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, Insurance and Stock Market**
Educational program: **Financial Technologies and Banking Management**
Group: **AF-23M full-time mode of study**

QUALIFYING MASTER'S THESIS

on the topic:

ANALYSIS OF THE CAPITAL OF THE BANKING SYSTEM OF UKRAINE

higher education student **Dong Long**

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

Protocol No. 5 dated «06» December, 2024

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Kharkiv – 2024

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APPROVED
Head of the Department
of Banking Business and Financial Technologies
Doctor of Economics, Professor
Galyna Azarenkova
« 25 **»** September 2024

TASK
FOR THE QUALIFYING MASTER'S THESIS

of Dong Long

1. Topic of the work "ANALYSIS OF THE CAPITAL OF THE BANKING SYSTEM OF UKRAINE"

Scientific adviser Valeriia BARANOVA, Doctor of Economics, Professor
(surname, first name, patronymic, academic degree, academic title)
approved by the order of the University dated 17.09.2024 No. 4601-3к/1025;
15.11.2024 No. 4601-3к/1491

2. Deadline for the student to submit the work 18.11.2024

3. List of issues to be developed:

In Chapter 1: to research the economic essence of the bank's capital, analyze the process of formation and identified priority sources of replenishment of the capital of Ukrainian banks, investigate methods of assessment and determination of the adequacy of bank capital.

In Chapter 2: to consider the technical and economic characteristics of PJSC "OTP Bank", analyze the current state of the capital of the banking system of Ukraine, evaluate the efficiency of the capital formation of Ukrainian banks.

In Chapter 3: to determine the influence of factors on the formation of the financial result of banks on the basis of correlation-regression analysis, conduct an analysis of the current practice of regulation of bank capital.

4. Work plan

No.	Name of work stages
1	The choice of the topic of the qualifying master's thesis
2	Approval of the plan and tasks of the qualifying master's thesis
3	Completion of a qualifying master's thesis
4	Submission of a qualifying master's thesis to the department to check for borrowings from other documents
5	Admission by the head of the department to the defense of a qualifying master's thesis
6	Defense of a qualifying master's thesis

5. Date of the task issue 25.09.2024

Student	Dong Long	DONG LONG
	Signature	Initials, surname
Scientific advisor		Valeriia BARANOVA
	Signature	Initials, surname

ABSTRACT
ON THE QUALIFYING MASTER'S THESIS
"ANALYSIS OF THE CAPITAL OF THE BANKING SYSTEM OF UKRAINE"

of Dong Long

The qualifying master's thesis comprises 89 pages, 16 tables, 17 figures, 7 formulas, and a list of 89 references.

The **object of research** is the process of capitalization in the banking system of Ukraine.

The **subject of research** is the organizational and economic principles of equity capital formation and the increase in the level of capitalization of Ukrainian banks.

The **purpose of the qualifying master's thesis** is to generalize the theoretical foundations of capital organization, disclose current practices in the formation and implementation of bank capital, analyze modern trends in the development of bank capital, and identify ways to increase capitalization. These efforts aim to enhance the financial security of the banking system of Ukraine.

The **tasks of the qualifying master's thesis** are as follows:

- to investigate the economic essence of bank capital;
- to analyze the formation process and identify priority sources for the capital replenishment of Ukrainian banks;
- to investigate methods of assessing and determining the adequacy of bank capital;
- to analyze the current state of capitalization in the banking system of Ukraine;
- to assess the efficiency of capital formation in Ukrainian banks;
- to determine the influence of factors on the formation of financial results in banks through correlation-regression analysis;
- to analyze current practices in the regulation of bank capital.

Based on the results of the research, theoretical and practical provisions have been formulated and presented as specific proposals for improving the assessment of anti-crisis measures in the banking sector of Ukraine.

The obtained results can be applied to address tasks related to the evaluation of anti-crisis measures in the banking sector of Ukraine.

KEYWORDS: bank capital, anti-crisis measures, bank capital regulation, banking results, technical and economic characteristics of the bank.

CONTENT

INTRODUCTION

Relevance of the research topic. In modern conditions of economic development, one of the most important factors of economic growth is the creation and functioning of a reliable and powerful banking system. Formation of its resource base is of primary importance for the strengthening and development of the domestic banking system. After all, in the current situation, the role of banks in financing the real sector of the economy, investment provision of reproductive processes is growing, which, in turn, produces the need to find additional sources for credit and investment activities of banks, as well as causes the growing importance of increasing their financial security, including with the rationalization of the bank's capital structure.

Bank capital plays an important role both from the beginning of the functioning of the banking institution and in the process of its further activity.

In this connection, the study of issues related to the bank's capital and its role in ensuring the financial security of the bank acquires special importance, which determines the relevance of the chosen topic and the feasibility of conducting research for the development of this issue.

The object of research is a process of capitalization in the banking system of Ukraine.

Subject of research – organizational and economic principles of equity capital formation and increasing the level of capitalization of Ukrainian banks.

The following methods were used during the research: theoretical generalization, statistical, mathematical calculations, analysis and synthesis, the method of using absolute and relative indicators.

The purpose of the work is the generalization of the theoretical foundations of the organization, the disclosure of current practice on the formation and implementation of bank capital, as well as the analysis of modern trends in the development of bank capital and the identification of ways to increase capitalization, which will make it possible to increase the financial security of the banking system of Ukraine.

To achieve the set goal, the following tasks are solved in the work:

- the economic essence of the bank's capital was investigated;
- the formation process was analyzed and priority sources of capital replenishment of Ukrainian banks were identified;
- methods of assessing and determining the adequacy of bank capital were investigated;
- the current state of the capital of the banking system of Ukraine is given;
- an assessment of the efficiency of capital formation of Ukrainian banks was carried out;
- the influence of factors on the formation of the financial result of banks is determined on the basis of correlation-regression analysis;
- an analysis of the current practice of regulation of bank capital was carried out.

The degree of study of the problem. The National Bank of Ukraine pays considerable attention to this issue, which is reflected in the Laws of Ukraine "On the National Bank", "On Banks and Banking Activities", "Instructions on the Procedure for Regulating the Activities of Banks in Ukraine", approved by the Resolution of the Board of the National Bank of Ukraine No. 368 of 28.08.01. (with changes and additions).

The researches of domestic authors are aimed at revealing this issue: N.G. Volyk, A.M. Gerasimovych, Zh. Dovgan, A.S. Kryklii S.V. Karmanov, A.M. Moroza, V.I. Mishchenko, V.V. Kovalenko, as well as many Western scientists: P. Rose, S. Klassen, M. Miller, A. Sena, B. Sharp and others. V. Gerasymenko, Zh. Dovgan, and V. Kovalenko made a significant contribution to the study of certain issues of bank capital development and features of the capitalization process of Ukrainian banks. Problems of financial stability of banks and its evaluation are devoted to the work of A.M. Moroza, A.M. Gerasimovych. V. Mishchenko.

Research information base is the data from the State Committee of Statistics of Ukraine, the National Bank of Ukraine, the Association of Ukrainian Banks, and other statistical sources.

Implementation of the proposals and recommendations presented in the work will increase the efficiency of capital formation and use of Ukrainian banks and increase the financial security of each bank and the banking system as a whole.

CHAPTER 1.
THEORETICAL BASIS OF BANKING CAPITAL FORMATION

1.1. Theoretical foundations of determining the economic essence of the bank's capital

In order to implement functional activities, banks must have a certain amount of cash at their disposal. The bank's resources are a set of funds at its disposal and used to perform active operations. Operations with which commercial banks form their resources are called passive [2].

The concept of "bank capital" is quite often used by Western and domestic economists when talking about the banking system and the economy's supply of resources. However, it should be noted that there is no consensus on its definition in the economic literature. The ambiguity and diversity of interpretations stems from disagreements and uncertainties in the interpretation of the concept of "capital".

In different periods of social development, economists interpreted the concept of "capital" in their own way. Mercantilists believed that capital is formed as a result of a certain use of money, which brings additional funds [5].

The opposite opinion was held by the physiocrats, who believed that money does not create money; additional capital is formed as a result of production labor, to which they attributed only labor related to land [2].

Adam Smith considers capital to be accumulated, i.e., the capital remaining after consumption, stock. Accumulation of capital creates prerequisites for increasing labor productivity as a result of its further redistribution. Based on this, A. Smith divided capital into fixed and circulating capital. He attributed money to the latter [40].

D. Ricardo defined capital as accumulated labor, since capitalists pay their workers only part of the created surplus value [5].

K. Marx believed that capital is not a thing that is expressed in capital goods, but a certain relationship between a capitalist and a hired worker. At the same time, he claimed that capital is a self-increasing value [13]. K. Marx divided capital into used (otherwise it does not bring profit) and consumed (direct costs of production or cost).

Analyzing the above views on the concept of "capital", it can be defined as a value that can be expressed both in monetary and tangible form (means of production, products of past labor, objects of labor), which as a result of its movement creates additional value.

The complexity and multifacetedness of the "capital" category affects the interpretation of the essence of bank capital. According to F. Myshkin, capital is the difference between the sum of assets and liabilities, which forms the bank's net assets. These funds are mobilized through the sale of new shares or retained earnings. An important component is also the reserve in case of non-repayment of loans [40].

A similar point of view is supported by P. Rose, who refers to bank capital the funds contributed by bank owners, namely: share capital, reserves and retained earnings [78]. So, it can be stated that P. Rose equates bank capital with own capital. J. Sinki (junior) considers the ability to compensate for losses arising from banking risks to be the main function of bank capital. Losses can be absorbed first of all at the expense of own capital [21].

So, we can conclude that F. Myshkin, J. Sinki and P. Rose interprets the concept of bank capital primarily as the bank's own capital.

In the dictionary of banking terms, Rosenberg adds long-term debt to bank capital, in addition to equity capital [36]. Financial dictionary edited by A.G. Zavgorodnyi defines bank capital as a set of monetary capitals (own and borrowed) that the bank operates with, which in turn bring profit [2].

The universal business dictionary equates bank capital with the bank's financial resources. According to the dictionary, bank capital is the aggregate monetary capital raised by the bank from various sources, and used by it to conduct banking operations and forms the bank's financial resources [40].

Table 1.1

Basic approaches to the interpretation of the concept of "bank capital"

No	The authors	The essence of the approach to the interpretation of the concept of "bank capital"
1	2	3
1	F. Myshkin P. Rose J. Sinky (junior)	Bank capital primarily includes own capital, which must compensate for losses arising from risks
2	D. Rosenberg	Bank capital consists of equity capital and long-term debt
3	A.G. Zavhorodniy, H.L. Wozniuk, T.S. Smovzhenko	Bank capital is a set of funds (own and borrowed) with which the bank operates and which generate income
4	L.Sh. Lozovsky, B.A. Reisberg, A.A. Retnovsky	They identify the concepts of "bank capital" and "bank resources"
5	A.M. Moroz	Bank capital is defined as the bank's resources, which are used to conduct banking operations for the purpose of making a profit

In the encyclopedia of banking, the concept of "bank capital" is considered as a collection of various types of monetary capital, funds that the bank uses in the form of banking resources to ensure its activities, perform various banking operations and obtain profit [13].

In the regulatory documents of the National Bank of Ukraine, bank capital is considered as the residual value of the bank's assets after deducting its liabilities [2]. He expressed a similar opinionF. Myshkin, defining the bank's capital as "net assets equal to the difference between the sum of the bank's assets and liabilities" [78]. In this interpretation, only the accounting approach to clarifying the essence of the bank's capital, mostly only its component - equity capital, which is actually calculated and used in further calculations of economic and financial indicators of the bank's activity, is clearly revealed. So, we can conclude that some scientists identify the concepts of "bank capital" and "bank resources".

The results of the above analysis allow us to identify five main directions that unite the views of a certain group of economists regarding the definition of the concept of "bank capital" (Table 1.1).

Bank capital performs three main functions: protective, operative and regulatory (Fig. 1.1.). In addition, capital enables the bank to attract additional financial resources on the market, ensure liquidity and reduce risks.

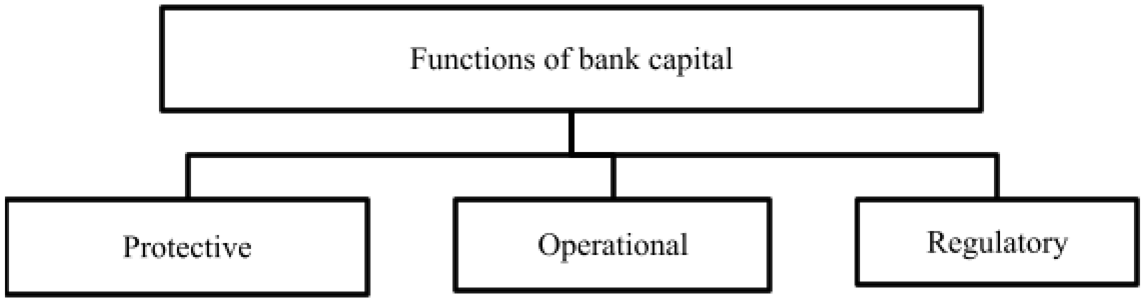


Fig. 1.1. Functions of bank capital

The protective function of the bank's capital is to preserve the bank's solvency and ensure the interests of shareholders and depositors in the event of the bank's liquidation. Although most of the bank's losses are covered by the current income of the bank, and not by the capital, the capital still plays the role of a protective "cushion". It enables the bank to maintain its solvency and continue its activities even when the bank has suffered significant losses that cannot be covered by current revenues.

The operational function of capital is of great importance at the initial stage of the bank's operation, when premises, equipment, etc. are purchased at the expense of own capital. In the further operation of the bank, the operational function of capital is not as decisive as the protective or regulatory function.

The regulatory function of capital is the embodiment of state policy in the field of banking, which is primarily aimed at protecting the interests of depositors and ensuring the stability of the banking system as a whole.

The bank's capital is sufficient if it ensures reliability, financial stability of the bank and provides an opportunity to absorb risks and maintain solvency in a difficult situation. A bank that invests in riskier assets should have a larger amount of own capital to absorb the relevant risks if necessary. Since different banks assume different levels of risks, the amount of equity capital sufficient for successful operations should be determined taking into account the riskiness of the bank's active and off-balance sheet operations. It is the adequate quality of assets that can ensure the bank's timely fulfillment of its obligations to depositors, creditors and shareholders [6].The extremely complex essence and multifaceted manifestation of bank capital make it difficult to understand the mechanism of its functioning. A deeper understanding of the very concept of "bank capital" and the mechanism of its functioning is facilitated by the division of bank capital into separate components with subsequent grouping of them according to homogeneous characteristics, i.e., its classification. Bank capital can be classified according to various characteristics, depending on the goals and tasks that are set. It should be borne in mind that, mobilizing the free funds of some market subjects and transferring them in various ways to other subjects, banks always pursue the main goal of their activity - making a profit.

Table 1.2.

Classification of types of bank capital

Types of bank capital	
1	2
Place of mobilization	Mobilized by the bank itself
	Purchased from other banks
The possibility of forecasting the amount of bank capital	Amenable to indirect forecasting
	Amenable to direct forecasting

Term of stay at the disposal of the bank	Own bank capital
	Term bank capital
	Bank capital on request
Residency	Foreign banking capital
Form of ownership	Private banking capital
	Collective bank capital
	State banking capital
Organizational and legal form of raising capital by the bank	Equity bank capital
	Equity bank capital
Form of involvement	Bank capital in monetary form
	Bank capital in tangible form
	Bank capital in the form of intangible assets
The economic content of the reflection in the bank's balance sheet	Own bank capital
	Indebtedness to the NBU and budget institutions
	Indebtedness to other banks
	Own debt securities
Source of education	Own bank capital
	Involved bank capital
	Borrowed bank capital

We also note that the issue of the classification of bank capital is debatable and insufficiently covered in the economic literature. For the most part, one or more criteria are used for this purpose, mainly a sign of ownership, with a distinction between own and borrowed capital [4,6]. One cannot agree with such an approach, as it significantly limits the possibilities of learning the essence, regularities of the formation and functioning of bank capital.

It is possible to better understand the essence of bank capital by classifying it according to various characteristics (Table 1.2). Let's limit this classification to only those features that, in our opinion, are directly related to the formation of bank capital for the purpose of carrying out banking activities.

Bank capital mobilized directly by the bank and acquired by it from other banks are distinguished by the place of mobilization. A greater share of bank capital is mobilized by the bank itself, in particular by issuing its own securities, attracting funds for deposits. Banks use this share of bank capital mainly for profit. In order to promptly meet additional needs in cash, maintain their solvency, and fulfill regulatory requirements of the central bank, banks resort to borrowing money mobilized by other money market entities. Such borrowing, in particular, takes place by obtaining loans both from other commercial banks and from the central bank.

According to the possibility of predicting the amount of bank capital, it is advisable to distinguish capital that can be predicted directly and indirectly. The first includes cash, in relation to which the bank can directly predict the dynamics or turnover and use a certain portion of which (stable balances) to carry out active operations and/or provide services. Statutory capital, reserve capital, retained earnings, time deposits, etc. are subject to direct forecasting, and indirectly - funds that are formed periodically and/or episodically as a result of individual banking operations and/or the provision of services, the dynamics of which are difficult to predict in advance. Such funds include, for example, balances on current accounts of certain categories of their owners, funds in accounts, some other types of bank resources.

According to the term of being at the disposal of the bank, the capital is divided into own capital, term capital and demand capital. The bank's own capital is constantly at the bank's disposal during the entire period of its operation. Term bank capital includes term deposits, received interbank loans, funds mobilized through the issuance of the bank's own debt obligations, etc. Bank capital at the request includes, in particular, funds on current, budget and card accounts, funds in settlements.

