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*N. Ismayilov,*

*Doctor of Economic Sciences, Associate Professor,  
Professor of the Department of Finance and Audit,  
Azerbaijan State University of Economics (UNEC)  
ORCID ID: <https://orcid.org/0000-0002-2782-8647>*

## **METHODS AND TECHNIQUES OF ANALYSIS OF BALANCE AND ITS ELEMENTS**

*H. M. Исмаїлов,*

*д. е. н., доцент, професор кафедри фінансів та аудиту,  
Азербайджанський державний економічний університет (UNEC), м. Баку*

## **МЕТОДИ ТА ПРИЙОМИ АНАЛІЗУ БАЛАНСУ ТА ЙОГО ЕЛЕМЕНТІВ**

*This article, devoted to economic banking research and the theoretical foundations of financial analysis, reveals the essence of these concepts and their characteristic features. An analysis of the most relevant aspects of this problem is conducted, sparking discussion among scholars and specialists. The financial condition of commercial banks and the use of this data for balance sheet purposes are of great importance. The characteristics of systems of synthetic and analytical indicators reflecting the presence and movement of assets, bonds, and capital of a commercial bank, as well as methods for analyzing balance sheets and assessing*

*its financial condition are given. To analyze and evaluate the financial indicators of banks, an appropriate base of scientifically based economic standards is necessary, which is used to assess liquidity and conduct an external audit. For the purpose of conducting an in-depth analysis of individual aspects of the bank's activities, its financial stability, solvency, and liquidity, using the example of one of Azerbaijan's leading banks, UNIBANK, aggregated data characterizing the composition and structure of balance sheets, the resource base, and the sources of their formation are provided. Through a comprehensive analysis of balance sheet information, UNIBANK determines the ratio between equity and liabilities, and traces the trend of its changes. To provide a more in-depth analysis of a bank's profitability, trends in its profitability, liquidity, and solvency are analyzed. Using examples from foreign banks, the paper calculates the "balance of averaged capitals," which, according to the author, is necessary for a more in-depth analysis of the effectiveness (profitability) of a commercial bank's operations. Having analyzed several financial balance concepts and their definitions, the author reveals the essence of those characteristics most frequently encountered in the formulations of international and domestic experts and proposes a working definition. The conclusion drawn calls for the development of methodological approaches and methods that will reliably enable research and assess the value of each element of existing concepts and their components.*

*У статті з прикладу комерційних банків розглядаються теоретичні основи фінансового аналізу, розкривається сутність цього поняття та її характерні особливості. Проводиться аналіз найактуальніших аспектів цієї проблеми, що викликають дискусії серед науковців та фахівців. Відзначається значення діагностики фінансового стану комерційних банків, використання з цією метою інформації бухгалтерського балансу. Дана характеристика системи синтетичних та аналітичних показників, що відображають наявність та рух активів, зобов'язань та капіталу комерційного банку, а також методів аналізу балансової звітності та*

оцінки його фінансового стану. Для аналізу та оцінки фінансового стану комерційних банків необхідна відповідна база науково-обґрунтованих економічних нормативів, яка є основою для оцінки ліквідності та проведення зовнішнього аудиту. З метою проведення поглибленого аналізу окремих аспектів діяльності банку, його фінансової стійкості, платоспроможності та ліквідності на прикладі одного з провідних банків Азербайджану – UNIBANK – наведено агреговані дані, що характеризують склад та структуру балансів, ресурсної бази та джерел її формування. У процесі комплексного аналізу інформації балансу UNIBANK визначається співвідношення між власним капіталом та зобов'язаннями, простежується тенденція його зміни. Для поглибленого аналізу прибутковості банку аналізуються тренди зміни його рентабельності, ліквідності та платоспроможності. Діяльність пропонується, за прикладом зарубіжних банків, становити «баланс усереднених капіталів», що, на думку автора, потрібно більш поглибленого аналізу ефективності (прибутковості) діяльності комерційного банку. Проаналізувавши ряд конкретних понять балансу та пов'язаних з нею дефініцій, автор статті розкриває зміст тих характеристик, які найчастіше зустрічаються у формулюваннях зарубіжних та вітчизняних фахівців, та пропонує їхнє робоче визначення. У роботі зроблено висновок про необхідність розробити такі методологічні підходи та методи, які дозволяють надійно вимірювати та оцінювати вартість кожного елемента вищевказаних понять та їх складових частин.

