 2. The presence of four large banks with state participation. 3. Increased transparency of banking activities through disclosure of information on owners and controllers of banking institutions. 4. Implementation of the Cashless economy project. 5. Implementation of contactless payment technologies and card-to-card transfers.	1. Low level of financial security, stability, capitalization and liquidity. 2. High concentration of banking assets in the 5 largest banks, 3 of which are state-owned. 3. High concentration of capital and assets in banks with Russian capital. 4. The inability of banks to accumulate the necessary resources to finance large-scale investment projects without government participation. 5. High level of dollarization of assets and liabilities. 6. High level of overdue debt. 7. High level of related lending. 8. Lack of access to “long” money for banks. 9. Low level of risk management. 10. Low efficiency of monetary and exchange rate policy. 11. Non-transparency of the refinancing mechanism. 12. Low efficiency of banking supervision. 13. Low level of legislative support for banking activities.
OPPORTUNITIES	THREATS
1. Improving the efficiency of monetary and exchange rate policy. 2. Improving the efficiency of banking supervision. 3. Optimization of banking legislation. 4. Implementation of innovative technologies. 5. Attracting customer savings by providing socially acceptable rates. 6. Completion of the implementation of Basel III principles. 7. Strengthening the banking management and risk management system. 8. Strengthening competition. 9. Creation of a bank of “toxic” assets. 10. Reformatting the activities of state-owned banks. 11. Reducing the share of foreign capital in the banking system of Ukraine.	1. Low level of independence of the NBU in the internal and external arenas. 2. Lack of flexibility in monetary policy. 3. Low level of coherence between monetary and fiscal policy. 4. High dependence on external shocks. 5. Lack of confidence of depositors in the banking system of Ukraine. 6. High concentration of political and economic risks. 7. Low level of business activity. 8. High level of shadow economy. 9. Low creditworthiness of borrowers.

Source: based on [56-59].

The main areas of ensuring the financial security of banks should contribute to an increase in economic efficiency, and thus to the growth of the volume and efficiency of resource use. However, a number of threats and weaknesses, which were identified through the SWOT analysis, hinder the achievement of the above goal.

The SWOT analysis helped to identify both determinants that have a positive impact on banking and those that may become the source of problems and threats.

The summarized results (see table 3.3) indicate that the domestic banking sector has a sufficient number of weaknesses and threats that affect the speed of its development and become the basis for crisis situations. At the same time, the banking sector also has enough opportunities, the realization of which will help to increase the financial security of the Ukrainian banking sector.

In order to increase the financial security of Ukrainian banks, it is advisable to consider its individual components, which will allow optimizing future measures depending on the current situation (table 3.4).

Table 3.4

Directions for improving the level of financial security of banks in terms of its components

Component	Directions
1	2
Resource-forming component of financial security	increasing capital and raising the level of market capitalization of banks; preventing a decrease in the amount of funds that traditionally form its resource base; increasing liabilities through subordinated loans, bond loans, share placements, and attracting strategic investors; optimizing cash flows and other financial assets; diversifying the resource base and intensifying advertising activities; encouraging the NBU to provide comprehensive banking services to corporations and offer new banking products for SMEs;
Credit component of financial security	improving the banks' credit policy and the NBU's refinancing policy; improving the functioning of the NBU's credit register; establishing a sanation bank; introducing government incentives for SME lending; reducing the dollarization of the banks' loan portfolio; and introducing restrictions on lending to households with high debt burdens;

Continuation of table 3.4

1	2
Deposit component of financial security	improving the deposit policy and the deposit guarantee/insurance system; increasing the share of long-term deposits in the deposit portfolio of banks; optimizing the ratio between the volumes of deposits in national and foreign currencies, deposits and loans of the banking system, term deposits and capital; reducing the maximum amount of cash payments; preventing the outflow of deposits from banks; optimizing the taxation of income from retail deposits; increasing the confidence of households and business entities in banks
Credit component of financial security	raising awareness of business entities about the solvency of banks/availability of credit lines; developing consumer lending and digitizing it; separating traditional and digital transactions in the loan portfolio of banks, as well as transactions for payments in fiat money and cryptocurrencies; choosing the optimal time to attract interbank loans; and introducing Risk-based pricing technology into banking practice.
Currency component of financial security	improving currency regulation in the banking sector; optimizing the volume of foreign currency deposits/loans, foreign currency purchased on the interbank market, and external borrowings, Eurobonds, and foreign currency positions of banks; improving currency control and currency risk management
Investment component of financial security	optimization of the banks' investment policy; increase of investment resources and improvement of their structure, increase of investment activity; preference for safer investment options, conducting transactions only with high quality securities; diversification of the trading and investment portfolios of securities; setting limits on transactions with securities; growth of investment income; increase of investment attractiveness of banks for investors while reducing the share of foreign capital in the authorized capital of domestic banks; creation of investment banks; state subsidization of investment loans and provision of state guarantees
Security of income and expenses	diversification of income sources; searching for reserves to increase commission income; expanding the use of bank guarantees at the expense of the above-mentioned income; strengthening control over the payment of remuneration to top managers of banks; optimizing the costs of forming and operating the system of ensuring the financial security of banks.