Based on residency, a distinction is made between national bank capital, which is formed and owned by legal and natural persons — residents of the country, and foreign, formed and owned by non-resident legal and natural persons. This classification of bank capital is primarily used in the process of forming the authorized capital of the bank. National banking capital accounts for the greater share of Ukraine's banking capital, but the current state of the country's economic development suggests the feasibility of attracting foreign capital.

According to the form of ownership, bank capital is divided into: private, based on the ownership of an individual; collective, based on the property of the collective, various types of business associations and enterprises; state, which belongs to the state by property rights. This classification feature is mainly used in the process of forming such a component of the bank's own capital as the authorized capital.

Depending on the organizational and legal form of attracting bank capital, a distinction is made between equity capital and share capital. Joint-stock banking capital is formed by banks created in the form of joint-stock companies of open and closed types. Such banks have ample opportunities to attract funds for capital formation from external sources. Equity banking capital is formed by banks created in the form of cooperative banks and limited liability companies [6].

According to the form of attraction of bank capital, the following types are distinguished: capital in monetary form; capital in tangible form; capital in the form of financial assets; capital in the form of intangible assets. In domestic banking practice, the formation of bank capital is provided mainly in monetary form, and the formation and increase of authorized capital can be carried out exclusively through monetary contributions. It should also be noted that bank capital in monetary form is formed in national and foreign currency.

Thus, the structure of bank capital is not homogeneous in its composition and includes core and additional capital.

The bank's capital is the basis of the financial potential on which its functioning is based. The financial stability of a banking institution and the rate of growth of the banking system as a whole depend on the formation, functioning and assignment of bank capital.To achieve this stability, banks should try to increase their own capital, especially in the conditions of the transformation stage of economic development.

1.2. Sources of formation and replenishment of the bank's capital

The current stage of development of the banking system is characterized by the destabilization of the financial condition of banks. Unlike the problem of stability of other economic entities, the problem of stability of banks has its own characteristics, which are manifested in the sources of formation of their financial resources, etc.

The bank's equity (funds) is money contributed by shareholders (founders of the bank), as well as funds generated in the course of the bank's further activities. Compared to enterprises in other spheres of activity, the equity capital of a commercial bank occupies an insignificant specific weight in the total capital (approximately 8-10%), while in industrial enterprises this indicator is 40-60%. In commercial banks, equity has a different purpose than in other areas of entrepreneurship. If in the latter it is ensuring the solvency and performance of most operational functions of enterprises and organizations, then the commercial bank's own capital serves primarily to insure the interests of depositors and to a lesser extent - to financially support its operational activities.

The amount of equity capital is an important factor in ensuring the reliability of the bank's operation and should be under the control of the bodies that regulate the activities of commercial banks. One of the requirements that the National Bank of Ukraine puts forward to commercial banks is to increase the level of capitalization, which helps to increase the level of financial stability and reliability of the banking system of Ukraine as a whole.

Taking into account the sources and order of formation, the bank's capital consists of authorized capital, reserve capital, special funds, retained earnings, subordinated debt:

– The bank's charter capital is formed from the bank's equity or private capital during the organization of a new bank by accumulating contributions or issuing and selling shares. Issuance of shares as a form of creation and replenishment of the authorized capital of the bank is regulated by the Laws of Ukraine "On Business Societies", "On Securities and the Stock Exchange";

– reserve fund of a commercial bank. These are monetary resources reserved by the bank to cover unforeseen expenses, cover losses from banking activities, and also pay dividends on preferred shares if there is not enough profit. The availability of funds in it ensures the reliability and stability of a commercial bank, reduces the probability of its bankruptcy. The size of the reserve fund and annual contributions to it is established by the shareholders' meeting and fixed in the founding documents, but it cannot be less than 25% of the regulatory capital, and the amount of deductions - less than 5% of the net profit. When the reserve fund reaches the set value, deductions to it are stopped. In the case of using funds from the 1st reserve fund, deductions from the net profit for its formation are renewed;

– special funds (fund of fixed assets, revaluation fund of fixed assets, etc.) are intended for the industrial and social development of the bank. The procedure for the formation and use of these funds is determined by the statutory documents of the bank. These funds are formed at the expense of profit. An element of reserve capital is general reserves intended to cover possible losses in bank operations, their difference from the reserve fund is that they have a more specific purpose (for example, a reserve to compensate for possible losses in bank credit operations is created to cover bad debt in loan operations);

– retained earnings is a source of domestic origin. It is created as a residual profit after paying dividends, deductions to reserve and other funds. Since the amount of all deductions (except dividends) is determined in advance, the balance of retained earnings for the past year depends mainly on the amount of dividends that must be paid to shareholders;

– subordinated debt is ordinary unsecured debt capital instruments that, according to the contract, cannot be withdrawn from the bank earlier than 5 years, and in case of bankruptcy or liquidation, they are returned to the investor after the claims of all other creditors have been paid. At the same time, the amount of such funds included in the capital may not exceed 50% of the size of the fixed capital with an annual decrease of 20% from its initial value during the last 5 years of the agreement [53].

The amount of own capital is determined by the bank independently, but taking into account the following factors:

– requirements of the NBU regarding the minimum amount of authorized capital;
– nature of active operations. The presence of a significant amount of risky operations requires a relatively larger amount of equity capital;
– the specificity of the clientele.

With a significant number of small depositors, less own funds are required than with the presence of large depositors. The Ukrainian method of determining bank capital and calculating its adequacy stems from the recommendations of the Basel Committee. These recommendations were developed in December 1987. According to them, the bank's capital is divided into (Fig. 1.2):

– main (I level capital);
– additional (level II capital).

The basic capital of the bank includes paid-up and registered authorized capital and disclosed reserves, which are created or increased at the expense of retained earnings, premiums to the share price and additional contributions of shareholders to the capital, the general risk coverage fund, which is created for an uncertain risk when conducting banking operations, with the exception of losses for the current year and intangible assets.

Additional capital of the bank includes:

– undisclosed reserves (such reserves are not reflected in the bank's published balance sheet);
– revaluation reserves;
– fish of the current year;
– subordinated debt;
– the result of the revaluation of the authorized capital.

At the same time, the additional capital cannot exceed 100% of the main capital [78].

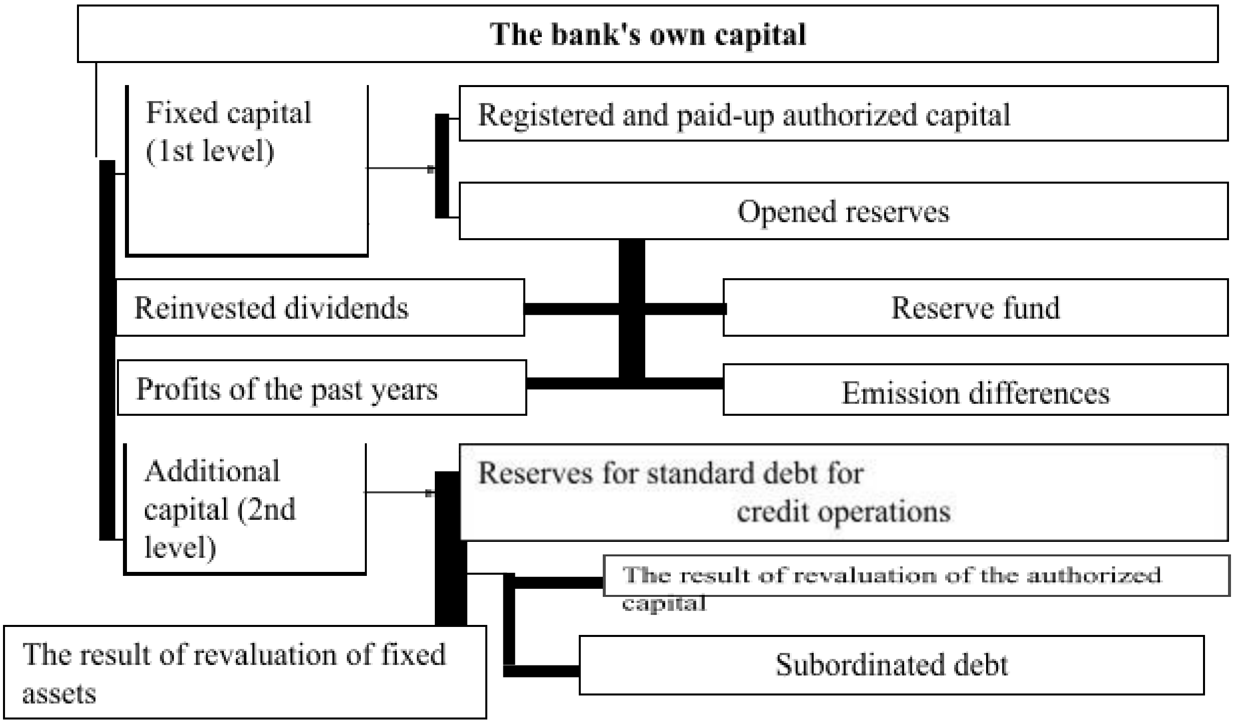


Fig. 1.2. Classification of bank equity components [78]

In order to determine the size of the bank's regulatory capital, the total size of Tier I and II capital is additionally reduced by the book value of such assets as: shares and other securities with unfixed income in the bank's portfolio for sale and investment; Investments in the capital of institutions in the amount of 10 percent or more of their authorized capital and in subsidiary institutions; funds invested in other banks on the terms of subordinated debt.

The main objective of the banking capital management process is to attract and maintain a sufficient amount of capital to expand operations and create protection against risks. The amount of capital determines the amount of active operations of the bank, the size of the deposit base, the possibility of borrowing funds on financial markets, the maximum amount of loans granted, the size of the open currency position and other important indicators that significantly affect the bank's activities. For Ukrainian banks, the issue of increasing the capital base remains relevant, and for most of them the goal of capital management is to replenish it.

In banking practice, two methods of capital replenishment are used:

– the method of internal sources of capital replenishment;

– the method of external sources of capital replenishment.

According to the first method, the main source of capital growth is the retained earnings of the bank. Reinvestment of profits is the most acceptable and relatively cheap form of financing for a bank that seeks to expand its activities. This approach to increasing the capital base does not expand the circle of owners, and therefore allows to preserve the existing system of control over the bank's activities and avoid a decrease in the yield of shares due to an increase in their number in circulation.

The net profit remaining at the bank's disposal after paying taxes can be directed to the fulfillment of two main tasks: 1) ensuring a certain level of dividend payments to shareholders; 2) sufficient financing of the bank's activities. Consequently, the bank's dividend policy has a significant impact on the possibilities of expanding the capital base at the expense of internal sources.

The task of management is to determine the optimal ratio between the amount of profit directed to capital replenishment and the amount of dividend payments to the bank's shareholders. A low level of dividends leads to a decrease in the market value of the bank's shares and encourages the owners to sell them, which means an outflow of equity capital from the bank. Such a dividend policy does not encourage potential shareholders and may create problems in raising capital in the future, as shares with low dividends will not be in demand in the market [20].

A high level of dividend payments attracts shareholders, but slows down the process of capital accumulation. This restrains the growth of the volume of active operations that generate the bank's income and increases the overall level of risk. A decline in bank reliability can also cause capital outflows due to shareholders selling their shares, which become too risky. Dividend policy affects not only internal sources of capital replenishment, but also external ones, because the possibilities of additional capital attraction are largely determined by the size of dividends.

The optimal dividend policy is one that maximizes the market value of the bank's shares. The return on bank shares should not be lower than the return on other types of investments with the same level of risk. In developed countries, the average rate of return on bank shares is 14-17%.

One of the important factors influencing the bank's ability to attract capital in the future is the stability of the dividend policy. In order to maintain a stable level of dividend payments, banks have recently been directing an increasingly large part of their profits to pay dividends on shares. This is connected both with the increase in demands from shareholders and with the tendency of the general decrease in the profitability of banking activities. Thus, during the last decade, about 80% of the net profit received by US banks was directed to the payment of dividends. This situation prompts bank managers to look for external sources of capital replenishment.

Advantages of the method of internal sources of capital replenishment:

– independence from market conditions;
– there are no costs for attracting capital from outside;
– ease of use, as funds are simply transferred from one accounting account to another;
– there is no threat of loss of control over the bank by the shareholders.

Disadvantages of the method of internal sources of capital replenishment:

– full taxation, since the net profit after paying all taxes is directed to capital replenishment;
– the emergence of the problem of reducing dividends;
– slow accumulation of capital.

Attracting capital from external sources is possible in several ways:

– issue of shares;

- issue of capital debt obligations (subordinated debt);
- sale of assets and lease of real estate[67].

The management of the bank resorts to external sources of growth of the capital base in the case when it is necessary to ensure the quick receipt of large amounts of funds. For example, in conditions of hyperinflation, the capital of banks quickly depreciates and the profit may not be enough even to compensate for losses. If the banking supervisory authorities revise the capital adequacy norms, then the bank's management faces the task of quickly and significantly increasing the capital, which is possible only at the expense of external sources.

The most popular external source is the issue of common and preferred shares. Issuance and placing on the market of bank shares is the most expensive method of raising capital in terms of cost. Such a procedure is associated with high costs and is accompanied by significant risk, which is associated with a possible decrease in earnings per share and loss of control over the bank by shareholders. If the issue of shares is significant and the shareholders are not able to buy all the new shares, the banks face the threat of a change of owners due to the concentration of the controlling stake. At the same time, the expansion of the circle of shareholders creates favorable conditions for attracting additional funds in the future.

When planning the issue of shares, the bank's management must weigh its options and assess whether a sufficient level of profitability will be provided to maintain a stable level of dividends. If this cannot be achieved, the bank's shares will depreciate in value. The legislation of most countries provides for state registration of the issue of securities, which includes bank shares. Registration may be refused if financial abuse and fraud, overdue debts to the budget and creditors, unprofitable activities are detected. This procedure is also valid in Ukraine. Therefore, not all banks have access to such a source of capital replenishment as the issue of shares.

Capital debt obligations are long-term loan funds invested in the bank by external investors. The emission can be carried out in the form of long-term securities or debt obligations. It is assumed that such obligations of the bank have a subordinate character, that is, in the event of bankruptcy, they are secondary compared to the obligations to depositors, but have priority over shareholders in the event of establishing the regularity of payments. Although by their economic nature, subordinated liabilities for the bank are loan funds that will eventually need to be returned to the owners, but given the sufficiently long period of their use and the possibility of exchange for bank shares, such funds are equated to own funds. In addition, banks can use this source indefinitely, repaying the previous debt at the expense of a new issue.

Subordinated bonds are less risky than bank shares, so they have a lower rate of return. For the bank, this is a cheaper source of capital replenishment compared to the issue of shares. For the most part, capital obligations are issued for 10-15 years at a fixed rate or on a discount basis, when income is provided due to the growth of their exchange rate value.

Subordinated obligations can be convertible when the conditions of issue provide for the possibility of their exchange for bank shares in the future.

Convertibility increases the attractiveness of such obligations, as it gives the right to purchase shares at the most favorable moment [78].

Banks can also issue securities that are redeemable only through exchange for shares. The attractiveness for the bank of this method of raising capital is determined by taxation rules, when interest payments on such debt are charged to the bank's expenses and are not taxed. But not all banks can use this source of capital replenishment, since its availability largely depends on the banking legislation of a particular country. Domestic commercial banks have the right to issue bonds only on the condition that all their issued shares are paid, but many banks cannot bring the authorized capital to the minimum size. Therefore, bank bonds in Ukraine have not become widespread and cannot be considered as a real source of bank resources.

It should be noted that even in developed countries with strong financial markets, subordinated liabilities constitute a relatively small part of bank capital.

Such a source can be successfully used only by large banks that enjoy the trust of investors. Most securities dealers refuse to deal with issues of small banks because of the high costs and risk [16].

The advantage of the method of replenishing capital by issuing subordinated obligations is to increase the profitability indicators per share, provided that the resources obtained in this way bring income that exceeds the interest payments on them. But this method of capital formation reduces the stability of the bank (the ratio of own and borrowed funds) and increases risk, which can negatively affect the price of the bank's shares.

In order to replenish capital and obtain significant cash, banks resort to such financial operations as the sale of assets, in particular, buildings, structures, and offices belonging to the bank, with the simultaneous long-term lease of them from new owners. Such operations become successful under conditions when, due to inflation, the market value of property increases, and accelerated depreciation of real estate is allowed by law. More often, banks create fixed assets revaluation reserves to cover the difference between their market and book value. Shares are issued for the amount of revaluation of assets, which are placed free of charge among the bank's shareholders, increasing their share of ownership. Such an operation of capitalization of reserves and revaluation of assets is called a bonus issue. It increases the amount of capital without dispersing ownership and without increasing the risk of loss of control over the bank by shareholders [20].

The choice of the method of attracting capital from external sources should be based on the results of a deep financial analysis of alternative options and their potential impact on the amount of profit per share.

Bank management needs to consider the relative cost and risk associated with each source, government regulation methods and availability, as well as assess long-term prospects and implications. For domestic banks, the issue of shares is actually the only external source of capital replenishment [6].

The advantages of this method are the ability to quickly receive significant sums of money, as well as to improve the bank's position in attracting funds in the future.

But this approach has a number of significant disadvantages that should be taken into account:

- high cost;
- difficulties of placing shares on the market;
- a significant increase in the risk of a decrease in earnings per share;
- weakening of control over the bank by shareholders, if they cannot buy all the shares of the new issue themselves.

Commercial banks should plan their activities in terms of capital replenishment. The planning process includes the following mandatory stages:

- development of the general financial plan of the bank's activities;
- determination of the amount of capital necessary to expand active operations, increase their riskiness (if the bank pursues an aggressive policy), meeting the requirements of banking supervision bodies;
- determination of the amount of capital that his bank can attract at the expense of retained earnings;
- evaluation and selection of the most acceptable external source of capital replenishment based on the results of the analysis of market conditions, rights and interests of owners, forecasts of the bank's future profitability [55].