**Keywords:** *financial analysis, balance sheet, financial condition of the bank, commercial bank, economic standards, resource base, capital, liabilities, assets, liquidity, solvency, profitability, Basel Accord.*

**Ключові слова:** *фінансовий аналіз, бухгалтерський баланс, фінансовий стан банку, комерційний банк, економічні нормативи, ресурсна база, капітал, зобов'язання, активи, ліквідність, платоспроможність, рентабельність, Базельська угода.*

**Problem statement.** In modern business conditions, the information support of the management process becomes especially relevant. It is the quality, timeliness and content of the information received that determines the effectiveness of enterprise management, and this, in turn, has a significant impact on the competitiveness of the business. The most important source of information on the financial condition of an enterprise is the balance sheet as an integral part of the accounting and financial reporting system, which is able to meet the information needs of various categories of internal and external users. In the financial statements of an enterprise, the balance sheet is central, since it most fully characterizes the set of properties of an individual business entity.

A qualitatively new approach to the assessment of the financial condition of economic entities, changes in the approach to its significance and the need as an important element of financial management are due to the changes taking place in the country's national economy. Moreover, financial analysis, which is one of the main management functions, is of exceptional importance. It is aimed at finding reserves for increasing production efficiency, increasing competitiveness and financial stability of the enterprise. With its help, in particular, the management of a commercial bank is carried out, an assessment of the activities and business activity of the bank is given by periods, areas and segments. This analysis plays a key role in preventing a liquidity crisis and the threat of bankruptcy of commercial banks. At the same time, this characterizes their ability to maneuver financial resources for effective entrepreneurial activity, has an impact on the stabilization and strengthening of the country's financial and monetary system.

**Analysis of Research and Publications.** In the specialized literature on accounting and economic analysis, there are many publications devoted to accounting and financial reporting issues in various sectors of the national economy and, in particular, the banking sector. Works of Azerbaijani (K. Abbasov, S. Sabzaliev, K. Badalov, F. Hajiyeu, E. Jafarov, etc.) and Ukrainian economists (M. Belukha, M. Bilyk, F. Butinets, Yu. Veriga, S. Golov Y, Dankiv, O. Dubinin, M. Kuzhelny, Yu. Kuzminsky, O. Lega, M. Ostapyuk, V. Sopko, V. Soldatov, L. Chizhevskaya and others) contribute to the study of theoretical and practical

problems of balance sheet. However, an analysis of the existing literature shows that these scientific papers lack a systematic approach to these issues, and also do not provide a comprehensive assessment of their new methodology and practice. It should be noted that most scientists in their studies were of the opinion that it is necessary to improve financial reporting in accordance with the requirements of national and international standards. Taking into account international experience, the regulatory framework governing the preparation of financial statements is being systematically improved, which causes certain difficulties for specialists. In this regard, the process of conducting in-depth scientific research in this area needs to be systematically updated.

**Purpose of the article.** The problematic issues outlined above determined the target focus of the presented study – to investigate the essence, significance, methods and techniques of compiling the balance sheet, and to identify the main innovations in its structure.

**The main material research.**

Financial analysis is one of the most important functions of management. It is used to manage a commercial bank, assess the activities and business activity of the bank by periods, areas and segments. Analysis plays an important role in preventing a liquidity crisis and the threat of bankruptcy of commercial banks. In turn, this contributes to the stabilization and strengthening of the country's financial and monetary system.

When analyzing the financial condition of a bank, information about the balance sheet elements is mainly used. At the same time, to calculate indicators characterizing the financial condition, not only net financial assets and financial liabilities are taken into account, but also tangible and intangible assets necessary for the activities of commercial banks. It should be borne in mind that the analysis of the financial condition is within the framework of financial analysis, which is based on the information of the published financial statements.