Source: generalized by the author based on [60-62].

Fig. 3.2 presents an integrated approach that summarizes four main stages with details of the constituent elements of strengthening the financial security of banks. This approach allows for timely monitoring and adjustment of the strategy for strengthening the bank's financial security and assessment of the organizational and economic efficiency of the actions taken to determine the bank's strategic position in the external arena.

Assessment of organizational and economic efficiency of bank financial security management

Stage I - strategic analysis of the market environment and the bank's environment:
-analysis of the macro environment and the immediate environment of the bank's functioning, determination of the bank's competitive position in the external environment;
-selection of external and internal environment factors that significantly affect the bank's financial security;
-assessing the factors of influence and the possibility of their manifestation on the financial security generated by its internal and external environment;
- formulation of tasks for ensuring the financial security of the bank based on permanent monitoring of the impact of threats from the external and internal environment on the financial security of a commercial bank;
- development of an integral indicator for assessing the level of financial security of a bank.

Stage II - establishing acceptable criteria for financial security management:
- analysis of information flows;
- determination of criteria for assessing the level of financial security of the bank, analysis of the current state of financial security of the bank;
- Identification of “problem areas” of the bank's financial security;
- assessment of indicators of decrease and increase in the level of financial security of the bank.

Stage III - development and selection of a strategy to ensure the financial security of the bank:

- based on the analysis, formulation of a set of measures to ensure the financial security of the bank;

- development of a strategy for ensuring the financial security of the bank, ensuring its implementation, determining the adequacy of the developed strategy to the bank's operating environment, monitoring and evaluating the quality of the selected strategy.

Stage IV - implementation of appropriate measures, assessment of the level and elements of financial security management of banks:
- increasing the reliability of the banking institution;
- improving the quality of banking services;
- keeping the riskiness of active operations at an acceptable level;
- the ability to develop and provide new banking services;
- strengthening the bank's competitiveness in the market;
- compliance with the NBU requirements.

Monitoring and adjusting the bank's financial security strategy

Source: based on [63].

Fig. 3.2. Generalized approach to ensuring financial security of banks

The foregoing shows that issues related to ensuring the financial security of both the banking sector of Ukraine and individual banks are extremely important today. After all, financially secure banking is the key to the financial security of the entire state. The current situation, complicated by the military conflict, makes this area of research much more relevant. The research conducted in this paper has made it possible to summarize the conceptual foundations and existing approaches to maintaining a high level of financial security, which can become a reliable basis for developing an effective mechanism for its enhancement.

3.2. Ensuring market value growth as a basis for modern bank development management

In the previous chapter, we have demonstrated the importance of strengthening the financial security of the banking sector, which is a top priority. However, it is worth remembering that banking is a special type of business, so banks often face the need to make financial decisions in the course of their activities. Therefore, a value-based approach should play an important role in the development of a commercial bank's management strategy.

It is the value of the bank that is often used as a determinant of the level of security, as these concepts are closely related. But, as noted in the study [64], the relationship is dual, which is manifested in causing an increase in the level of bank security (primarily because assets are increased) with an increase in its value, on the other hand, an increase in value increases the “desirability” of ownership of this bank among business entities, and this directly affects financial security. Therefore, achieving a balance between value and security is a rather complex but undoubtedly important task of banking, which can be solved by implementing value-based management.

The analysis of the components of the value-based management of the bank allowed us to identify the main advantages and disadvantages presented in table 3.5.