Domestic banks feel an increasing need to increase the amount of equity capital, especially after the adoption of relevant resolutions of the NBU, therefore, planning the prospects for the development of the capital base is considered one of the main tasks.

1.3. Methods of assessing and determining the adequacy of bank capital

The amount of bank capital significantly affects the level of reliability and trust in the bank on the part of society. That is why the problems of objective assessment of the amount of bank capital and methods of determining its adequacy remain relevant both in international and in domestic banking practice.

In the process of managing the bank's capital, the method of assessing its value is important. In banking practice, there are several methods of calculating the value of the bank's equity capital (Fig. 1.3).

Book value method. According to this method, all assets and liabilities of the bank are valued in the balance sheet at the value they had at the time of acquisition or issue. The basis is the accounting model, where the amount of the bank's equity is determined from the basic balance ratio:

$$A = L + K, \quad (1.1)$$

where A is assets;

L — obligations;

K is the capital of the bank,

where:

$$K = A – L. \quad (1.2)$$

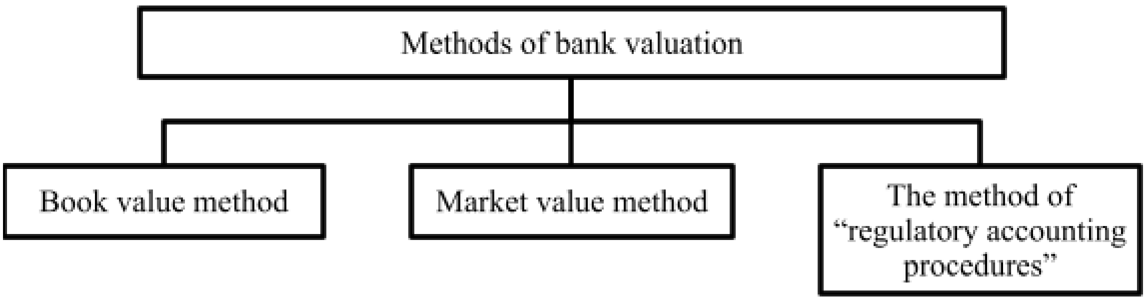


Fig. 1.3. Methods of assessing the value of the bank

Therefore, the bank's capital is calculated according to formula (1.2), based on the balance sheet value of assets and liabilities. This method of capital assessment is acceptable when the book value and market value of the bank's assets and liabilities do not differ much from each other. But over time, the actual value can deviate significantly from the original book value, which leads to an inadequate assessment of bank capital. In periods when loans and securities depreciate, the book value method of capital evaluation does not provide reliable results for determining the degree of protection of depositors against risk.

Market value method. This method consists in the fact that the bank's assets and liabilities are evaluated at market value, based on which the bank's capital is calculated according to formula (1.2). This method of assessing bank capital is the most useful for both investors and depositors, as well as for bank managers. The market value of capital fairly accurately reflects the real level of protection of the bank against the risk of bankruptcy. In addition, the considered valuation method is the most dynamic, since the market value of assets and liabilities, and therefore capital, can change daily. The bank's management is able to roughly estimate the change in the market value of the capital, based on the current exchange rate of the bank's shares and their number on the market.

Capital assessment at market value reflects the real state of the bank and the degree of protection of depositors. But banks are mostly not interested in this approach to determining the amount of capital, as other methods of calculation give more attractive results and contribute to strengthening their position in the market. In addition, it is not always possible to evaluate assets and liabilities at market value, especially in conditions of an underdeveloped market. The method of assessing capital at market value is mostly used by the bank's management for internal needs and control.

The method of "regulatory accounting procedures". The essence of the method is to calculate the amount of capital according to the rules established by the regulatory authorities. The rules are different in different countries, but often this approach is an attempt to make banks more reliable to outside observers. According to the "regulatory accounting procedures" method, the bank's capital is calculated as the sum of a number of components: share capital, retained earnings, reserve funds, in particular to cover credit and currency risks, subordinated liabilities, etc. others This approach has significant drawbacks, which consist in considering debt obligations and reserves to cover losses as the bank's capital. It is for this reason that the method of "regulatory accounting procedures" is criticized by foreign economists [21, 36].

The question of the level of capital adequacy, which would ensure trust in the bank on the part of depositors, investors, creditors and supervisory authorities, is the most controversial in the theory of banking. In the economic literature, this issue is called the problem of capital adequacy. The term "capital adequacy" contains an idea of bank capital as a source of covering losses and reflects the level of reliability and riskiness of the bank.

The objective need to increase the bank's capital is caused by inflationary processes, the expansion of the scale of banking activity and the increase in the level of risk associated with the volatility of financial markets. Because of this, depositors put forward increasingly strict requirements for bank capital. Given the important role that banks play in any society, the regulatory authorities of many countries have established minimum capital adequacy norms (standards) for decades. Bank capital was and continues to be one of the main indicators that are strictly regulated in every country, and since 1988 at the international level [53].

In order to register a bank, it is necessary to ensure the minimum mandatory amount of authorized capital and maintain the established standards of capital adequacy throughout the entire period of activity.

In banking practice, there are various methods of determining capital adequacy (Figure 1.4).

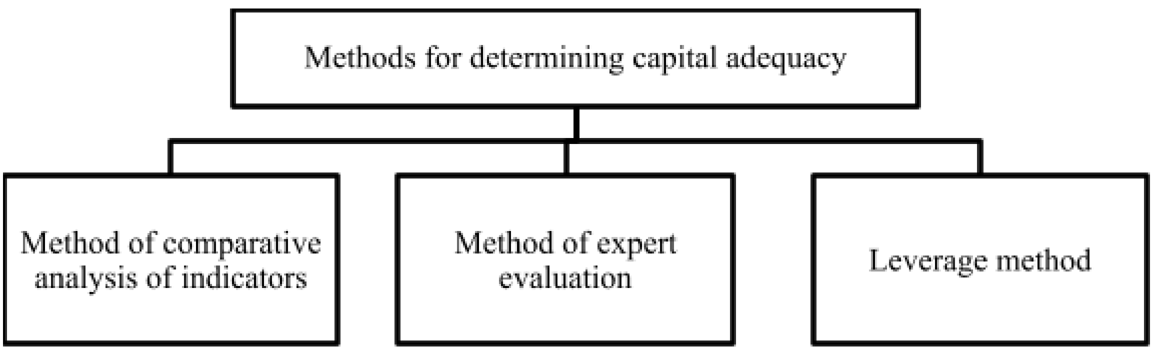


Fig. 1.4. Methods of determining bank capital adequacy

The method of leverage consists in establishing the standard ratio of the bank's own and borrowed funds. For example, if the ratio is set at 5%, it means that the bank's borrowed funds cannot exceed the capital by more than 20 times. Until 1998, the NBU used this method to calculate the bank's capital adequacy ratio. In the USA in 1983, the ratio of equity capital to borrowed funds was 3%.

The leverage method has the following disadvantages:

– no differentiation is made between different types of capital;

– the level of riskiness of active operations is not taken into account;

– off-balance sheet liabilities and associated risk are not taken into account.

In modern banking practice, this method of determining capital adequacy can be used as an auxiliary in parallel with other methods.

Method of comparative analysis of indicators. According to this method, the following indicators are used to assess capital adequacy:

– the ratio of capital to total assets of the bank;

– the ratio of capital to total deposit liabilities;

– the ratio of capital to risky assets, calculated as the sum of all assets except cash and government securities.

Indicator values are constantly monitored and analyzed by regulatory bodies, but standards or limits are not established. Techniques of structural, comparative and dynamic analysis are used in the supervision process. The indicators of a specific bank are compared with similar values of other banks or with industry averages.

Dynamic analysis is intended to identify trends in the change in the size of the capital of the same bank over a certain period of time.

Disadvantages of the method of comparative analysis of capital adequacy indicators are the subjective nature of assessments and conclusions, the lack of generally accepted standards of capital adequacy, and considerable labor intensity.

This method of determining capital adequacy was used in the practice of US banking supervision until the 80s of the last century and turned out to be an ineffective means of influencing capital, since in fact the capital indicators of American banks deteriorated all the time during a long period from the 1930s to the 1980s [53].

The method of expert evaluations. Expert assessments of capital adequacy are based on the use of experts' conclusions about the quality of bank management, the level of profitability and liquidity, the dynamics of the deposit base, the structure of the balance sheet, the riskiness of active operations, regional features of the market in which the bank operates. The method involves studying the activities of each bank in the context of specific market conditions and taking into account the interrelationship of external and internal factors. If the state of the market is characterized by increased risk or the weakness of internal structures is revealed, the bank may be required to increase capital above the minimum level.

The method of expert appraisals can be successfully used to assess the capital adequacy of individual banks, but considering the significant dimensions of the country's banking system and the variety of markets, its application becomes problematic.

Starting from the 60s of the last century, banking activity was characterized by entering international markets and increasing the riskiness of operations. The inconsistency in the rules regulating the capital adequacy of banks in different countries created serious problems related to the protection of the interests of the bank's customers and partners.

To ensure the stability of the international financial system and fairer conditions of competition, in 1987, the Basel Committee on Banking Regulation adopted an agreement on uniform international capital adequacy standards, the "Basel Agreement on Capital Convergence". The Basel Committee consisted of representatives of central banks and regulatory bodies of 12 countries: Belgium, Canada, France, Italy, Germany, Japan, the Netherlands, Sweden, Switzerland, Luxembourg, Great Britain and the USA. Each country took responsibility for bringing its own capital adequacy requirements to international standards.

The Basel agreement is based on determining the capital structure and taking into account the credit risk of assets and off-balance sheet liabilities. The relationship between capital and credit risk is determined, first of all, by the ability of capital to neutralize losses due to the insolvency of borrowers. The main standards of the agreement are common to all banking institutions that have joined it, and the regulatory authorities of each country have the right to independently set the risk factors of assets and determine some components of capital. Thus, the components of second-order capital are regulated by countries independently [57, 77].

The Basel agreement provides for the consideration of credit risk associated with various types of assets and off-balance sheet liabilities of the bank. To calculate risk-weighted assets, each type of bank's balance sheet assets is multiplied by a risk factor that reflects the probability of losses for this type of bank assets. Each element of off-balance sheet liabilities is also weighted by a corresponding risk factor. The sum of all assets and off-balance sheet liabilities, taking into account the level of risks, is called total risk-weighted assets.

The Basel agreement was a step forward on the way to the stabilization of the international financial system and the growth of bank capital. But the Basel agreement does not take into account other types of risks, such as interest, currency, liquidity risk, so the search for new and perfect methods of determining capital adequacy continues.

In Ukraine, the amount of capital of commercial banks is regulated centrally by the National Bank through the establishment of minimum requirements (normatives) for the size and adequacy of capital. The standards established by the NBU meet the requirements of the Basel Agreement.

Work on improving the capital indicators of domestic commercial banks is carried out in two directions: through the establishment of minimum requirements for the absolute amount of regulatory capital in monetary terms and through the definition of relative indicators, such as the standards of adequacy of regulatory capital and adequacy of core capital.

The norm of the minimum size of the bank's regulatory capital (H1) regulates the absolute amount of the capital base, but it cannot be considered sufficient, as it does not take into account the ratio of the bank's capital and assets, as well as the level of riskiness of the bank's active operations. In order to regulate this aspect of banking activity, the NBU established the standard of adequacy of regulatory capital (solvency) of the bank — H2

Regulatory capital adequacy standard (bank solvency standard) H2 is calculated as the ratio of regulatory capital to total assets and off-balance sheet instruments, weighted by the degree of credit risk and reduced by the amount of created reserves for active operations.

For operating banks, the normative value of H2 cannot be less than 8%. The following normative values have been established for banks that are starting operational activities: within 12 months. From the day of obtaining the license — at least 15%; during the next 12 months — at least 12%; in the future - at least 8%. From an economic point of view, the ratio of the bank's capital and risk-weighted assets determines the sufficiency of capital for conducting active operations, taking into account the risks inherent in banking activity. The degree of riskiness of the bank's active operations is determined by the NBU and is revised in case of a change in the economic situation. According to the degree of risk and the probability of losing part of the value, all assets of a commercial bank are divided into five groups [71].

To calculate the value of risk-weighted assets, it is necessary to multiply the total volume of each group of assets by the corresponding risk-weighting factor, and then find the total amount of risk-weighted assets, which is used to calculate the solvency ratio H2.

CHAPTER 2
ANALYSIS OF THE CURRENT STATE OF THE BANKING SYSTEM OF UKRAINE IN THE CONTEXT OF INCREASE IN ITS CAPITALIZED LEVEL

2.1. Analysis of the banking system capital of Ukraine and determination of its adequacy to the needs of the Ukrainian economy development

The development of the banking system during 2014-2022 took place under the tangible influence of the political and economic crisis and difficult macroeconomic conditions. But,the banking system as a whole shows operational profitability, the largest banks have carried out or are carrying out recapitalization to cover the losses incurred, unscrupulous and insolvent banks are withdrawn from the market, the inflow of company and population deposits is recorded. In 2017, the National Bank of Ukraine completes the cleaning of the banking system and begins the next stage - its reboot. During the studied period, the Ukrainian banking system functioned in extremely difficult conditions. The military conflict in the East of Ukraine and the annexation of Crimea, the accumulated external imbalances and the deterioration of the situation on the global commodity markets led to an economic downturn, caused a significant devaluation of the national currency and the rise of inflation.

One of the main regulatory documents of the National Bank of Ukraine, which regulates the activities of banks in Ukraine and establishes a number of regulatory requirements for their performance indicators, is the Instruction on the Procedure for Regulating the Activities of Banks in Ukraine, approved by the Resolution of the Board of the National Bank of Ukraine dated August 28, 2001 No. 368 (as amended and supplement dated August 6, 2024) [67].

As of January 1, 2017, 96 banking institutions (including 38 banks with foreign capital) had a license from the National Bank of Ukraine. Since the beginning of 2016, the number of functioning banking institutions has decreased by 21.As of December 1, 2017, 86 banks were operating in Ukraine (excluding insolvent banks), of which 25 were banks with foreign capital. During 2014-2017, 88 banks were classified as insolvent in Ukraine, almost all of them commercial. Also, at the end of 2016, the largest commercial bank - "PrivatBank" - was nationalized, which became 100 percent state property under the direction of the Ministry of Finance.

Also, starting from 01.06.2016, the Board of the National Bank of Ukraine adopted several decisions on granting consent for the self-liquidation of banking institutions. The first cases of such self-liquidation were PJSC "Finance Bank" and PJSC "Investition-Trust Bank". According to official reports, such decisions were dictated by the desire of the owners to refocus on other types of their specialized activities. On November 18, 2016, PJSC "Finexbank" also announced its self-liquidation. The owners cited the difficult situation on the market of financial and banking services and uncertainty regarding possible directions and sources of further capitalization of the bank as the reason for such a decision.

During the above-mentioned period, the banking license was revoked and the liquidation procedure of 53 banks was started, 34 of which - in 2015, 21 - in 2016, 9 - in 2017. In addition, in 2016, decisions were made to liquidate two banks (PJSC "Bank Sofia" and PJSC "Ukrinbank"), whose licenses were revoked in 2015. In 2017, PJSC CB Investbank and PJSC Rodovid Bank, whose licenses were revoked in 2016, were liquidated [63].

During the year, significant reorganizations took place in the ownership structure of BSU. As a result of the transition of the system PJSC CB Privatbank into 100% state ownership, the share of state banks in the structure of assets of the BSU increased significantly during the IV quarter of 2016 and as of January 1, 2017. answered 52%. The share of banks with private Ukrainian capital was about 13%, banks of foreign banking groups – 35%. Note that in the future, the share of banks belonging to foreign banking groups may decrease as a result of the exit of banking institutions with Russian capital from the Ukrainian market. We will remind, 15.03.2017 The National Bank proposed the application of sanctions against Ukrainian banks with Russian state capital to implement the decision of the National Security and Defense Council of Ukraine.

During 2014-2022, the credit activity of banking institutions was low, which is due to the reduction of the resource base, the deterioration of the creditworthiness of borrowers, and a high level of uncertainty regarding further economic development, which, in turn, forces banking institutions to be more careful about the financial condition of potential borrowers, or at all suspend lending for some time [65].In the current situation, it continues to be characterized by low activity of credit institutions. Among the main factors inhibiting the recovery of lending are a high level of uncertainty regarding further economic development and a limited circle of reliable borrowers.

In connection with the unstable political and economic situation in Ukraine, the ability of many borrowers to fulfill their credit obligations fell sharply. If in the period from 2012 to 2014 it was possible to reduce the share of overdue debt from 9.6% to 7.7%, then in 2016 this indicator is 25.3%.At the beginning of the year, the share of bad loans in the banking system of Ukraine was 44.6%. Updated data show that this indicator continues to grow, and today it is already the highest among European countries.According to the data of the National Bank, according to the results of the II quarter of 2017, the share of such loans reached the maximum indicator - 57.73% or UAH 587.5 billion.The same negative trend can be traced on all financial indicators of banks' activity (Table 2.1).

During the period from 01.01.2012 to 01.01.2022, Ukrainian banks managed to increase their own capital from 155.5 billion UAH to 192.6 billion hryvnias, and regulatory capital from UAH 178.5 billion. UAH up to 205 billion UAH due to the increase, first of all, of statutory funds and subordinated loans. However, due to the liquidation of certain banking institutions and loss-making activities, the amount of banks' equity decreased by 44.58 billion during 2014. UAH and as of 01.01.2015 amounted to 148,023 million UAHIn general, in 2015, the amount of equity decreased by 29.93% (44.3 billion UAH) and as of January 1, 2016 is equal to

107,313 mln. UAHIn view of the significant amounts of recapitalization of a number of banking institutions and the exclusion from the procedure of calculating the statistical indicators of the NBU of banks that were recognized as insolvent, the amount of equity capital of the BSU during 2016 increased by 19.4% and as of 01.01.2017 is 123.78 billion UAH Adequacy of regulatory capital as of January 1, 2017. is slightly higher than the minimum (10%) and is 13%[63].