In the economic literature, the essence of financial analysis is described in detail, its characteristic features are given. So, O.O. Sheremet gives the following characteristics of external financial analysis: 1) the multiplicity of subjects of

analysis and users of information about the activities of a commercial bank; 2) a variety of goals and interests of the subjects of the analysis; 3) availability of types of methods, accounting and reporting standards; 4) focusing the analysis only on the public, external reporting of a commercial bank; 5) limitation of analysis tasks; 6) maximum openness of the analysis results for users of information on the activities of a commercial bank [1, p. 13].

Assessment and analysis of the financial condition of commercial banks is carried out by the Central Bank of the country (CBA). In accordance with Article 45.2 of the Law of the Republic of Azerbaijan "On Banks," the bank submits a consolidated financial statement of operations to CBA no later than five months after the end of the financial year. In addition to CBA, other groups of information users also analyze and assess the financial condition of credit institutions. The results of the analysis of the financial condition of commercial banks conducted by rating agencies and independent experts make it possible to attract additional investors and creditors. Therefore, each commercial bank needs an objective analysis of the financial condition and financial performance [2, p. 25].

To analyze the financial position of a commercial bank, a single balance sheet form is used, which contains sufficient information for conducting an external and internal analysis of the financial position. The establishment of this form allows the CBA to develop the main directions of monetary policy and regulate the activities of these organizations. As necessary, CBA makes adjustments to monetary policy based on balance sheet data and other forms of financial reporting.

With the help of balance sheet information, the volume and condition of assets of a commercial bank as a whole, as well as by their types and areas of use, are analyzed. According to him, the sources of asset formation, the ratio between capital and attracted funds are determined. Using the balance sheet information for several reporting periods, you can determine trends in the structure of assets, liabilities and capital of a commercial bank. This is important from the point of view of determining and calculating indicators of solvency and financial stability

over time. The role of the balance sheet in determining and analyzing the liquidity indicators of a commercial bank and its assets is invaluable.

The study shows that the theory and practice of economic and financial analysis has developed techniques and methods that allow for a comprehensive analysis of the financial position of a commercial bank. In the economic literature, the methods of economic analysis of the bank's activities are divided into three groups: "traditional; statistical; mathematical" [3, p. 30]. Each group includes various well-known techniques and methods of economic and financial analysis. All these methods and techniques are used to one degree or another in the analysis of the balance sheet and its elements. Important methods for analyzing financial position based on balance sheet information are the factor method, as well as the method of grouping items of balance sheet elements. Some authors distinguish such methods and techniques of balance sheet analysis as "horizontal, vertical and structural analysis" [4, p. 330].

To carry out a detailed analysis of the financial position of a commercial bank, it is necessary to use a combination of different methods and techniques. The application of a particular method depends on the goals and objectives of the analysis. To analyze and assess the financial condition of a commercial bank at the initial stage, the grouping method is used and the items of the balance sheet elements are classified. In our opinion, such a grouping allows us to understand the essence of the analyzed processes and economic facts. The comparison method is necessary to determine the degree of impact of changes in the relevant balance sheet items on the liquidity of the bank and the profitability of its active and passive operations. The ratio method is used to determine the quantitative relationship between the various balance sheet elements and to assess the reliability of the bank. Among the methods for analyzing financial statements, the trend analysis stands out, which allows you to calculate the relative deviations of various items of the balance sheet elements over a number of years from the level of the base period.

Practice shows that the analysis of the balance sheet, its composition and structure covers the formation and use of resources of commercial banks. The

balance sheet reflects the flow of funds and the sources of their formation for various elements and items. For the convenience of analyzing the structure of a balance sheet, as well as its elements, it is important to group balance sheet items according to the principle of two-sided construction. In this format, we present the balance sheet of one of the leading commercial banks in Azerbaijan - UNIBANK (Table 1).