Table 3.5

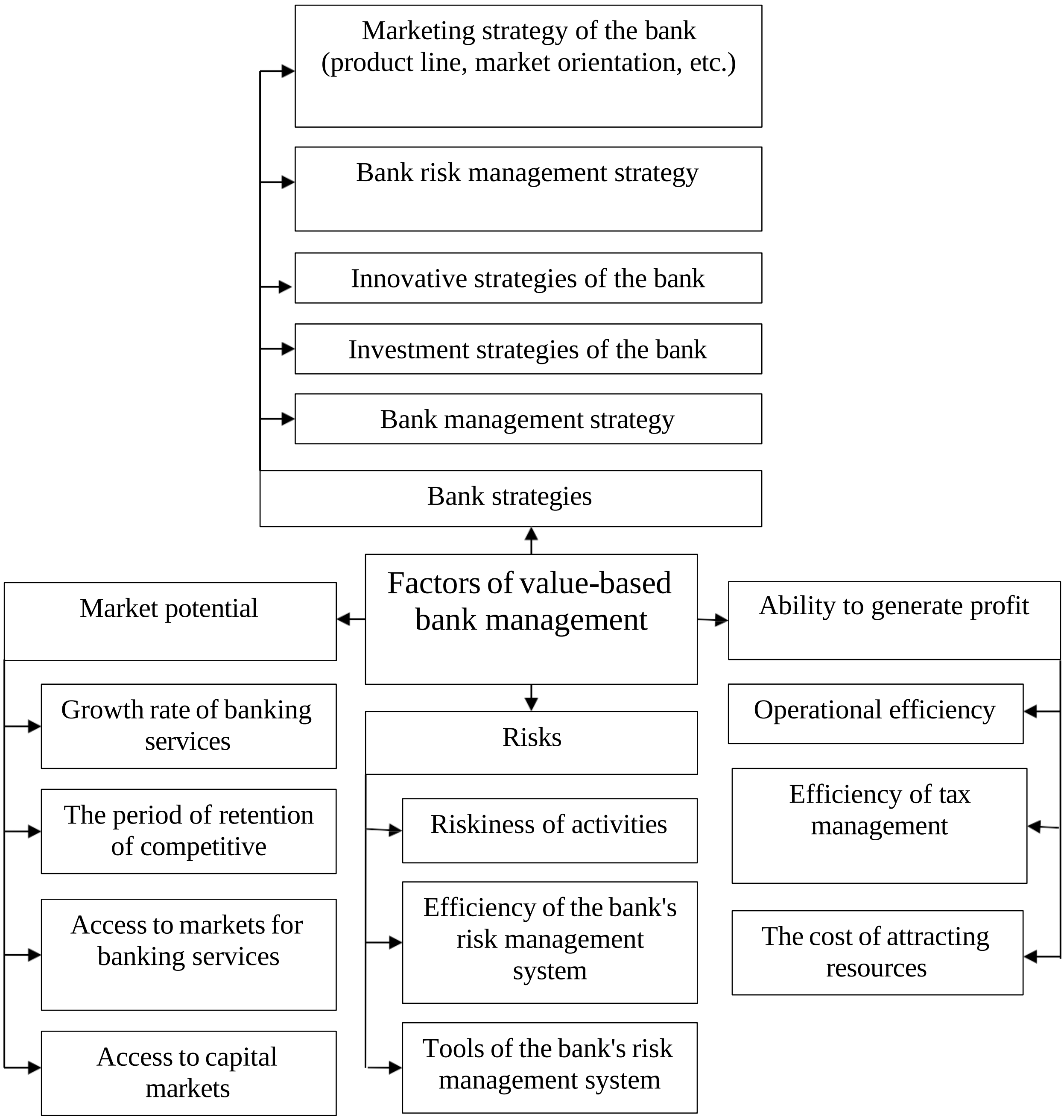
Advantages and disadvantages of implementing value-based management in banks

Advantages	Disadvantages
aligning the interests of the bank's shareholders and managers;	impossibility of a reliable assessment of the bank's value due to the use of forecasted income data;
establishing a system of material rewards and incentives for the bank's staff, which will be directly “tied” to the amount of value created by each bank employee (by identifying, planning and controlling key value drivers in each area of work performed by bank employees);	biased indicator of the market value of the bank's shares in an imperfect stock market, which does not provide an accurate assessment of the value of the bank's share capital;
continuous and most complete monitoring of the bank's activities, which significantly improves the quality and efficiency of decisions (by providing managers and key specialists with the truly optimal amount, structure and format of information required for making management decisions);	there may be an attempt to align the interests of shareholders and bank managers based on the correlation between the latter's material remuneration and the growth of the bank's value, which may lead to manipulation of information by bank managers;
a positive effect on the bank's overall financial performance;	significant costs for practical implementation;
convenient comparison that helps bank management focus on value-creating factors and allows for higher shareholder value;	the difficulty of translating financial accounting indicators into management accounting indicators required to calculate the bank's value indicators.
optimal combination of the bank's long-term and short-term goals based on the use of value indicators;	
better understanding of the alternative advantages of the bank's investment sources.	