Table 2.1

The main financial indicators of Ukrainian banks

Indicators	01.01.17	01.01.18	01.01.19	01.01.20	01.01.21	01.01.22
Share of loans in total assets,%	78,28	72,33	71.31	76.42	76, 93	80.07
Share of overdue loans,%	9.6	8,9	7.7	13.5	22.1	22.5
Share of equity in liabilities, %	14.75	15.02	15.07	11,24	8,9	10
Adequacy of regulatory capital	18.90	18.06	18,26	15.60	12.33	13
Return on assets,%	-0.76	0.45	0.12	-4.07	-0.81	0.16
Return on capital,%	-5.27	3.03	0.81	-30.46	-9.70	3.33
The share of foreign capital in the authorized capital of the bank, %	41.9	39.5	34.0	32.5	37.9	54.7

During 2015, 30 banks increased their authorized capital by a total of 48,685.5 million. UAH.: from the 1st group - 8 banks in the amount of 45859.8 mln. UAH (94.9% of the total amount by which the authorized capital of Ukrainian banks increased), from the 2nd group - 6 banks by 802.2 million. UAH (0.94%), from the 3rd group - 6 banks for 1654.4 mln. UAH (3.4%), and from the 4th group - 10 banks for 369.2 mln. UAH (0.76%), including the newly created PJSC "Transitional Bank "RVS Bank", which received a banking license on June 25, 2015. However, "Ukrainian Capital Bank" and "Smartbank" were marked by a decrease in the indicators of the authorized capital. It should be noted that banks of all groups increased their authorized capital mainly for the purpose of expanding their activities or supporting business in case of need, with the exception of some banks of the IV group, such as "Poltava-bank", "Kreditvestbank", "Investbank", "Krystalbank" and " Industrial and Financial Bank", which increased capitalization in order to fulfill the legally established requirements regarding the minimum size of statutory and regulatory capital. In contrast to the negative result of 2015, as of October 1, 2016 is 151,049 million hryvnias. which is more by 40.76% (43 billion hryvnias). This is due to the banks going through the first stage of recapitalization.During 2016, 43 banking institutions increased their authorized capital by a total of 105.72 billion. UAH It should be noted that the shareholders of all groups increased the authorized capital mainly for the purpose of supporting their own business. According to the regulator's reports, as of the beginning of 2016, 19 banking institutions operated in Ukraine, the amount of which was less than 120 million authorized capital. UAH By the end of 2016, the number of such institutions was reduced to three.

In contrast to the positive results of 2012-2013 (income for 2012 amounted to UAH 4,899 million, for 2013 – UAH 1,436 million), where the growth was associated with the completion of formation of reserves for problematic debt by banks, for In 2015-2016, the banking system of Ukraine demonstrated a negative financial result, which amounted to -66,600 million UAHThe total loss of the banking system according to the results of 2016, taking into account working banks and insolvent banks, amounted to UAH 195,658 million, which is a record indicator of losses of the banking system of Ukraine. However, for nine months of 2017, the net profit after taxation of the banking system amounted to 1.41 billion. UAH The resumption of profitable activity took place thanks to the provision by the banks in the third quarter of 2017 of a positive financial result in the amount of 3.25 billion. UAH(Fig. 2.1).

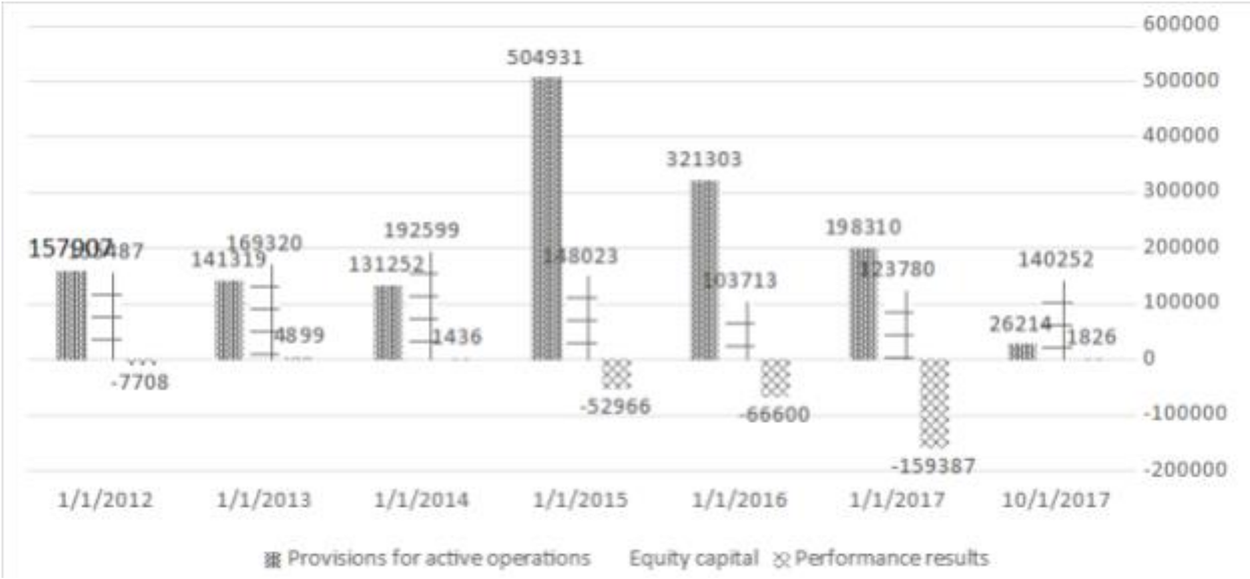


Fig. 2.1. Dynamics of equity capital, reserves for active operations and financial results of banks in Ukraine, mln. UAH

The profitability of the sector was positively affected by a significant decrease in the third quarter of deductions by banks to reserves - 6.18 billion. hryvnias, twice less than the same indicator for the second quarter of the current year. Other positive trends in the third quarter of 2017 include growth in net interest income from retail transactions, as well as net commission income from settlement and cash services. In the reporting period, interest rates on loans to the population decreased slightly, but at a slower pace than the rate of deposits.

Among the groups of banks, state banks demonstrated profitable activity in the nine months of this year - 2.15 bln. UAH (excluding Privatbank) and banks with private capital - 0.91 billion. UAH Banks with foreign capital received a net loss of 0.03 billion. UAH due to the unprofitable activity of banks with state Russian capital, the aggregate financial result of which amounted to -6.28 billion. UAH

At the end of 2016, the revenues of Ukrainian banks, compared to the same period last year, decreased by 4.3% and amounted to 190.69 billion. hryvnias, while expenses increased by 31.7% to UAH 350.08 billion. UAH The financial result of the BSU activity at the end of 2016 was negative and amounted to

(-)159.39 billion. UAH ((-) UAH 66.60 billion for 2015). The decrease in income in 2016 compared to the corresponding period of the previous year is primarily related to the receipt of losses from trade operations (at the expense of losses from trading in foreign currency and bank metals) and the reduction of interest income, the volume of which, compared to the corresponding period of the previous year, decreased by 62% and as of 01.01.2017 corresponded to 8.24 billion. UAH As a result of 2016, the amount of deductions to reserves increased significantly, the amount of which as of January 1, 2017 amounted to 198.31 billion. UAH (according to the results of 2015 – UAH 114.54 billion). It should be noted that the volume of losses of BSU in 2016 significantly exceeded the similar indicator of 2015, mainly due to a significant increase in the amounts deducted to reserves during the IV quarter. 2016 (up to UAH 198.31 billion as of January 1, 2017), due to the implementation of the plan to regulate the activities of PJSC CB Privatbank within the framework of the institution's nationalization process.

At the end of 2016, 31 out of 93 operating banks suffered losses totaling 169.3 billion. UAH Of this amount, almost 80% (135.3 billion UAH) belongs to Privatbank PJSC. In addition to Privatbank PJSC, PJSC "Ukrsotsbank" and PJSC "VTB Bank" were among the three most unprofitable according to the results of 2016. Other banking institutions that ended the reporting period with a positive result received a total of 10.82 billion. UAH profit

Among the most profitable banks last year were exclusively foreign financial institutions - Raiffeisen Bank Aval, Citibank and OTP Bank. At the end of 2016, the top 3 most profitable banks accounted for 57.5% of the total profit received by BSU[63].

Let us consider the dynamics of the liabilities of the banking system of Ukraine in 2012-2017 (Table 2.2). According to the principles of accounting in banks, resources are divided into liabilities and equity.

Table 2.2

Dynamics of the liabilities of the banking system of Ukraine in 2012-2017, mln. UAH

Year	Own capital	Obligations of banks	Passives
1	2	3	4
01.01.2012	155,487	898,793	1,054,280
01.01.2013	169,320	957,872	1 127 192
01.01.2014	192,599	1,085,496	1,278,095
01.01.2015	148,023	1,168,829	1,316,852
01.01.2016	103,713	1,177,717	1,293,104
01.01.2017	123,784	1,132,515	1,256,299
01.12.2017	1,112,359	170,389	1,282,748

The given data indicate an absolute increase in the volume of resources of the banking system of Ukraine: from UAH 1,054 billion in 2011 to UAH 1,316.9 billion. UAH in 2015. The amount of liabilities has been increasing since the beginning of 2014 due to a significant devaluation of the national currency, and the decrease in this indicator in October 2016 was caused by a slight strengthening of the hryvnia exchange rate. At the current moment, compared to the beginning of 2017, the total amount of liabilities of the system has increased by 2.11%, in turn, liabilities have decreased by 84.95%, and the equity of the banking system has increased almost 9 times.

As you know, the main source of banks' resources are borrowed and borrowed funds, which make up about 85% of the total amount of resources, which generally corresponds to global banking practice. Despite this, an important role in the efficient operation of the bank is also played by its own resources. And in a situation when depositors begin to withdraw their deposits en masse, which happened in the period of 2014-2015. the most important value belongs to own capital, which is used to protect depositors and creditors and to cover losses from banking operations [62].

An important component of the bank's resource accumulation policy is the capitalization policy. Bank capital plays a decisive role role in the process of creation and functioning of a commercial bank, although it is insignificant part of bank resources. The amount of capital determines the volume of active operations of the bank, the possibility of borrowing funds on the financial markets, the maximum amount of loans granted and other important indicators that significantly affect bank activity. Today, it is a question of attracting and maintaining a sufficient amount of capital is the main requirement for the domestic banking system, because in the international aspect a high level of capitalization is a sign of the financial stability of the banking system [31].

In recent years, subordinated debt has taken a significant place in the structure of equity capital. The legislation of Ukraine defines subordinated debt as ordinary debt capital instruments not secured by the bank, which, under the terms of the contract, cannot be withdrawn from the bank earlier than after 5 years, and in the case of bankruptcy or liquidation, are returned to the investor after the repayment of the claims of all other creditors (Fig. 2.2) [63].

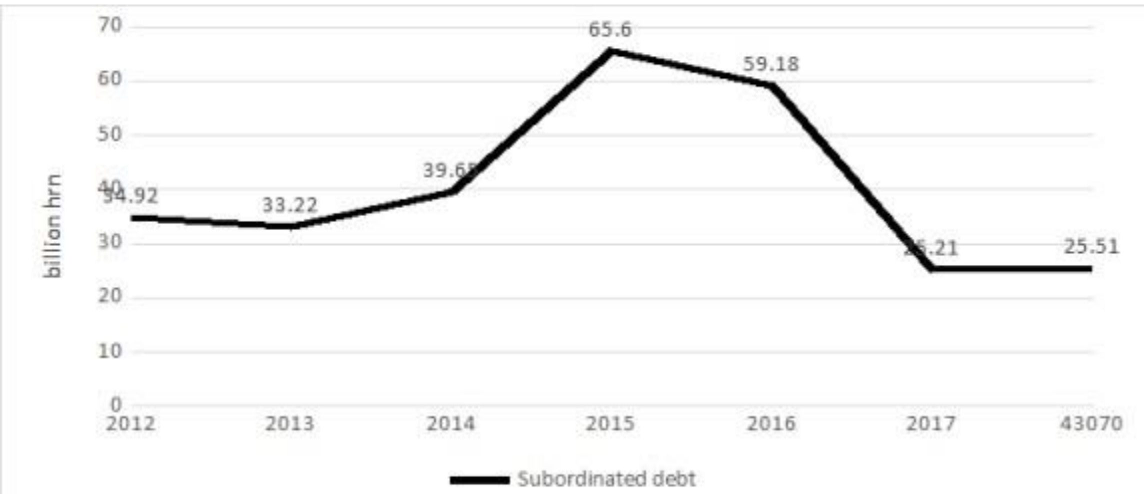


Fig. 2.2. Dynamics of the amount of subordinated debt of Ukrainian banks

At the end of 2015, a rapid increase in the amount of subordinated debt of Ukrainian banks was observed. This figure was 65.6 billion. hryvnias, which is 2 times (by 33.22 billion hryvnias) more compared to 2013. But on December 1, 2017 the situation improved and the subordinated debt decreased to UAH 25.51 billion, which is a positive trend [63]. After all, this indicator grew every year, and the number of liabilities increased only due to exchange rate fluctuations, so there is a significant dependence of banks on subordinated debt, because there is a risk of its non-recovery after the return dates. This risk is associated with a decrease in the amount of capital due to the payment of too large dividends or the bank's return of funds raised on the terms of subordinated debt.

The activities of commercial banks are carried out on the basis of supervision by the National Bank of Ukraine, which approves the relevant legislative and regulatory acts that regulate the activities of banks. After all, the effective and rational organization of analytical work at the macro level is the basis for the implementation of a stable monetary policy in the country.

Therefore, in order to ensure the financial stability of banks and protect the interests of depositors and creditors, the National Bank of Ukraine, in accordance with the procedure determined by it, obliges banks to comply with approved economic regulations.

The effect of economic regulations is regulated by the Law of Ukraine "On Banks and Banking Activity" and the Instruction "On the Procedure for Regulation and Analysis of Bank Activities in Ukraine" No. 368 dated August 28, 2001. The methodology for calculating economic standards is regulated by NBU Board Resolution No. 315 dated June 2, 2009 "On the approval of the Methodology for calculating economic standards for the regulation of banking activities in Ukraine" [23, 67].

Economic standards of bank activity are indicators established by the NBU for the purpose of regulating banking activity on the basis of on-site supervision to monitor the activity of individual banks and the banking system as a whole. The NBU establishes the following economic standards, which are mandatory for all banks: capital standards; liquidity standards; credit risk standards; investment standards.

The National Bank of Ukraine monitors banks' compliance with regulations, therefore, according to the information of the National Bank of Ukraine, which is published on the official website, we will consider compliance with the minimum regulatory capital standard (Fig. 2.3).

This figure shows that solvent commercial banks of Ukraine comply with established standards, because the amount of regulatory capital exceeds the standard value, but has a tendency to decrease in 2014-2015 and increase in 2016-2017. If we take into account the indicators of the banking system as a whole, then standard H1 is not fulfilled and now amounts to 110,793 mln. UAH The National Bank decided to soften the timetable for achieving the minimum amount of statutory and regulatory capital for banks. The relevant decision of the National Bank is based on a detailed analysis of the risks of the banking sector: currently the situation in the financial system has stabilized, and the dynamics of indicators of Ukrainian banks is positive. The capital adequacy of small banks significantly (more than twice) exceeds the regulatory value.

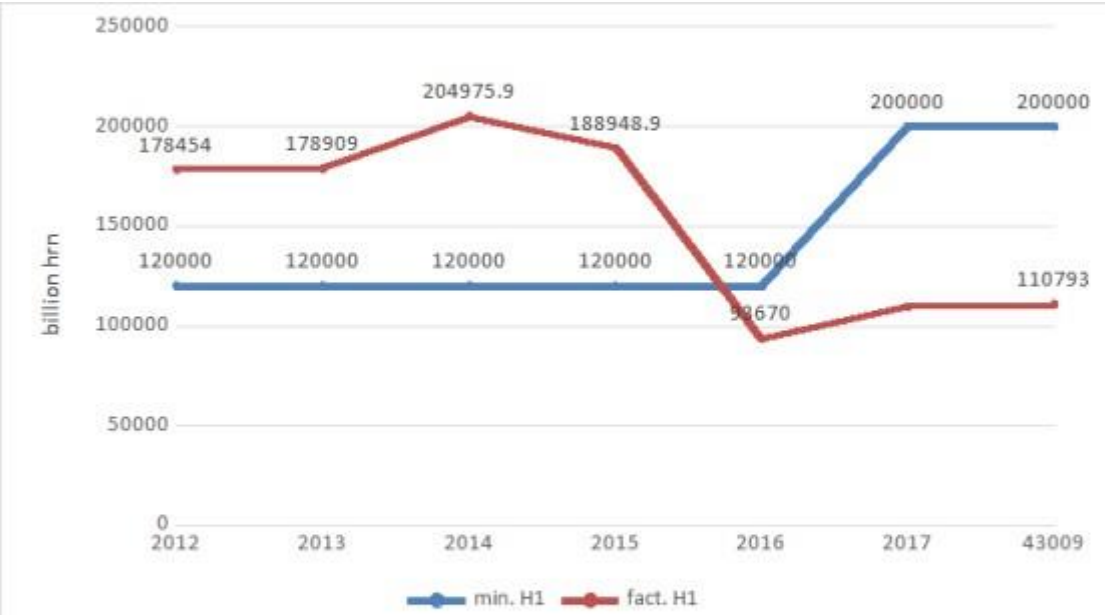


Fig. 2.3. The ratio of actual and normative values of the minimum regulatory capital of Ukrainian banks for 2012-2017

Next, we will evaluate the standard of adequacyregulatory capital/solvency (H2), the normative value of which should not be lower than 10% (Fig. 2.4).