**Table 1.**

**UNIBANK balance as of January 1, 2025**

<b>Asset</b>	<b>Amount, thousand manats</b>	<b>Liability</b>	<b>Amount, thousand manats</b>
<i>Asset</i>		<i>Liabilities and capital:</i>	
Cash and cash equivalents	41,788	Funds payable to other banks	1,765
Mandatory reserves placed in CBA	6,842	Customer accounts	236,043
Funds receivable from other banks	40,478	Debt securities issued	39,143
Loans and advances to customers	307,727	Current debt	113,309
Investment securities that may be given	460	Current income tax liabilities	-
Investment securities held to maturity	-	Deferred income tax liabilities	-
Advances to tax authorities	4,225	Other financial liabilities	755
Deferred tax asset	4,713	Other liabilities	726
Buildings and equipment	37861	Subordination debts	21,632
Intangible assets	1,820	<b>Total liabilities</b>	<b>413,373</b>
Other financial assets	490	<b>Capital</b>	
Other assets	15,656	Capital owned by the owners of the bank:	
<b>Total assets</b>	<b>462,000</b>	Authorized capital	44,919
		Emission income	484
		Provision for revaluation of securities that can be sold	-
		Retained earnings (uncovered loss)	1,661
		Total capital owned by bank owners	47,065
		Out-of-control share	1,622
		<b>Total equity</b>	<b>48,687</b>
		<b>Total liabilities and equity</b>	<b>462,060</b>
<b>BALANCE SHEET</b>	<b>462,000</b>	<b>BALANCE SHEET</b>	<b>462,060</b>

The aggregated data presented in the above balance sheet allows you to analyze the composition and structure of the balance sheet elements, determine the resource base of the bank and the sources of its formation. As you know, the resource base of commercial banks is formed mainly due to passive operations.

However, these operations are not given serious attention not only by the banks themselves, but also by market analysts, experts and rating agencies. At the same time, without attracting financial resources, it is impossible to carry out full-fledged active operations. Banks cannot function only at the expense of equity, the main function of which is to protect the interests of shareholder founders. The equity of a commercial bank is the net assets of the bank, determined by deducting all its liabilities from the total assets [5, p.49].

In accordance with the recommendations of the Basel Committee in joint-stock banks, capital should be divided into two levels in a ratio of 1:1. At this ratio, the bank can get out of a difficult financial situation without reducing the size of the fixed capital. Additional capital is the first "defensive" echelon of protecting a commercial bank from unforeseen losses and losses. In addition, additional capital can prevent the threat of bankruptcy for a certain period of time and thereby maintain the confidence of numerous customers and partners to the bank [6, p. 121-122].

To correctly determine the ratio between fixed and additional capital, there must be a clear classification of these types of capital. Practice shows that this issue is not given sufficient attention not only by commercial banks, but also by the bodies regulating the activities of banks in methodological and regulatory aspects [7, p. 384-386; 8, p. 16-17]. This is supported by a comparison of CBA's total capital classification and the variant recommended by the 1988 Basel Accord. The Basel classification of total equity is presented in Table 2.

For the analysis and comprehensive assessment of the UNIBANK capital classification by two levels, it is enough to give one comparison: 1) the classification of the Basel Agreement clearly discloses the content of each element of fixed and additional capital; 2) there is no clear distinction between them in the balance sheet of the commercial bank UNIBANK. For example, in terms of retained earnings, the Basel Agreement clearly defines the content of the fixed capital item entitled "published retained earnings of previous years at the disposal of the bank." An article of this content from the balance sheet of the commercial bank UNIBANK cannot be traced. True, there is a balance sheet item entitled "Retained earnings (uncovered loss)," but here it is not clear what it refers to - to previous years or the reporting year.

Other examples can be cited that indicate the incomplete adequacy of the capital classification applied in the domestic banking system corresponding to the internationally recognized classification. This makes it difficult to compare the many indicators that characterize financial position and results.