Source: on the basis of [65-66].

Value-based bank management involves focusing not on individual components, such as risk management, liquidity, or profitability, but on a comprehensive and balanced combination of them. After all, focusing on individual elements brings only a temporary effect, and ultimately can lead to an imbalance in banking activities [64].

The groups of determinants that should be taken into account when developing a comprehensive system of value-based bank management are summarized in fig. 3.3.



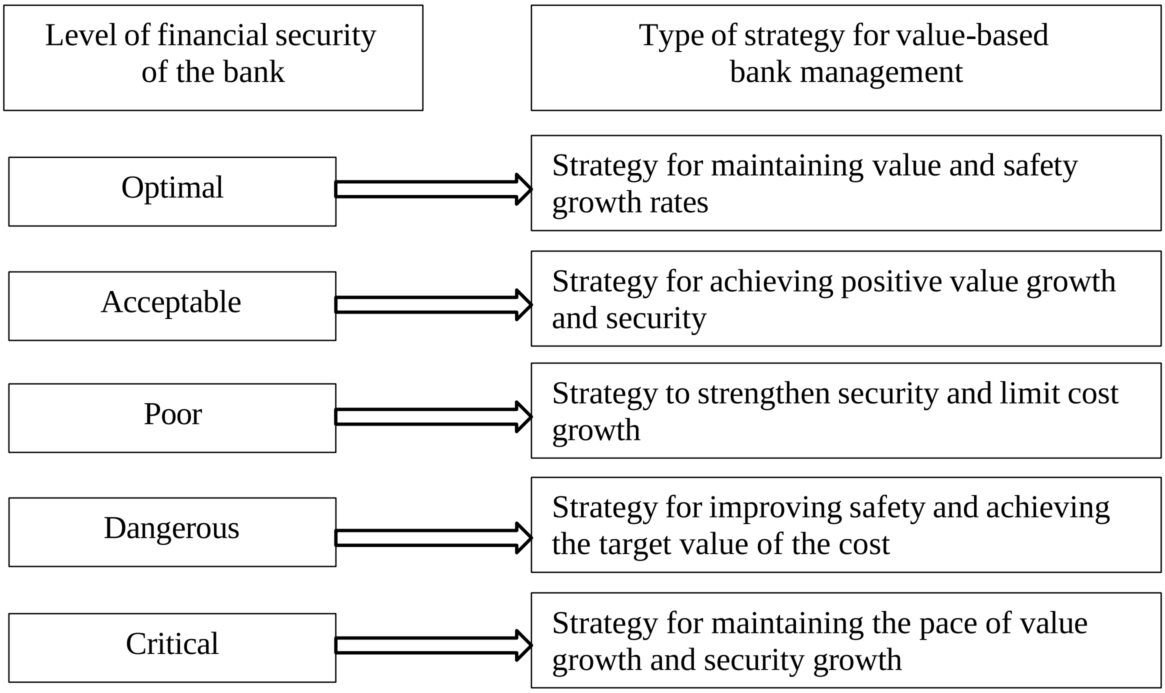
Source: on the basis of [64, 67].

Fig. 3.3. Groups of determinants of value-based bank management

The list of determinants can be adjusted, but it is not advisable to expand it significantly, since in order to apply it in practice, it is necessary to calculate the correlation between them, for which each factor must be significant and not clutter the information field.

Proceeding from the above connection between the bank's value and its financial security, it is necessary to rely on the indicator of its financial security when choosing a strategy for value-based management of a bank.

This relationship is summarized in fig. 3.4.



Source: based on [68].

Fig. 3.4. Choosing a strategy for value-based bank management depending on the level of financial security.

A bank's value-based management strategy is a system of measures aimed at increasing the bank's value, maintaining an adequate level of solvency and liquidity, an efficient capital structure, and the most profitable investment options.