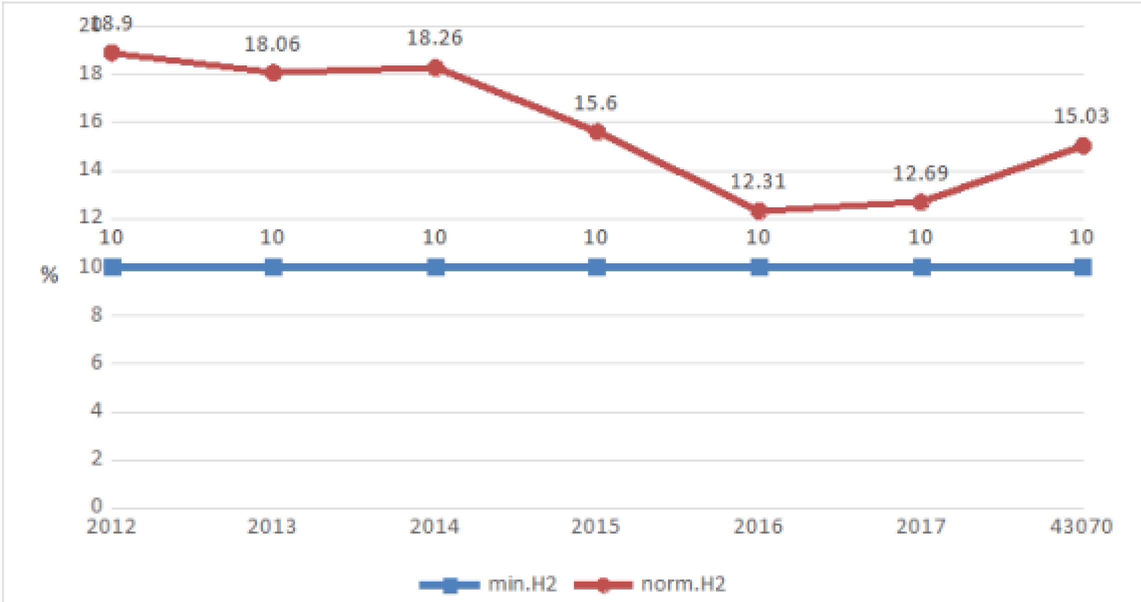


Fig. 2.4. Norm of regulatory capital adequacy of Ukrainian banks for 2012-2017

From this figure, we can see that the actual H2 indicator is higher than the normative value in solvent banks of Ukraine, but there is also a downward trend. This is primarily due to a decrease in regulatory capital. In 2014-2016, this standard decreased in solvent banks of Ukraine from 18.9% to 12.31%, i.e. by 6.49%, but during 2016 it increased to the level of 12.69%. As of January 1, 2017, H2 in the banking system of Ukraine was 15.03%. So, from the above data, we see that during 2016 there was a trend of a sharp decrease in the amount of regulatory capital and a decrease in the value of the standard of regulatory capital adequacy (H2), but in 2017 the situation regarding H2 has improved significantly.

Therefore, we can conclude that the banking system is gradually recovering according to the standards of the National Bank of Ukraine, but with all the positive developments, the level of capital standards of the previous 2012-2013 years is needed to restore the economy.

2.2. Technical and economic characteristics of PJSC "OTP Bank"

OTP Bank JSC was founded on March 2, 1998 as a subsidiary of Raiffeisen Zentralbank Österreich Group (Austria). In 2006, the Bank was acquired by OTP Bank Plc. (Hungary). The acquisition operation was officially approved by the National Bank of Ukraine in October 2006. The Bank's activities are regulated by the National Bank of Ukraine and are carried out in accordance with license No. 191. The Bank's main activities include providing loans and guarantees, attracting deposits from legal entities and individuals, carrying out commercial activities, transactions with securities and foreign currency.

JSC "OTP Bank" is a universal bank, a recognized leader of the financial sector of Ukraine. The bank provides a full range of financial services for corporate and private clients, as well as representatives of small and medium-sized businesses. On the Ukrainian market, it has a solid reputation as a reliable and stable structure that offers consumers products of the highest quality.

3 In 2001, Raiffeisenbank was among the 10 largest banks in Ukraine. At the time of the acquisition, the bank served more than 100,000 clients, providing a full range of banking services to both corporate and private clients, as well as representatives of small and medium-sized businesses. The bank took the 6th place among the banks of Ukraine in terms of the size of assets, capital and credit and investment portfolio, and the 5th place in terms of the size of loans granted to private clients. The network of branches included 40 banking institutions on the territory of Ukraine. The number of personnel was about 1500 people.

Raiffeisenbank was one of the first in the banking services market of Ukraine to start providing the latest services for the Ukrainian market, such as structured trade financing, project financing and other specialized services for large corporate clients.

The high results of the bank's activity were reflected not only in numbers, but also in the assessment of the bank's activity by leading Ukrainian economic publications. So, in particular, according to the results of the financial rating of the newspaper "Business" in 2003 and 2004, Raiffeisenbank took the first places in the nomination "Bank in which you would place a deposit." And according to the results of 2005, the "Business" newspaper named Raiffeisenbank Ukraine the "Best Professional Bank of 2005". Raiffeisenbank Ukraine was recognized as the leader of the financial sector by the no less popular Investgazeta publication for three years in a row. In 2004 and 2005, the leading English-language publication Kyiv Post also recognized Raiffeisenbank as the best bank.

After completion of the acquisition procedure in November 2006, OTP Bank Plc became the 100% owner of Raiffeisen Bank Ukraine. and the bank, accordingly, was renamed OTP Bank. The new owner of the bank is OTP Bank Plc. - is the largest bank in Hungary with a market share of almost 25%.

OTP Bank Plc. was created in 1949. as a state savings and commercial bank. After privatization, which began in 1995, the state's share in the bank's capital was reduced to one preferred ("golden") share, and a large number of private and institutional investors became its shareholders. Currently, 85.9% of OTR bank shares are owned by foreign private and institutional investors.

Today, the Hungarian bank has subsidiary banks in Ukraine, Slovakia, Bulgaria, Romania, Croatia, Serbia, Russia and Montenegro. OTR Group offers high-quality financial solutions to meet the needs of more than 11 million people. clients served in more than 1,000 banking institutions in 9 countries. OTP Group has 18,200 employees.

As a universal banking group, OTR Group in its work with corporate clients in Ukraine focuses on providing highly qualified services taking into account the specifics of the client's business. The development vector of OTR Bank's retail business is the expansion of the network of branches, the increase in the range of services for individuals, the introduction of the most modern electronic technologies for customer service, such as telephone, mobile and Internet banking.

The organizational structure of PJSC "OTP Bank" is shown in fig. 2.5.

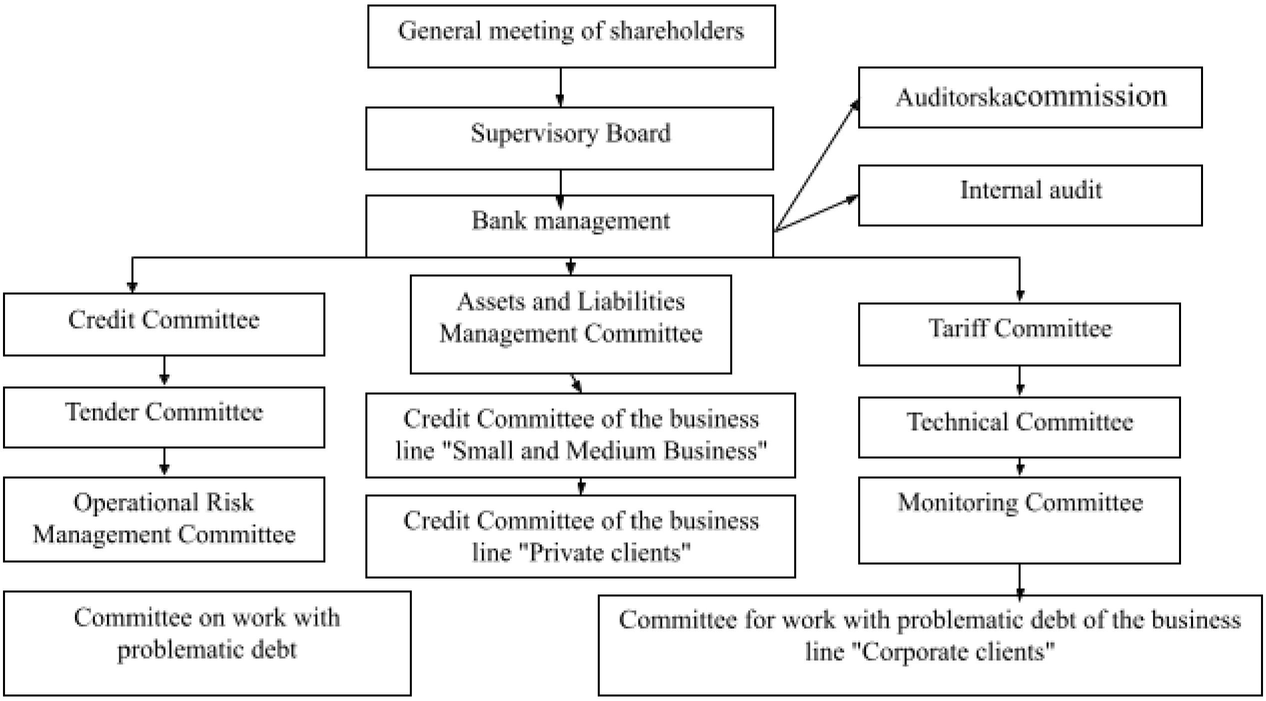
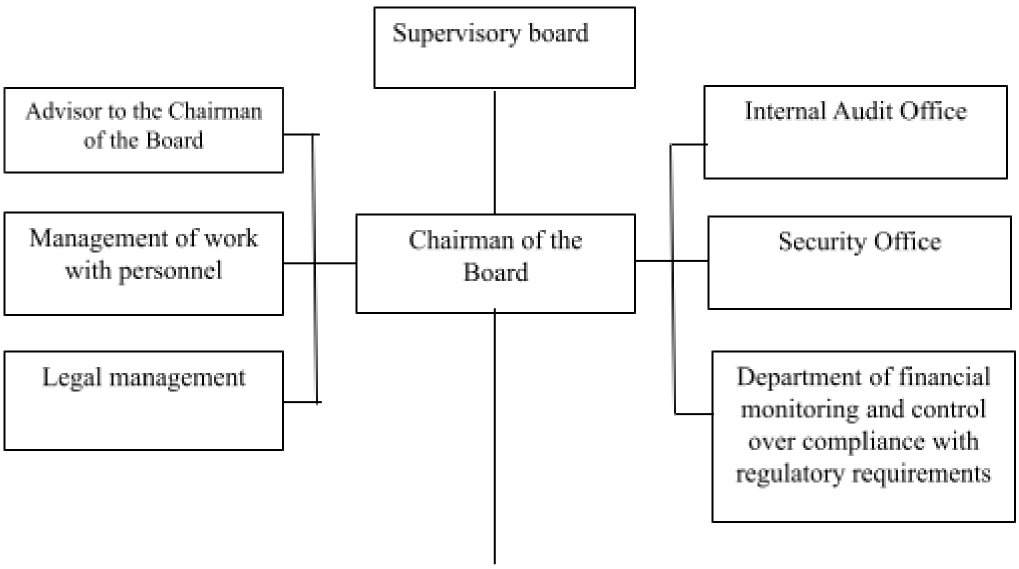


Fig. 2.5. Organizational structure of PJSC "OTP Bank"

OTR Bank aims to continue the traditions started by a team of professionals and further implement European standards of business quality in the banking services market of Ukraine. In 2009, OTP Group successfully coped with all the challenges caused first by the mortgage crisis in the USA, and later by the global financial crisis. The group also performed basic management tasks. Positive indicators of OTP Bank Plc. contributed significantly to maintaining the stability of the Hungarian banking sector. 13.10.2008.

The general structure of bank management is shown in fig. 2.6.



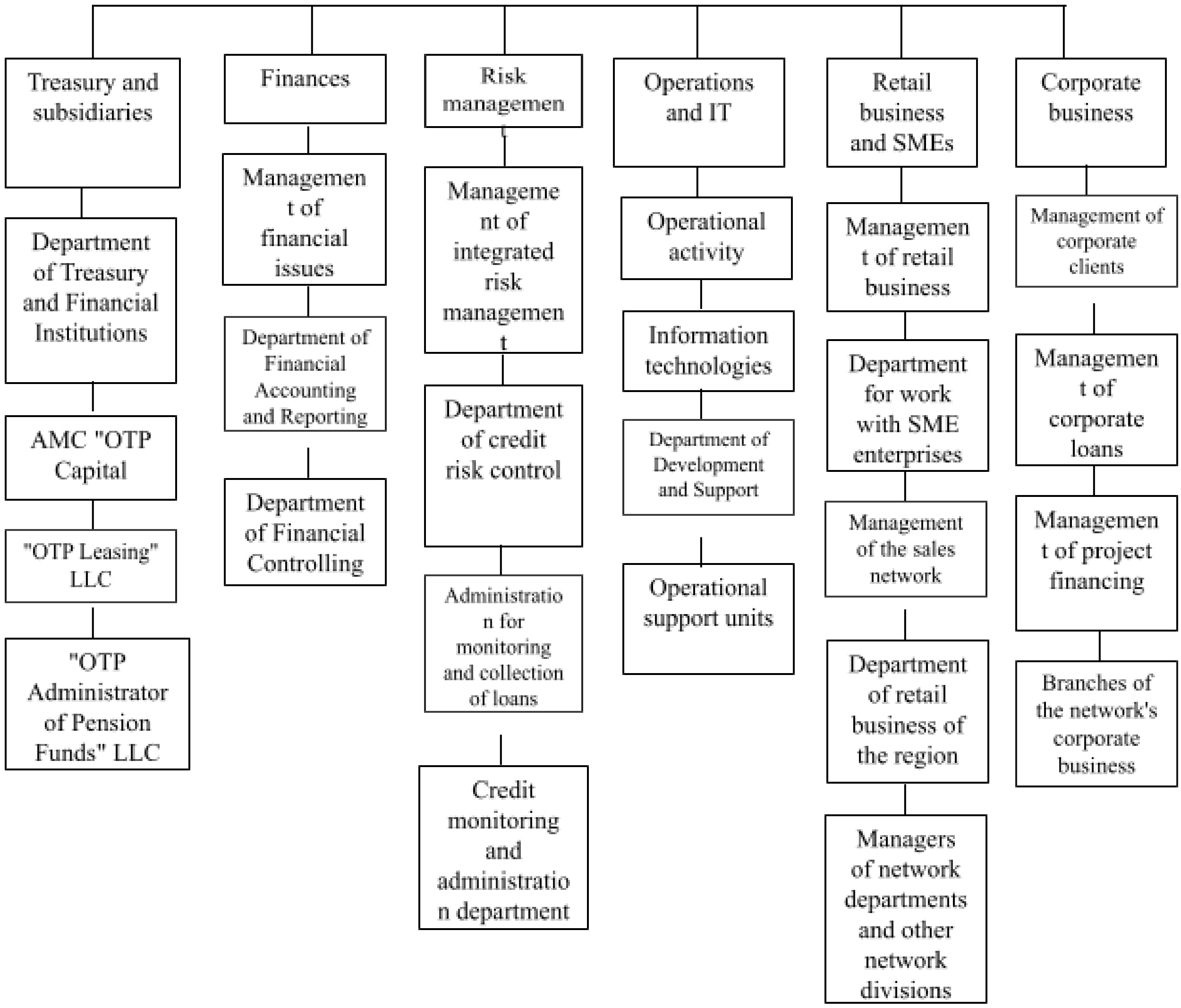


Fig. 2.6. General management structure of JSC "OTP Bank"

OTP Bank became the winner in the "Best Financial Sector Company" nomination of the "TOP-100" rating. The best companies of Ukraine", presented by the business weekly "Investgazeta".

2.3. Analysis of the efficiency of capital management on the example of PJSC "OTP Bank"

Since the beginning of the financial crisis, which has been going on for almost two and a half years, Ukraine has lost almost a third of its banking system.

The Board of the National Bank of Ukraine, February 4, 2016. adopted Resolution No. 58, by which changes were made to the schedules for banks to bring their statutory and regulatory capital to the minimum amount stipulated by banking legislation. According to the Law of Ukraine "On Banks and Banking Activities", the minimum amount of authorized capital at the time of state registration of a bank cannot be less than 500 million. UAH

For already operating banks whose authorized capital does not meet this requirement, the National Bank has developed a schedule for gradually bringing its size up to compliance with the requirements. According to the legislation, the authorized capital of banks must be at least 120 million. UAH until June 17, 2016 and gradually increased to the level of 500 mln. UAH until July 11, 2024.

Thus, starting from 2017, banks should accelerate the schedule of increasing the minimum capital. This will make it possible to increase their financial stability and ability to withstand risks. In addition, the increase in capital will make it possible to start the recovery of lending to the economy, which is one of the factors of accelerating the economic growth of the country.

For two years now, the National Bank has been conducting the most thorough diagnosis of the quality of assets and capital needs of banks in the entire history of the Ukrainian banking sector. To date, it has been completed for 60 of the largest financial institutions, which make up 98% of the banking system.

As a result of NBU inspections and conducted stress testing, PJSC "OTP Bank" lacked capital. As of April 1, 2016, this shortage was 9.08% of the H2 indicator, with a normative value of at least 10%. Taking into account the crisis phenomena in the country's economy, banks with European capital, those that had been recapitalized until now, gave preference again to "paper" (without the actual injection of "live" funds) recapitalization - due to the conversion into capital of loans previously received from " Mom."

PJSC "OTP Bank", like the rest of the financial institutions in which stress testing revealed a lack of capital, had to overcome these problems.

The bank's management drew up a recapitalization plan. The bank's shareholders also personally gave their guarantee to ensure the implementation of the recapitalization program agreed with the NBU. The bank announced the completion of the procedure for increasing the authorized capital by UAH 2.52 billion.