**Table 2.**

**Basel Capital Classification**

<i>Tier 1 capital or core (basic) capital</i>	<i>Tier 2 capital or additional capital</i>
1) Paid share capital (fully paid common shares of the bank).	1) Provisions for revaluation of assets as a result of currency fluctuations.
2) Preferred non-cumulative shares, perpetual and term.	2) Provisions for revaluation of assets listed on the balance sheet in the form of securities.
3) Disclosed reserves, i.e. published legislative and other types of reserves created due to capitalization of part of the bank's retained earnings, as well as formed from income from the sale of the bank's own retained shares in excess of their nominal value or other similar income (emission income).	3) Provisions to cover losses that are possible in the future but not currently observable. Such provisions should not exceed 1.25% of the amount of risk-weighted assets.
4) Published retained earnings of previous years remaining at the disposal of the bank.	4) Provision for collateral within 1.5% of risk-weighted assets in exceptional cases 2%.
5) Ordinary shares of the bank's consolidated subsidiaries paid by third parties.	5) Perpetual non-redeemable preference shares.
	6) Perpetual, preferred shares that can be redeemed based on the issuer's option.
	7) Subordinated bonds convertible into ordinary shares based on the issuer's option.
	8) Perpetual subordinated liabilities.
	9) Subordinated liabilities for a fixed term (preferential shares with a fixed maturity (subordinated loans)).

According to experts [9, c. 38], the impact of passive banking operations on the profitability and liquidity of banks is differentiated: a) passive operations leading to an increase in current account balances increase the profitability of the bank, but reduce its liquidity. In international practice, the optimal level of attracted resources in the total resource base of banks varies within 30%; b) an increase in the share of attracted funds in the form of large interbank resources seems undesirable, given that this type of funds narrows the range of resource diversification. This is especially risky for small commercial banks. The optimal level of this indicator in the structure of bank loans is determined at the amount of

20% of the total resource base of credit institutions. Loans received from other banks, as well as short-term term deposits in the context of inflationary processes, are considered expensive, since they are accompanied by high expenses of borrowing banks. The same sources of attracted resources as funds in customer accounts, funds in settlements and other creditors are cheap, and the bank's costs for these resource bases are minimal.

Taking into account the above, we will analyze in more detail the composition and structure of the resource base of the commercial bank UNIBANK. According to its balance sheet (Table 3), the main type of funds raised are customer accounts: at the beginning of 2025 - 51.1% of all resources and 57.1% of all funds raised. This type of liabilities in monetary terms is 4.8 times the size of the total capital and 5.3 times the size of the authorized capital of the analyzed commercial bank. According to Table 3, the main source of the bank's resource base for the analyzed period is customer accounts, for which there is a steady growth, which confirms the conclusion that the bank prefers cheaper items for the receipt of attracted funds. Fixed-term debt occupies a high share in the structure of funds raised, although their share has steadily decreased during the period under review. This trend indicates the correctness of the course of the analyzed commercial bank, given that the main sources of this type of attracted funds are resident banks, government organizations, as well as non-residents (banks and other financial institutions).

**Table 3.**

**Structure of raised funds (liabilities) of the bank for 2022-2024**

<b>Balance sheet liability items</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
Funds payable to other banks	1,49	4,4	0,4
Customer accounts	45,9	55,3	57,1
Debt securities issued	-	-	9,5
Current debt	43,4	33,1	27,4
Current income tax liabilities	0,9	0,1	-
Deferred income tax liabilities	0,1	-	-
Other financial liabilities	1,1	0,5	0,2
Other liabilities	0,5	0,1	0,2
Subordination debts	6,7	6,7	5,2
<b>Total funds raised (liabilities)</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

An important object of analyzing the activities of a commercial bank is the composition and structure of the balance sheet asset. This allows you to establish the directions of use of the bank's resources, the degree of its liquidity and solvency. The structure of bank assets is determined by the specifics, types and vectors of banks' activities, their size and other factors. The rationality of this structure, the value of each type of asset is determined by their specific gravity. With regard to credit and other financial investments, the coefficient of use of borrowed funds for these purposes is applied, the optimal value of which varies from 0.65 to 0.75. For UNIBANK (Table 4), this indicator was 0.76 in 2024 (0.69 in 2022), which corresponds to their optimal level.