Given the dependence of a bank's financial security on the determinants of its value, it is appropriate to prioritize the development of actions to increase the level of value.

Table 3.6 describes the above strategies of value-based bank management based on the level of financial security.

Table 3.6

Characteristics of value-based bank management strategies

Level of financial security of the bank	Strategy type	System of events
Optimal	Strategy for maintaining the growth rate of safety and value	- measures to manage the added value of the banking institution; - implementation of measures in the field of bank portfolio management (optimization of the composition, structure of the newest products and services introduced; improvement of the bank's pricing and sales policy); - managing the quality of banking services and the customer service system).
Acceptable	Strategy for increasing the rate of value growth and security growth	- monitoring the return on invested capital; - implementation of the bank's operational capital management policy (repurchase of the company's shares, changes in the dividend policy); - optimization of the bank's sales network.
Poor	Strategy for improving safety and achieving the target value of the cost	- management of the bank's added value; - implementation of the latest risk management procedures; - improvement of technologies for raising additional capital; improvement of the dividend policy; - improving the operational capital management procedure by accelerating asset growth.
Dangerous	Strategy to strengthen security and limit cost growth	- taking measures to promote the increase in the volume of banking services provided; - improvement of procedures for asset and liability management; - efficient management of the bank's expenses; - taking measures to improve the bank's capital management by attracting subordinated debt and placing (private) shares.
Critical	Strategy for achieving positive value growth and security	- reorganization of a banking institution through the introduction of a merger or acquisition procedure; - optimization of capital allocation and increase of efficiency of its use; - optimization of business processes of a banking institution (outsourcing); - implementation of measures to manage the bank's liquidity and solvency; - implementation of measures to restore the bank's profitability.

Source: based on [64, 68, 69].

According to [70], “value-based management of banks is a modern and justified management paradigm in the face of an unpredictable situation in the financial market and progressive changes in the country's economy”. Unfortunately, the level of implementation of value-based management strategies in Ukrainian banks is still quite low compared to the global practice, which has many examples of effective application of this strategy. In domestic banks, value-based management strategy or at least some of its components are mainly used by banks with foreign capital, which borrow technologies from parent institutions.

Given the importance of the value-based management strategy for Ukrainian banks, it should be noted that its implementation requires identifying the most important indicators (both absolute and relative) that reliably characterize the process of increasing the bank's value. It will also be effective to establish unified regulatory values of the indicators defined by the National Bank of Ukraine that will be applied within the banking sector.

An important component for the implementation of a value-based management strategy is motivational programs based on quantitative indicators for assessing the value of the bank [70].

The aggregation of the main determinants of value-based bank management, grouped by the level of financial security, carried out in this paper, allows developing and timely implementing appropriate methods of influencing internal factors and taking into account the impact of external factors. This approach makes it possible to create a system of protection (prevention) against internal and external threats that will not slow down the pace of development and ensure the growth of the value of the banking business.

3.3. Formation of the bank's loan portfolio management strategy based on a static decision-making model

A key aspect of any activity is the decision-making mechanism. However, given the fact that quite often the management decision-making process takes place in difficult to predict conditions of possible scenario development, uncertainty is the main characteristic of the lack of knowledge about a particular problem situation in the economic decision-making process. In order to make the most appropriate decision that will meet the goals and have a minimum risk, it is necessary to take into account all possible risks and optimize the decision-making process itself.

According to the nature of the information on which the decision is based, decision-making tasks based on statistical data can be divided into groups [71]:

- decision-making tasks in which there is information about losses from making a decision based on input data, but there are no probabilities of this data occurring;
- decision-making tasks in which both the probabilistic characteristics of the factors and the losses from decision-making are known;
- decision-making tasks in which the probabilities of occurrence of input factors are given, but there is no information about the losses from decision-making;
- decision-making tasks that use data on the probabilities of alternatives.

The result of solving the first group of problems was the creation of game theory, which allows us to determine the optimal solution based on minimizing possible losses. To solve the problems of the second group, the Bayesian theory of statistical solutions is usually used. Methods for solving problems of the third group are based on a non-Bayesian approach to decision making. Problems of the fourth group can be solved using the axioms of expected utility.

Bayesian risk is the expected value of losses from making a decision that corresponds to a given value, i.e. it is an estimate of the consequences of making a given decision at a given value. The a posteriori risk is a function of the decision and thus differs from the average risk, which is a function of the decision rule, not the decision itself.