The capital adequacy ratio of OTP Bank was 7.7% on April 1, 2016, and 15.7% on January 1, 2016.

Capital management of any bank involves balancing the ratio of assets and capital of the bank and compliance with the norms of equity both in accordance with the requirements established by the National Bank of Ukraine and in accordance with the requirements of the Basel Agreement.

However, PJSC "OTP Bank" for many years remained one of the flagships of the banking system of Ukraine, which paid special attention to the quality of customer service, the introduction of banking products and services. Therefore, we consider it expedient to analyze the bank's experience in capital management.

For managementthe bank carries out the following measures:

– development of capitalization plans as a component of the bank's business plan for the next year, as well as the bank's strategic plans;

– operational monitoring and planning of the bank's capitalization level.

When planning the level of capital, the forecast dynamics of the bank's assets, weighted taking into account the risk, the forecast volume of withdrawals from the capital, the forecast dynamics of the financial result, as well as other factors that have an impact on the level of the bank's capitalization (exchange rates, liquidity gaps, open currency positions and others).

Operational monitoring of the level of capitalization with a planning horizon of up to 3 months is carried out by the Assets and Liabilities Management Department. In the event of unforeseen situations that may lead to the capitalization level falling below the permissible level, the Asset and Liability Management Department develops a list of measures to improve the bank's capitalization, which will allow the bank to meet the established capitalization requirements [76].

Regulatory capital is determined on the basis of bank reports prepared in accordance with Ukrainian accounting standards. The regulatory capital structure of PJSC "OTP Bank" is presented in the table. 2.3.

Table 2.3

Regulatory capital structure of PJSC "OTP Bank" (million hryvnias)

No	Title of the article	01.01.2017	01.01.2016
1	2	3	4
1	Adjusted net assets	4.2	3.2
2	Plus: subordinated debt	-	0.721
3	Minus: investment	(1,4)	(0.25)
4	Other	(0.2)	(0.2)
Total regulatory capital		2.6	3.47
Capital adequacy ratio (H2)		10.2%	15.7%

The net assets shown in the table above are adjusted in accordance with the requirements of the NBU, including adjustments regarding the calculation of the reserve for loans and advances to customers in accordance with the Resolution of the Board of the National Bank of Ukraine No. 23 of January 25, 2012 "On the procedure for the formation and use of reserves by banks of Ukraine for reimbursement of possible losses on active banking operations. According to the data, it can be seen that the increase in the size of the regulatory capital was influenced by the size of the subordinated debt, which made it possible to increase the standard H1.

In 2015 PJSC "OTP Bank" raised subordinated debt in the amount of 721 thousand. UAH As of 01.01.2016 regulatory capital of PJSC "OTP Bank" taking into account the amount of subordinated debt amounts to 3,470274 thousand hryvnias (Fig. 2.5). The amount of regulatory capital as of January 1, 2017. is 2,624,235 thousand hryvnias by 3.2% more than at the beginning of the year [76].

According to the regulatory capital adequacy standard established by the National Bank of Ukraine, banks must maintain the ratio of regulatory capital to risk-weighted assets above the established minimum level of 10%. The capital adequacy ratio (H2) of PJSC "OTP Bank" as of January 1, 2017, taking into account the specified changes, is 10.2%. The lack of subordinated debt and an increase in investments for sale influenced the reduction of the H2 standard [76].

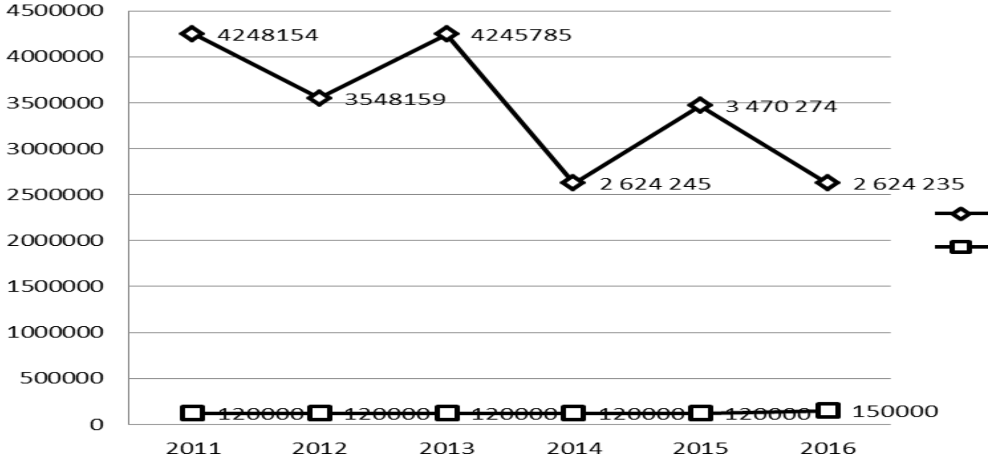


Fig. 2.7. The ratio of the actual and normative values of the minimum size of the regulatory capital of PJSC "OTP Bank" for 2011-2016

The dynamics of equity over the past 5 years has been generally upward, except for 2014, when there was a significant drop in equity by 2,604,698 thousand. hryvnias. This was undoubtedly influenced by the crisis phenomena and the decrease in the equity capital index in the system as a whole, as well as the significant volume of the accumulated deficit (Table 2.4, Figure 2.7).

Table 2.4

Equity structure of PJSC "OTP" for 2012-2016, thousand hryvnias.

Indicator	Years				
	2012	2013	2014	2015	2016
Share capital	2888308	2888308	2868191	3668186	6186023
Issuance income	14070	14070	14376	405075	405075
Other additional capital	1236294	1236294	1236294	1236294	1236294
Revaluation reserves	4625	(27966)	(5349)	(6027)	(45483)
Accumulated deficit	(280960)	68446	(3328105)	(6175125)	(5221001)
Own capital	3862337	4179152	1574445	1646240	2560908

As for the authorized capital of PJSC"OTP Bank",then during 2012-2016, as one of the main system-forming banks of Ukraine, it shows positive dynamics towards growth (Figure 2.8).

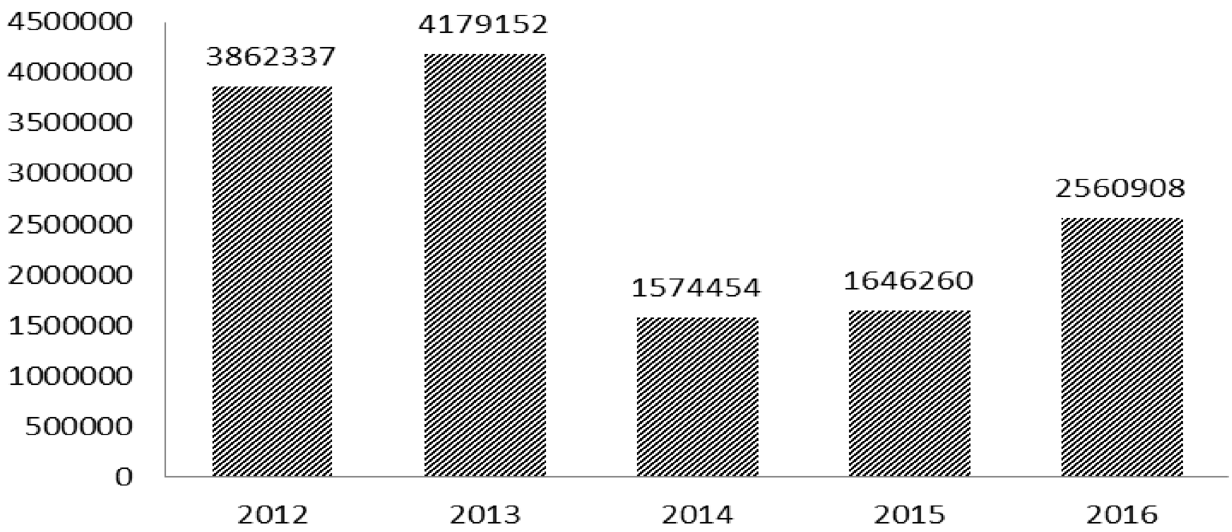


Fig. 2.8. Dynamics of equity capital of PJSC "OTP Bank"

In 2016, this indicator increased significantly and is 1,646million UAH., which is divided into 75,915,960 ordinary registered shares with a nominal value of UAH 280.00 per share. Changes to the Bank's Charter related to the increase of the authorized capital were registered on 12.23.2015.

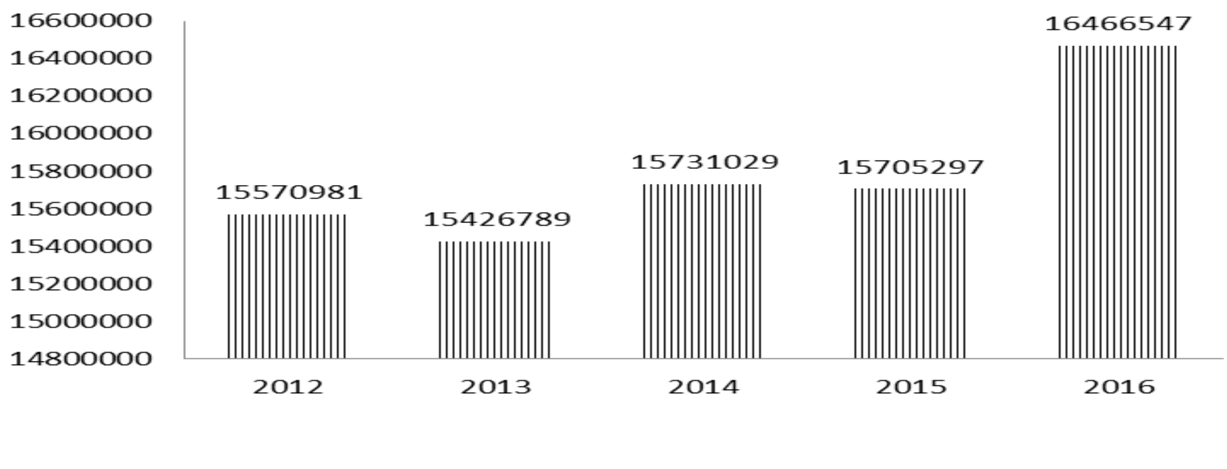


Fig. 2.9. Dynamics of authorized capital of PJSC "OTP Bank"

If we consider the income structure of PJSC "OTP Bank", a special share is occupied by interest income (about 80%) during 2012-2014, and commission income, in turn, occupies about 15% of all income of the bank. This structure of income is determined by the specifics of banking activity and indicates the bank's expansion of settlement and cash services for clients that generate commission income.

During 2012-2013, "OTP" showed positive dynamics regarding the growth of profits, but during 2014-2016, profits decreased. The years 2015-2016 were marked by a significant increase in interest expenses, which strongly influenced the decrease in total profit (Fig. 2.9).

The increase in costs was primarily caused by the economic situation in the country, rising inflation, changes in the currency situation in the banking sector, and low liquidity in the capital market.

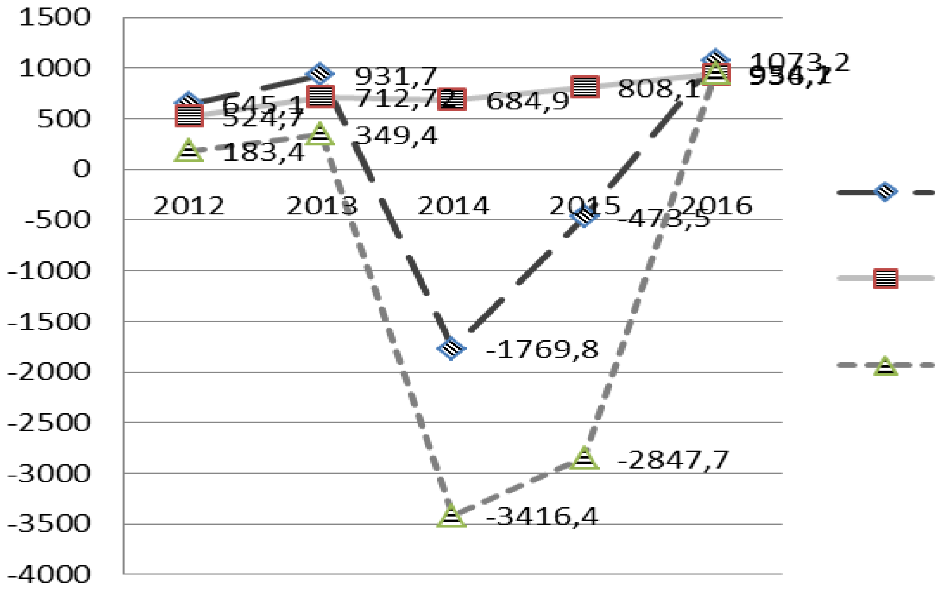


Fig. 2.10. Dynamics of revenues from operations and net operating profit

So, from the above data, we can see that over the past two years there has been a trend towards a rapid decrease in all indicators of the banking system, however, PJSC "OTP" shows an increase in capitalization, carries out profitable activities and fulfills capital standards at the request of the NBU, but despite the data indicators, the bank did not implement the recapitalization program.

OTP Bank completed the recapitalization process for UAH 2.518 billion - both through the conversion of subordinated debt received from the parent company and through other loans received from the parent company.

Thus, after the approval of the documents by the National Bank of Ukraine, the authorized capital of OTP Bank will amount to UAH 6.186 billion. This step became the third stage of the planned implementation of the bank's capitalization program. So, it can be concluded that "OTP" fulfills the requirements of the National Bank of Ukraine and increases the level of capital adequacy at the set level. The banking system can fulfill the requirements of the National Bank of Ukraine only at the expense of foreign capital, and the most important method of increasing capitalization, reinvestment of profit, can be used only by some banks.

CHAPTER 3.
PROSPECTS OF INCREASING THE LEVEL OF FINANCIAL SECURITY OF THE BANK DUE TO INCREASED CAPITALIZATION OF THE BANKING SYSTEM

3.1. New approaches to the regulation of bank capital according to the recommendations of the Basel Committee

The main goal of the development of the banking system of Ukraine is the development of a stable, transparent, competitive banking system in Ukraine, which would contribute to the long-term economic growth of the country, its financial security, be capable and ready without a threat to national interests integrate into the global economic space.

The global financial crisis exacerbated the need to rethink the principles of bank regulation, as well as increased the need to develop and implement new approaches and methods for assessing systemic risks, creating counter-cyclical norms of capital adequacy and forming reserves to cover possible losses on loans during periods of economic ups and downs [66].

It was for this purpose that the Basel Committee on Supervision developed a package of reforms called Basel 3.

The main idea of the reform of the global financial system is to strengthen the financial stability of the banking system by increasing liquid reserves and improving the quality of capital. Strengthened regulation of the global banking system, according to representatives of the Basel Committee, should prevent the recurrence of global financial and economic crises, similar to the one that occurred seven years ago.

The Basel capital agreements are of particular importance in creating favorable conditions for maintaining the financial stability of banking systems and preventing financial crises.

In particular, in1988In 2018, a recommendation on "International Convergence of Capital Valuation and Standards" was developed (hereinafter"Basel I"), which contained minimum requirements for banks. It was aimed at increasing the strength and stability of the international banking system, as well as at providing a minimum but unified baseprudential regulation[55].

Table 3.1

Swiss standards for the whole world

1	2
Basel-1	Recommendations adopted by the Basel Committee on Banking Supervision (consisting of 27 world central banks) in 1992. Regulators target credit risk, bank assets are classified depending on the risk group. The ratio of capital and risk-weighted assets should be at least eight percent. These regulatory principles have long been considered outdated, although they are still the basis of the banking supervision policy of the National Bank of Ukraine. True, in 2004, the NBU raised the capital adequacy standard from eight to ten percent, and in 2011, it increased the requirements for the minimum amount of capital from 10 million. EUR up to 120 million hryvnias, and from November 17, 2014, made changes to increase the amount of regulatory capital from UAH 120 million. UAH up to 500 million UAH (in 2024).
Basel-2	Supervision rules updated in 2004. They assume the tightening of capital requirements as the riskiness of financial institutions' operations increases. In addition to credit risk, operational and market risks are also regulated. Most of the developed countries switched to these standards even before the start of the global crisis.
Basel-3	The second revision of the Basel standards began back in 2005, but the impetus for strengthening regulation was the crisis. The new regulations provide for a general increase in bank capitalization, improvement of capital quality, introduction of short- and medium-term liquidity standards and debt load standards, anti-cyclical regulation.

However, it should be noted that the implementation of Basel standards is necessary for the stabilization of the Ukrainian financial market, as well as an important and integral part of Ukraine's international integration. The chronological introduction of the Basel standards is presented in the table. 3.1.

The main objective of "Basel II" was to promote adequate capitalization of banks and improve risk management systems, and thus to strengthen the stability of the banking system as a whole. For this, the bank's regulatory capital must correspond to its real risks, cover all the main risks and determine the volume of operations that the bank can carry out in accordance with the level of its capital [45].

As for "Basel III", it was approved in December 2010 as a result of the failure of the "Basel II" system to ensure the stable functioning of banking institutions in the conditions of the global financial crisis of 2007-2009. If we compare both systems of banking supervision, we can safely say that the provisions of Basel III are much stricter. Another provision is added to the improved requirements for the formation of bank capital and liquidity standards - a mechanism for counteracting systemic risks. The main goal of implementing this mechanism is to ensure a stable financial condition of the bank in the long term, as well as to carry out full-scale coverage of risks.

Let's take a closer look at the components of the Basel III banking supervision system. Let's start with the analysis of the requirements for the formation of bank capital, since the system of prudential supervision is traditionally based on compliance with the minimum capital adequacy requirements of banking institutions. According to the Basel III system, capital formation requirements are set as a percentage of risk-weighted assets (Fig. 3.1).