Despite the versatility and relative simplicity of the Bayesian approach, there are a number of statistical decision-making problems that cannot be solved in this way. This fact is due to the lack of information about possible losses from decision-making or the probability of joint occurrence of factors taken into account in the decision-making process. The use of the Bayesian approach is also impossible in cases where the values of the loss function are measured in different systems of units.

Among the decision theory problems that go beyond the Bayesian approach for the reasons mentioned above, the Neumann-Pearson problem and the minimax problem are of the greatest practical interest [72].

The Neumann-Pearson task is a classic problem in statistical decision theory. The essence of the problem is to make a decision in favor of one of two hypotheses regarding the state of an object. It is assumed that decision errors have different importance. At the same time, it is required that the error of an incorrect decision does not exceed a predetermined value.

For the above problem, the Neumann-Pearson criterion can be formulated as follows: the best solution is the one that minimizes the second-order errors for a given acceptable first-order error.

The minimax problem is to minimize the maximum losses from the decision. The minimax criterion is based on the assumption of the existence of an extremum of the form min max (p (x, k)).

If there is no complete certainty about the consequences of a particular alternative, the decision is made under uncertainty based on three criteria:

1) maximax is a criterion that selects the alternative that produces the maximum output with the maximum numerical value. Since this decision criterion is based on the alternative with the highest possible outcome, it is called the “optimistic” decision criterion;

2) miximin is a decision criterion that selects the minimum output within each alternative and then the alternative with the maximum value. Since this decision criterion helps to find the alternative with the lowest possible loss, it is called a “pessimistic” decision criterion;

3) the equiprobable criterion is a decision criterion that selects the alternative with the highest average output. To do this, first, the average output for each alternative is calculated as the quotient of dividing the sum of all outcomes by their number. Then the alternative with the maximum value is selected.

To formulate a strategy for managing a bank's loan portfolio, it would be advisable to use the minimum-maximum problem, since in their activities banking institutions are constantly faced with the issue of determining the optimal structure of the loan portfolio, which can ensure the maximum level of income at an acceptable level of risk.

Using this method will allow us to form several options for alternatives to the allocation of available assets at different levels of risk and return.

To display the alternatives, we will build a risk map when choosing a loan portfolio management strategy on the example of JSC CB “PrivatBank” (table 3.7), and to determine the expected results, we will use the adopted development strategy of JSC CB “PrivatBank” until 2024 [51].

Table 3.7

Risk map when choosing a strategy for managing a bank's loan portfolio

	Profitability on loans	Credit default risk	Availability of collateral for loans	Level of interest rates
Strategy 1	5	4	1	1
Strategy 2	4	2	2	2
Strategy 3	2	1	5	4

Source: according to [51].

The Bank expects to increase lending volumes in both corporate and consumer segments, but the largest growth will be in the retail unsecured lending sector, provided that the NBU discount rate and refinancing rates are reduced. Faster growth in the retail lending sector is also based on the assumption that the macroeconomic situation will remain stable and the banking sector will recover.

The Bank also assumes that less favorable business conditions may arise, which could slow down lending and reduce profitability, increasing the risk of non-repayment of loans, as most of them are unsecured.

According to the risk map, we will use the equilibrium criterion for choosing the optimal solution, as it allows us to choose an alternative strategy with the highest average income. To do this, we calculate the average values for each of the selected strategies (formula 3.1):

$$S_{pn} = \sum xi / n, \tag{3.1}$$

where xi is the indicator of the alternative strategy option;

n - the number of studied indicators.

Let's calculate the average value of the performance indicator for each strategy:

$$S_{p1} = (5 + 4 + 1 + 1) / 4 = 2{,}75$$
$$S_{p2} = (4 + 2 + 2 + 2) / 4 = 2{,}5$$
$$S_{p3} = (2 + 1 + 5 + 4) / 4 = 3$$

The second strategy has the lowest value of the indicator of efficiency of the loan portfolio management strategy for JSC CB Privatbank, which indicates its most optimal use for the bank, given the assumptions about the expected economic situation. The third strategy is of the greatest importance, characterizing the least unfavorable conditions of activity if the planned expectations are not met.

Thus, the static model of decision-making under uncertainty allows to evaluate alternative strategy options, taking into account the factors of expected economic development, improvement of operating conditions, as well as the assumptions made about further development, and to choose the most optimal alternative.

CONCLUSIONS

The research conducted in this work allows us to draw the following conclusions.

Banking occupies an important place in the development of the national economy, being a specific separate type of economic activity. Due to the specifics of its activities, banking, firstly, ensures the interaction of the components of the economic system, and, secondly, it is a separate type of business that participates in the increase of added value, GDP production, payment of taxes to the budget, etc.

The proper disclosure of the business nature of banking is ensured by the flow approach, which allows for a generalized study of cash and financial flows; assessing the mutual influence of incoming and outgoing flows generated in the course of banking activities. This approach allows optimizing the management of the bank's financial flows by finding a balance between profitability and risk, which is extremely important, since banking is characterized by the highest level of risk compared to other types of business.

Recently, the risks have been further exacerbated by the special conditions in which banks have to operate. Since the beginning of the full-scale war, the National Bank of Ukraine has been implementing comprehensive measures aimed at building the resilience of the financial sector. The timeliness and effectiveness of the anti-crisis measures taken to minimize banking risks helped to reduce the severity of the consequences and prevent panic in the most difficult period of the war. A timely response to the dynamically changing environment and the application of the experience gained during the coronavirus crisis allowed the banking sector to support the functioning of the domestic economic system at the proper level.

Nevertheless, a detailed study of the external and internal conditions for the development of banking has shown that the full-scale war caused a sharp decline in the Ukrainian economy. Obviously, it is external threats that have the greatest impact today. Russia's large-scale invasion of Ukraine has led to dramatic changes in the activities of all economic agents, including the banking sector. Against this background, other threats have partially lost their significance. Given that banks have no direct influence on external threats, their prevention and mitigation should be achieved through developed measures aimed at strengthening the bank's position or adapting it to a changing environment.

The NBU's reverse stress testing and scenario analysis of banks' resilience to the crisis revealed their high ability to absorb losses caused by credit risk. The core capital of the twenty largest Ukrainian banks is sufficient to cover about 25% of the lost loan portfolio, and more than half of them will also have positive operating profitability. However, credit risk manifests itself gradually, so banks should take preventive measures to prevent it.

The study of the activities and technical and economic characteristics of JSC CB PrivatBank confirm its avant-garde position by all key indicators. This result is based on the Bank's successful administrative policy focused on rational management of available resources, regular formulation, review and approval of the Bank's Development Strategy. The proper organization of risk management systems is ensured by financial, technological and human resources, which allow the Bank to increase the level of financial stability even in the current difficult environment.

Consideration and analysis of the above issues has necessitated the search for and improvement of approaches to the development of banking. The author has studied the existing proposals on this issue and systematized them in the following areas.

1. Financially secure banking is the basis for the financial security of the entire state. The current situation in Ukraine, complicated by the military conflict, significantly actualizes this area. The SWOT-analysis of the domestic banking sector from the point of view of increasing its financial stability and the study of threats to the financial security of the bank with their consequences allowed us to summarize the conceptual foundations for building a system of financial security of banks, which can become the basis for creating an effective mechanism for its increase.

2. Finding a balance between the value of a bank and its financial security is a complex task that can be solved by implementing value-based management. Generalization of the main determinants of value-based management of a bank, which are aggregated by the level of its financial security, allows to select measures to

influence internal factors and take into account the impact of external factors. The proposed approach will allow creating a system of protection against timely detected internal and external threats, capable of increasing the value of the banking business.

3. Using a static decision-making model under conditions of uncertainty and taking into account the factors of expected economic development, improvement of operating conditions, as well as the assumptions made about further development, the optimal variant of the loan portfolio management strategy with an acceptable level of risk and profitability was selected in accordance with the general expectations of the bank and the development of the banking system as a whole. It has been concluded that the second strategy has the lowest value of the efficiency indicator of forming a loan portfolio management strategy for the bank under study (this indicates its most optimal use for the bank, given the assumptions about the expected economic situation), and the third strategy has the highest value (this characterizes the least unfavorable conditions of activity if the planned expectations are not met).

Today, successful development of the banking system is a critical condition for the competitiveness of the national economy. All strategic and operational areas of its development are largely related to improving risk management systems, reducing costs and expanding the range of banking services.

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Країна: Україна
РНОКПП: 2571514226
Організація (установа): ФІЗИЧНА ОСОБА
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П.І.Б.: Омеляненко Денис Олегович
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