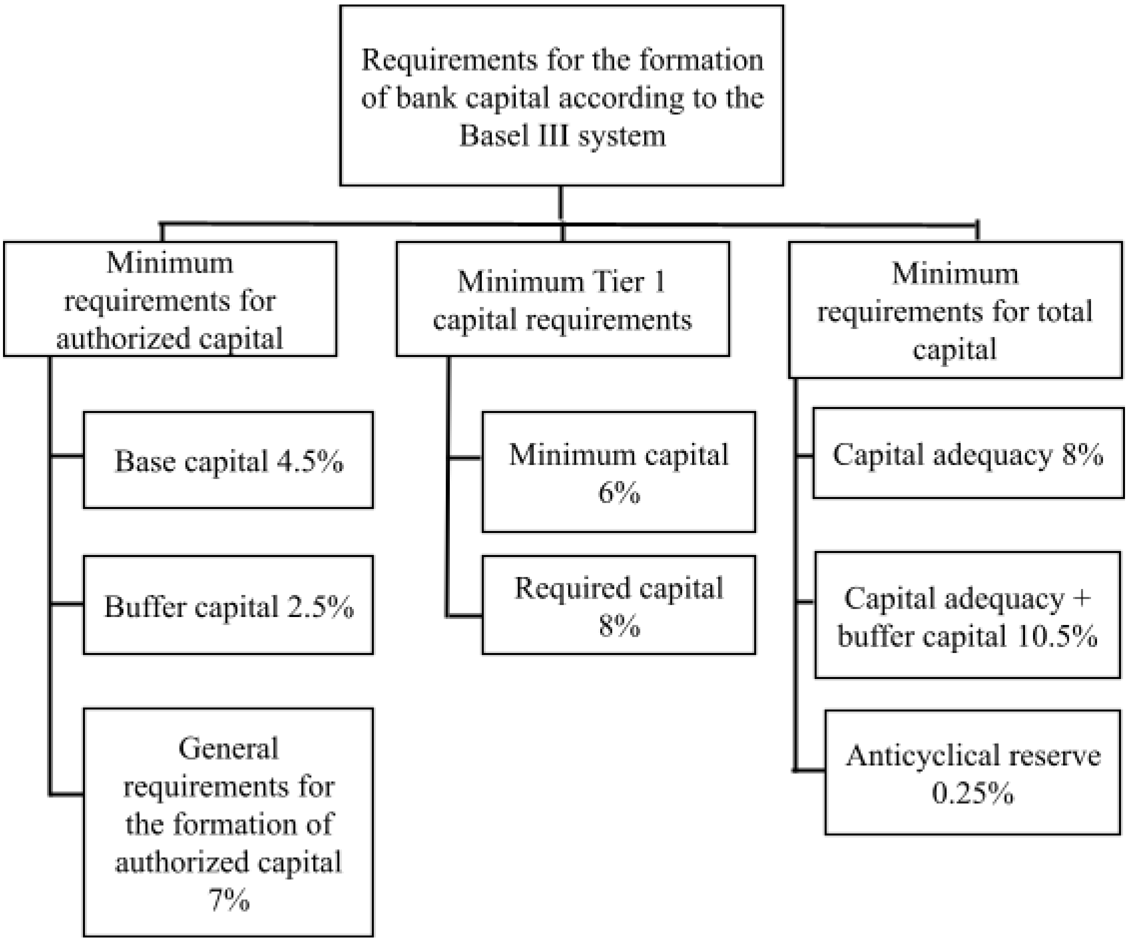


Fig. 3.1. Requirements for the formation of bank capital according to the system of banking supervision "Basel III"

The size of the base capital will increase from 2% to 4.5%, and banks will also be forced to form buffer capital, which should ensure its sufficiency at a certain level in order to cover the bank's losses during a systemic recession of the economy. Also an innovation is the introduction of an anticyclical reserve, which should ensure a decrease in the credit activity of banks during periods of economic upswing and stimulate it during a downturn. Already by 2019, the bank's total capital should amount to 10.5%. Such changes will significantly affect the quality of bank capital and, most importantly, the ability to cover losses even during the liquidation of a financial institution [85].

Capital preservation buffer, the purpose of introducing this indicator is to enable banks to maintain the level of capital during significant economic downturns and to adjust the level of dividend payments during these periods.

A minimum requirement for the level of equity (equity) capital will be established for all banks - 4.5% of risk-weighted assets. If banks conduct their activities "on the edge" of the established limit value, then in difficult times capital adequacy will be immediately lost. To prevent this, the so-called "capital preservation buffer" is introduced. During stressful situations or crises, equity capital may decrease, but only within the limits of the capital preservation buffer [91].

The source of filling this buffer is the same as the source of formation of the minimum level of capital - share capital after all necessary deductions. The size of the buffer is 2.5% of risk-weighted assets. The requirement for the level of buffer capital, which should mitigate the pressure on bank capital in times of crisis, now has a minimum value of 4.5% and 2.5%.

Thus, during times of economic growth, the new requirements will encourage banks to build capital conservation buffers. In contrast, banks will not be subject to sanctions during periods of economic downturn as long as the minimum requirement is met.

A countercyclical capital buffer aimed at the fact that in the phase of economic growth, regulators will require each bank to build capital above the regulatory minimum. Thus, a new approach to the formation of additional reserve capital (buffer) will be introduced based on the model of expected losses, rather than those experienced by banks. It is assumed that the size of the "counter-cyclical" reserve will be 2.5% of the capital, depending on the size of the banks. In periods of excessive credit growth, supervisory authorities will use the countercyclical buffer as a tool of macroprudential regulation [91].

As for Ukraine, it is worth noting that the Basel I system, which was adopted back in 1992, is still in effect for banks with national capital, and Basel II for banks with foreign capital, since most of them have shareholders in participating countries Basel Committee. The activities of the latter in previous years showed disappointing results, because they specialized in serving those sectors of the Ukrainian economy that were most affected by the crisis. If we take into account the difficulties in the activities of banks with foreign capital, the transition of Ukrainian banks to Basel III may cause a significant crisis in the banking system in general [47]. Because the capitalization standards are quite high, many domestic banks that will not be able to reach the above capital formation standards will have to leave the market.

Minimum capital requirements remain at 8%, taking into account the new capital buffer. Moreover, in the total capital, the size of the capital of the first level should be 6%, and the capital of the second level should be no more than 2%. Thus, the emphasis in the capital structure changes. The basic capital must be three times higher than the additional capital. Third-tier capital, which according to Basel requirements is used only for insurance against market risk, banks will have capital, the quality of which will be similar to the quality of capital used to meet the requirements for countering credit and operational risk (in Ukraine, the third-tier capital indicator is not used). This will make it possible to ensure thesame high quality of capital used to counter market risk as the quality of capital used to meet requirements for preventing credit and operational risks [91].

According to the economic standard of activity of banks H2 (regulatory capital adequacy), which is set at a level of at least 10%, we can conclude that the level of regulatory capital adequacy of Ukrainian banks is at a higher level than required by the Basel III system. We observe a similar situation when considering the adequacy of the authorized capital. However, according to the resolution of the Board of the National Bank of Ukraine dated August 6, 2014 No. 464 "On bringing the authorized capital of banks in line with the minimum established size" it is specified that the minimum authorized capital of a bank should be 500 million. hryvnias, that is, banks need to replenish their own financial resources by 76%. The NBU gives 10 years for this, but during the unstable political and economic situation in Ukraine, it is practically impossible to mobilize such significant funds.

In order to attract long-term financial resources from potential investors in the current conditions, the most rational will be the implementation of a set of motivational measures, which will be based on the reduction of the tax burden for banking institutions and the introduction of the state investment insurance system.

In addition to the above changes, the requirements of "Basel III" provide for the introduction of three new coefficients - the leverage coefficient and two separate liquidity coefficients. Therefore, during the next decade, a significantly improved system of banking regulation should be formed. We will conduct a study of current Ukrainian liquidity standards and standards proposed under the provisions of "Basel III" (Table 3.2).

"Basel III" established two mandatory liquidity risk control parameters: the liquid coverage ratio and the net stable funding ratio [41].

Liquid coverage ratio. Based on the minimum liquidity indicator (an analogue of the short-term liquidity standard used in Ukraine), it is possible to assess whether the bank can exist within the next 30 days. According to the new Basel requirements, banks must have liquid assets that would cover 100% of the banks' short-term liabilities for less than a month. In the event of an acute liquidity crisis in a banking institution, supervisory authorities may allow it to use high-quality, unencumbered liquid assets to compensate for net cash outflows. Banks can obtain this permission under the following conditions: a sharp drop in the institution's credit rating; partial loss of the deposit base; loss of unsecured investment financing; significant increase in secured funding limits; increased outflow of funds due to derivatives and off-balance sheet instruments [41, 91].

Table 3.2

"Basel III" liquidity standards and the banking system of Ukraine

Basel III		
1	2	3
The name of the coefficient	Calculation method	Normative value
Short-term liquidity ratio	Ratio of liquid assets to net cash outflow	100%
Long-term liquidity ratio (net stable funding)	The ratio of available stable funding sources to the required amount of stable funding	> 100%
Ukraine		
Instant liquidity ratio	The ratio of the amount of funds in the cash register and correspondent accounts to the bank's liabilities recorded on current accounts	≥ 20%
Current liquidity ratio	The ratio of primary and secondary liquidity assets to the bank's liabilities with the corresponding terms of performance	≥ 40%
Short-term liquidity ratio	Ratio of liquid assets to short-term liabilities	≥ 60%

Instead, the ratio of long-term liquidity (net stable financing) will require a change in the bank's financing profile, that is, banking institutions will increase the demand for long-term financing. It is also worth remembering that currently the amount of funds raised from institutional investors in the Ukrainian financial sector is much smaller than is potentially possible. Also, the banking system and rating agencies may require higher liquidity indicators than the national regulator. Even to the last, many questions may arise regarding the classification of the bank's cash flow levels [41].

Regarding the reduction of the share of borrowed funds, it should be noted that the updated requirements of the Basel Committee envisage limiting banks from excessive risks by establishing a new size of the leverage ratio - the ratio of the bank's borrowed funds to its own at the level of 3%. The share of loan assets is an absolute innovation of the Basel Committee. This indicator has never before been considered as a component of the Capital Agreement [52].

The implementation of the requirements of "Basel 3" means not only the strengthening of the norms regulating the activities of banks. The agreement also provides for factors that compensate for a significant increase in capital requirements. Based on the successful passing of the stress tests by the banks, the Basel Committee extended the deadline for the implementation of the new standards of financial activity in order for the banks to have the time and opportunity to build up the necessary additional capital.

Representatives of the Basel Committee are convinced that the proposed requirements are rational and will not hinder the recovery of the global economy after the crisis (Fig. 3.2). Therefore, the developers of Basel III hope that this step will make it possible to increase the financial stability of the global banking system, primarily due to increasing bank liquid reserves and improving their quality. There have been no radical reforms in the European Union so far, so the Basel III norms will be the first test for European banks.

Considering this situation in Ukraine, namely the process of introducing the new provisions of Basel III into the practical activities of Ukrainian banks, this issue is rather vague and ambiguous. After all, the legislative framework in Ukraine is based on the provisions of Basel I, and Ukrainian banks have only recently started a gradual transition to the recommendations of Basel II. Many banks have established management departments that monitor and control compliance with the Basel II recommendations. Some banks transferred this function to the internal audit department. And only a small part of Ukrainian commercial banks at this stage fully meets the standards recommended by Basel II.

Theoretically, Ukraine is not obliged to implement the requirements of the Basel Committee on banking supervision, but the implementation of the new standards will allow to clean up the banking sector and leave on the market only those banks that are able to withstand tough competition for clients.

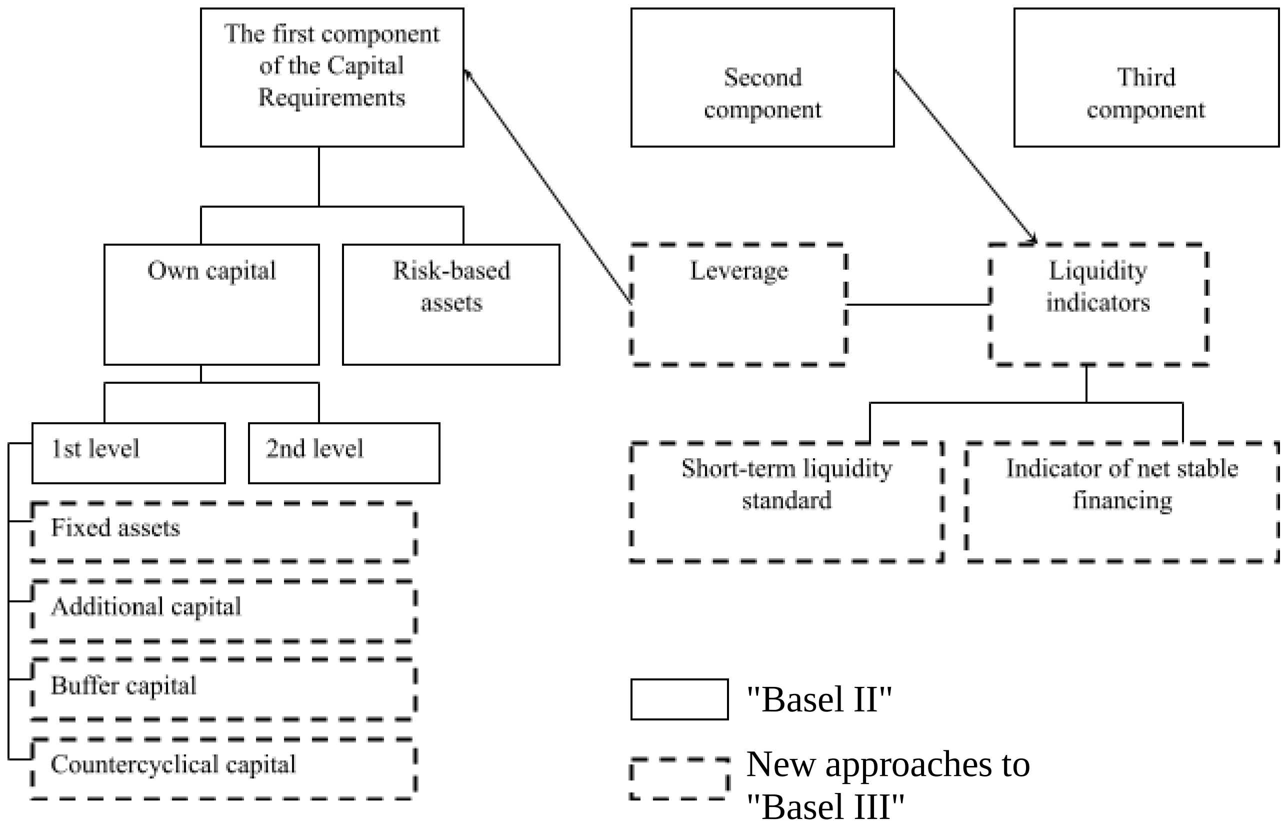


Fig. 3.2. Ways to improve the capital management mechanism of Ukrainian banks

It is important that recently domestic banking legislation and methods of banks regarding risk assessment have improved significantly and today in most cases coincide with the principles of European countries. However, many Ukrainian banks have a number of problems that oppress their capital and adversely affect their financial stability. The part of problematic assets is quite significant, and the imbalance in the currency structure of assets and liabilities, as well as discrepancies in terms of attracting and placing resources, which creates gaps in liquidity, is also negatively affected.

Optimizing costs will also be useful for domestic banks, since efficiency indicators in general in the banking system are at a catastrophically low level.

The risk management system also needs continuous improvement. Banks have understood the importance of reliable risk assessment for a long time, so they work in this direction. But since the temporary economic and political situation in Ukraine constantly brings adjustments to bankers' plans, top managers need to quickly adapt existing models to the new reality by making effective decisions.

That is why the implementation of Basel III standards should become a key mechanism for strengthening the banking sector. The degree of its transparency will also improve if the Basel recommendations are followed. This will be able to increase trust in banks not only on the part of depositors, but also investors. Foreign investors, observing the effect of European rules in Ukraine and increasing profitability of banks, will invest additional funds. As a result, large European banks may come to Ukraine again, and those parent structures whose "daughters" already operate in the domestic market may increase their share. Perhaps the basis for stable growth of the Ukrainian economy will be the return of European capital [8].

The first step in the direction of the implementation of Basel-III international standards in Ukraine was the adoption of the draft law, which determines the step-by-step increase in the minimum size of the bank's authorized capital to 500 million. UAH for existing banking institutions, which will help increase the level of capitalization of banks and help reduce risks for depositors and, possibly, increase trust in banks on the part of their customers [86].

The obligation to bring the size of the authorized capital into compliance with its requirements within ten years has been determined for banks established before the entry into force of this Law. The above-mentioned Law also contains a list of norms aimed at simplifying the procedures for the purchase of an insolvent bank by an investor, as well as regarding the immediate capitalization of a bank in the event of a sharp deterioration in the general condition of the financial market. As for the qualitative effect of the implementation of Basel-III requirements, it can be considered for individual banks and for the financial system as a whole. The following effect will be observed for individual banks:

– deviation of the offer from short- to long-term financing. The introduction of two liquidity ratios will force banks to move from short-term funding agreements to seeking long-term funding, which can change margins and prices;

– reorganization of legal entities. Significant supervisory attention to proprietary trading operations may lead to reorganization of banking groups, including mergers and acquisitions, and disposal of investment portfolios and investments in banks;

– weaker banks will be pushed out of the market. With the increased control of the regulatory bodies, together with unfavorable economic conditions, it is more difficult for weaker banks to ensure the necessary level of capital, which may lead to a reduction in the number of such banks;

– significant impact on profit and ROE1. Increased capital requirements, cost of financing, and the need to meet new regulatory requirements will have an additional impact on margins and operating capabilities. Investors' returns may fall at a time when banks will need to attract additional investments to restore financial buffers [86].

As for the impact on the financial system in general, it is important to determine the following effect:

– decrease in investor demand for shares and bonds of the banking sector. Investors will not be attracted to the issuance of shares and bonds by banks in the conditions of a likely decrease in dividends associated with the inevitable restructuring of the capital base. A decrease in profitability and ROE is expected, and if some non-equity investments are accepted, the losses will be absorbed by debt instruments even before liquidation. This vision of investors can be expressed in the price of new capital and in interbank borrowing rates;

– uneven implementation of Basel III requirements and regulatory arbitrage as a result. With the different implementation of Basel III recommendations by different jurisdictions, problems related to international regulatory arbitration in the implementation of Basel I and Basel II provisions will continue to threaten the stability of the financial system;

– reducing the risk of a systemic banking crisis. Increased buffers of capital, liquidity, as well as standards for risk management should reduce the level of bankruptcy risk of individual banks and reduce the interdependence of financial institutions;

– reduction of lending volume. While the long period of implementation of the new standards should help reduce this effect, it should be recognized that a significant increase in capital and liquidity requirements may lead to a decline in banking activity or an increase in the cost of credit services;

– since there are some negative consequences from the implementation of the recommendations of the Basel Committee, it is necessary to determine the areas of activity of the banking system, the implementation of which would ensure the maximum positive effect of the banking reform.

Thus, on the basis of the conducted research, it can be concluded that the adoption of the "Basel III" agreement is aimed at strengthening the stability of the world banking system, but primarily it concerns the G20 countries. In the process of integration into the world community, international institutions may require Ukraine to officially accept Basel III requirements. In its turn, the National Bank of Ukraine conducts a number of measures related to the introduction of Basel standards into the banking system of Ukraine.

3.2. Correlation-regression analysis of the influence of factors on the formation of the financial result of banks

Due to the specificity of their activity, banks occupy a special place in the market economy and, being closely connected with all its links, significantly influence the life of society. The analysis of the characteristics of the financial result considered in the studied literature by various scientists allows us to conclude that the financial result is a category that reflects the effectiveness of the bank's activity in the form of a certain indicator - profit or loss.

The following internal factors have the greatest influence on the formation of the bank's financial results: changes in the volume of credit and deposit operations, the average yield of all active operations, the amount of equity capital, the structure of the loan portfolio, and others. The activity of banks is aimed at obtaining the maximum economic benefit, which in the form of the final result of the activity can be positive or negative. The bank receives a positive economic benefit (profit) if the received income exceeds the incurred expenses. If the bank suffered a loss, this indicates an excess of expenses over income. So, the financial result can appear in the following two forms - profit and loss. Bank profit is one of the most important indicators of the effectiveness of the bank's functioning and its stability.

The financial condition of a bank is a complex concept that reflects a system of indicators that characterize the availability, placement and use of financial resources and directly or indirectly affect the financial results of banks.

It is possible to evaluate the results of their action using statistical methods, the basis of which is the construction and analysis of the appropriate economic-mathematical model.

Correlation-regression analysis solves three main tasks:

– determination with the help of regression equations of the analytical form of the relationship between the variation of features X and Y;

– finding and statistical evaluation of the equation of the relationship between the resulting and factor characteristics on the basis of regression analysis;

– interpretation of the resulting equation and its use.

The indicators of 5 banks for 2013-2017 were used for the analysis. (Fig. 3.3), namely CB PrivatBank PJSC, SBERBANK JSC, Raiffeisen Bank Aval JSC, Ukrsotsbank PJSC and OTP PJSC. These data indicate that the financial results of these banks have different development trends.

Therefore, after analyzing the financial results of banks, it should be noted that the phenomena associated with the economic and financial crises had a negative impact on the activities of these banks.

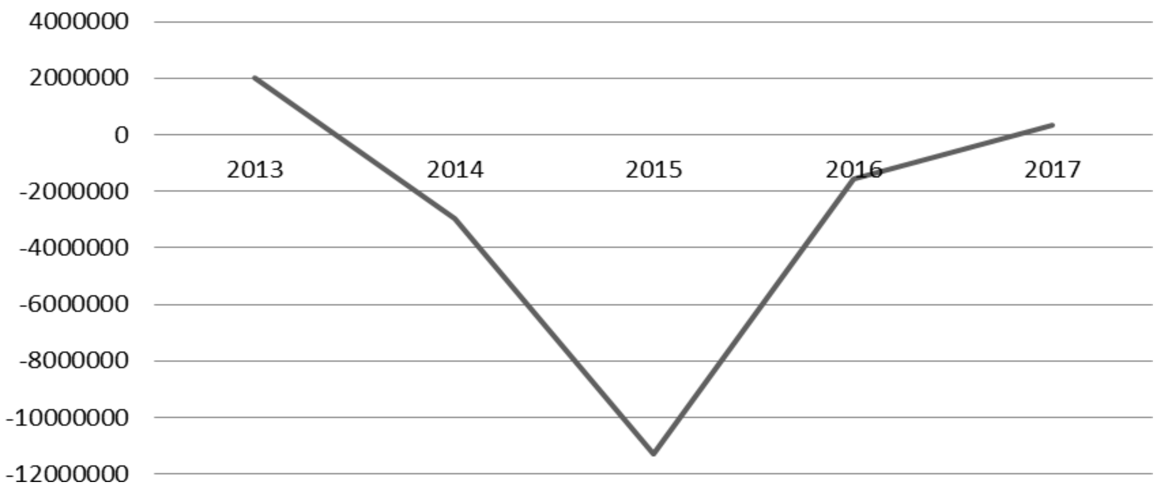


Fig. 3.3. The dynamics of the financial results of the analyzed banks during 2013-2017, thousand UAH

In order to identify the main components affecting the financial result, we will conduct a correlation analysis of individual financial indicators of banks. Analysis of the influence of assets, liabilities and capital of banks and the indicator of financial results make it possible to assess certain trends that have formed as a result of the activity of Ukrainian banks. To do this, we will conduct a quantitative assessment of the total impact of the studied factors on the performance indicator.

The complex interaction of all factors (X1, X2, …..Xn) with the performance indicator (Y) can be described by a linear multifactorial regression equation of the form:

$$Y = a0 + a1x1 + a2x2 + \ldots\ldots anxn \quad (3.1)$$

where a0, a1, a2-constant coefficients called model parameters.

Using statistical data in quarterly dynamics for 2013-2017 for analyzing banks (Table 3.3), we will build a regression model of the dependence of the financial result (Y) on the factors (assets (X1), liabilities (X2), capital (X3)). Checking the model for the presence of multicollinearity - linear dependence between factors - is of great importance in the methodology of correlation-regression analysis. There is a stochastic (probabilistic) and functional form of multicollinearity. With a functional form, at least one factor must be present in the model, which is functionally related to any other factor of the model or to all others.

In economic models, multicollinearity, as a rule, manifests itself in a stochastic form. To check the model for multicollinearity, we will create a correlation matrix (Table 3.3) using MS Office Excel 2013.

Table 3.3

Aggregated data for correlation-regression analysis of the influence of factors on the financial results of the analyzing banks (in UAH thousand)

Period	Y	X1	X2	X3
1	2	3	4	5
01.01.2013	2,049,938	311 867 426	273 834 128	38,033,298
04/01/2013	860,020	315 721 347	276 463 768	39,257,579
07/01/2013	2,194,905	328 947 862	293 802 715	40,492,398
01.10.2013	2896394.00	344670300.74	303445226.00	41225075.00
01.01.2014	3211716,21	360214053.65	317680896.48	42533157.17
01.04.2014	-795615.76	353143404,10	310815892.15	42327511.95
07/01/2014	-924420.08	360727725.34	318898853.82	41828871.52
01.10.2014	-3116978.42	358901636.96	319176778.39	39724858.57
01.01.2015	-4042633.93	372779866.71	332011889.74	40767976.98
04/01/2015	-6125436.69	450628524.81	427534728.00	40117768.35
07/01/2015	-924420.08	360727725.34	339872919.77	41828871.52
01.10.2015	-12205117.26	429360068.43	388026059.85	41334008.57
01.01.2016	-10773000	468722803	416675800	51842200
04/01/2016	133000	480300330	424935090	55365230

07/01/2016	-2612280	464034903	396388548	67646355
01.10.2016	-3596949	464109031	397326245	66782816
01.01.2017	338367	465619401	398956374	66786690
04/01/2017	9418890	466701536	400973747	65770289
07/01/2017	-223890	468109980	405697907	66457964
01.10.2017	2154278	479047579	416875908	67986384

Analyzing the data in Table 3.4, we can say that all indicators are in one way or another related to the financial result indicator. But from the obtained data, it can be concluded that the greatest relationship of influence (strong, inverse) on the financial result has indicators: assets and liabilities.

Therefore, we will consider the model of linear paired regression of the financial result and two indicators: assets and liabilities.

Checking the pairwise correlation coefficient for significance (according to the Student's t-test) indicates that there is a statistical relationship between the variables. The generated results of regression statistics are presented in Table 3.5.

Table 3.4

Matrix of correlation model coefficients

	Y	X1	X2	X3
Y	1			
X1	-0.621566655	1		
X2	-0.662861172	0.980228517	1	
X3	-0.182200009	0.744771063	0.622246	1

Table 3.5

Connection density coefficients

Regression statistics	
Multiple R	0.677997
R-squared	0.45968
Normative R-squared	0.376554
Standard error	3577372
Observation	16

Therefore, we will consider the model of linear paired regression of the financial result and two indicators: assets and liabilities.

Checking the pairwise correlation coefficient for significance (according to the Student's t-test) indicates that there is a statistical relationship between the variables. The generated results of regression statistics are presented in Table 3.5.

The value of the multiple correlation coefficient R characterizes the quality of the obtained model. According to the obtained results, this coefficient is 0.6779, which indicates the presence of a moderate correlation in the model. The R-squared value is close to 1, so this model is adequate. This model explains thatin the model, 45.97% is accounted for by asset and liability factors, and less than 54.03% is accounted for by unaccounted factors. The significance indicator F indicates that the evaluation results are reliable. It is worth paying attention to the variance and the F-statistic, their value is not very high, but the R-squared is significant, since the significance of F =0.018291< 0.05, so the equation is significant in general (table 3.6).

Table 3.6

Indicators of reliability of the model

	df	SS	MS	F	Significance of F
Regression	2	1.42E+14	7.08E+13	5.529916	0.018291
The rest	13	1.66E+14	1.28E+13		
Total	15	3.08E+14			

The resulting model

$$Y = 16593932 + 0.054793 \cdot X1 - 0.11565 \cdot X2 \quad (3.2)$$

From this model, we can observe that two indicators have an existing influence on the financial result, namely X2 has a stronger effect on Y than X1. When assets increase by 100 units. the indicator of the financial result will increase by 5.08 units, and with an increase in liabilities, it will decrease by 11.56 units.

Checking the coefficients of the model according to the Student's t-criterion: P - the value of the coefficients of the model is greater than 0.05, which indicates the insignificance of the coefficients (Table 3.7).

Since checking the coefficients of the model according to the Student's t-test did not give results for further analysis, we decide to consider the influence of individual factors (assets, liabilities) on the financial result. The generated results of regression statistics are presented in Table 3.8.

Table 3.7

Table of coefficients

	Coefficients	Standard error	t-statistics	P-Value	Bottom 95%	top 95%	Bottom 95.0%	Top 95.0%
1	2	3	4	5	6	7	8	9
Y	16593932	6106393	2.717469	0.017598	3401873	29785992	3401873	29785992
X1	0.054793	0.078412	0.698787	0.496997	-0.11461	0.224193	-0.11461	0.224193
X2	-0.11565	0.087067	-1.32832	0.206921	-0.30375	0.072444	-0.30375	0.072444

Table 3.8

Connection density coefficients

Regression statistics			
Y/X1 (financial res./assets)		Y/X2 (financial res./liabilities)	
1	2	3	4
Multiple R	0.621567	Multiple R	0.662861
R-squared	0.386345	R-squared	0.439385
Normative R-squared	0.342513	Normative R-squared	0.399341
Standard error	3673741	Standard error	3511388
Observation	16	Observation	16

Correlation coefficients indicate the presence of a dense relationship between indicators, so the next step is to check the R-squared for significance using the F-criterion (Table 3.9)

Table 3.9

Indicators of model reliability

1	2	3	4	5	6	7
Y/X1 (financial res./assets)		df	SS	MS	F	Significance of F
	Regression	1	1.19E+14	1.19E+14	8.814126	0.010159
	The rest	14	1.89E+14	1.35E+13		
	Total	15	3.08E+14			
Y/X2 (financial res./liabilities)		df	SS	MS	F	Significance of F
	Regression	1	1.35E+14	1.35E+14	10.97257	0.005133
	The rest	14	1.73E+14	1.23E+13		
	Total	15	3.08E+14			

Received models:

$$Y = 16292990 - 0.0473 \cdot X1 \quad (3.3)$$

$$Y = 17273374 - 0.05601 \cdot X2 \quad (3.4)$$

From this model, we can observe that with an increase in assets by 100 units. the indicator of the financial result will decrease by 4.73 units, and with an increase in liabilities - by 5.6 units. Checking the coefficients of the model according to the Student's t-test: P - the value of the coefficients of the model is greater than 0.05, which indicates the significance of the coefficients (Table 3.10).

According to the obtained elasticity coefficients, when the volume of assets increases by 1%, the indicator of financial result increases by 8.7%, and when liabilities change by 1%, the indicator of financial result changes by 9.1%.

Let's calculate the elasticity coefficients according to the formulas:

$$E_i = \frac{a_i * \overline{x_i}}{\overline{y_i}} \quad E_i = \frac{a_i * \overline{x_i}}{\overline{y_i}} \qquad (3.5)$$

Then E1 = 8.7, E2 = 9.1.

As a result of the conducted research, the value of multiple correlation coefficients R1 = was determined0.62; R2 =0.66, which indicates a close relationship between the indicators of assets and liabilities on the financial result of the banks of the research group. Multiple coefficient of determination (R-square1 =0.38; R-squared2 =0.43) shows that the variation of the financial result of the banks under study is determined by factors such as assets for 38%, and liabilities for 43%.

Table 3.10

Table of coefficients

	Coefficients	Standard error	t-statistics	P-Value	Bottom 95%	top 95%	Bottom 95.0%	Top 95.0%
1	2	3	4	5	6	7	8	9
Y	16292990	6266571	2.599985	0.020978	2852531	29733448	2852531	29733448
X1	-0.0473	0.015933	-2.96886	0.010159	-0.08148	-0.01313	-0.08148	-0.01313
Y	17273374	5917290	2.919136	0.01121	4582049	29964699	4582049	29964699
X2	-0.05601	0.01691	-3.31249	0.005133	-0.09228	-0.01975	-0.09228	-0.01975

The proposed model is adequate, which is explained by the compliance of all indicators with normative values and their significance with the relevant criteria and can be recommended for practical use.

CONCLUSIONS

The research carried out in the work allows us to draw the following conclusions.

Bank capital has become one of the common economic categories during the transformation of the Ukrainian economy. Effective and reliable functioning of the banking system is an important tool for accumulating free funds and lending to the economy.

The relevance of this thesis topic is due to the significant increase in the role of the bank's capital in ensuring its financial security. In the conditions of the crisis, the problem of strengthening the financial security of banks becomes of fundamental importance. Its solution is connected, in particular, with the development of methods of assessment and analysis of the bank's financial security and the development of ways to ensure it.

The first chapter examines theoretical aspects, the economic essence of bank capital, classification features of capital, sources of its formation and replenishment, functions performed by bank capital, methods of assessment and adequacy of bank capital. In the process of analysis and generalization of theoretical developments regarding the concept of "bank capital" it was found that "bank capital" is a separate object of management, which includes the own funds of the founders (shareholders, owners) of the bank, which are combined into funds and reserves and are able to ensure the implementation of banking operations for the provision of services with the achievement of a certain amount of economic benefit.

In the second section, an analysis of the capital of the banking system in general, as well as an analysis of internal sources of replenishment of the bank's own capital and an analysis of the efficiency of the bank's capital management of JSC "OTP Bank" was carried out. During the study period, the bank increased its equity capital by raising subordinated debt from foreign investors. In the structure of the equity capital, the main component is the authorized capital, which ensures the reliability and stability of the equity capital.

The consideration and analysis of the above issues led to the need to find ways to improve the researched process. The author analyzed the existing proposals on this issue and systematized them in the following directions.

First, the principles of the Basel Committee are used by various countries as prudential regulation and supervision. The global financial crisis, having revealed shortcomings in banking supervision systems, led to the consideration of new approaches to the regulation of bank capital in accordance with the recommendations of the Basel Committee. The changes proposed in the Capital Agreement, which correspond to the principles of Basel 3, are the improvement of the quality, transparency and improvement of the structure of bank capital, the expansion of the practice of covering risks with capital and the stimulation of measures to create reserve reserves.

Secondly, equity has priority in ensuring the financial security of the bank. The use of foreign experience in the reorganization and restructuring of banks, which will help the banking system of Ukraine to overcome the problems of a low level of bank equity, work more efficiently and enter the global market of banking services.

Thirdly, the correlation-regression analysis of the influence of factors on the formation of the financial result of banks showed that in the current conditions of existence of the modern banking system, the main factors that exert the greatest influence on the financial result are assets and liabilities. Calculations carried out in the work on the banking system of Ukraine indicate a period of increased weakness of the entire banking system.

One of the most important tools by which we can assert the financial security of a particular bank is its level of capitalization. It is the sufficient amount of own capital (both cash and liquid assets expressed in monetary form) that ensure economic independence, profitable activity in the market of banking services, which ultimately has a positive effect on the financial security of the bank, which is what the new approaches of Basel - 3 are aimed at.

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