**Table 4.**

**The ratio of attracted resources and financial and credit investments  
of the bank for 2022-2024**

<b>Indicators</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
1. Raised funds, thousand manats.	322,807	328,472	413,373
2. Credit and other financial investments, thousand manats.	225,345	233,415	312,902
3. Utilization rate of funds raised for credit and other financial investments (lines 2:1)	0,69	0,71	0,76

When analyzing the dynamics and structure of the UNIBANK BANK balance for 2022-2024, we identified a number of stable trends:

- The main direction of the bank's active operations is credit investments, which accounted for over 66% of assets in 2024.

- In the period under review, the growth rate for loans issued is higher than for total assets (120.0% versus 114.9% in 2024), which confirms the activity of the bank in the field of lending to customers.

- Loans issued by a commercial bank are used mainly to meet the needs of individuals, i.e. they are not aimed at developing the real sector of the economy.

- The efficiency ratio of attracted funds calculated by us tends to decrease, which indicates, on the one hand, a decrease in the share of attracted funds used to increase income-generating assets, and on the other, its increase relative to the creation of other assets and coverage of expenses that do not bring income to the analyzed bank.

The stability and reliability of the financial condition of the bank, first of all, depends on the size of equity. The latter is the aggregate of authorized capital, reserve capital, retained earnings of previous years and the reporting period, net of capital expenditures, losses, repurchased equity shares and receivables for a period of more than one month. Currently, the minimum authorized capital of a commercial bank operating in the territory of the Republic of Azerbaijan is 50 million mana.

It is with the assessment of the adequacy of bank capital, as a rule, that the liquidity analysis begins. Using the balance sheet data, you can determine the capital adequacy of the analyzed bank by year:

$$\text{in 2022: } K_2 = \frac{CK}{A} \times 100\% = \frac{39194000}{362001000} \times 100\% = \frac{3919410000}{362001000} = 10,83\%$$

$$\text{in 2023: } K_2 = \frac{CK}{A} \times 100\% = \frac{41576000}{370048000} \times 100\% = \frac{4157000000}{370048000} = 11,23\%$$

$$\text{in 2025: } K_2 = \frac{CK}{A} \times 100\% = \frac{48687000}{412060000} \times 100\% = \frac{4868700000}{412060000} = 10,54\%$$

Based on the calculated coefficients, we can conclude that the commercial bank UNIBANK for the analyzed period complied with the capital adequacy ratio. It seems that for a more objective analysis of the adequacy of bank capital, other balance sheet items can be used and different indicators of the capital adequacy ratio can be determined on this basis. In particular, the adequacy of bank capital can be analyzed by the following indicators:

$$1) \frac{\text{Fixed capital}}{\text{Assets}}; 2) \frac{\text{Additional capital}}{\text{Assets}}; 3) \frac{\text{Equity capital}}{\text{Total deposits}};$$

$$4) \frac{\text{Equity capita}}{\text{Risk-weighted assets}}$$

These ratios allow us to determine the degree of participation of the bank's capital and assets in ensuring capital adequacy.

The creation of required reserves in the banking system of the Republic of Azerbaijan is regulated by special rules of the CBA. Their definition is part of the

country's monetary policy instruments. Taking this into account, the CBA, in accordance with paragraph 29.1 of Article 29 of the Law of the Republic of Azerbaijan "On the Central Bank of the Republic of Azerbaijan" [10], is developing an acceptable option for the formation of required reserves in credit institutions, including commercial banks. At the same time, the procedure for their accrual is also determined by the CBA.

The creation of required reserves regulates the general level of liquidity, maintains the required level of money in circulation. The amount of required reserves is determined as a percentage of the total amount of obligations (from a certain part of the amount of obligations) of credit institutions. If necessary, the rates of deductions to mandatory reserves are revised and changed. Currently, deductions to mandatory reserves are determined in the amount of 10% of the amount of account balances that take into account the obligations of the credit institution. The list of accounts for accounting of liabilities, for the balances of which mandatory reserves are accrued, is determined in the CBA instruction (rules).

The above economic standards intended for commercial banks contribute to strengthening their financial condition, and also positively affect the stability of the monetary system and the country's economy. However, the analysis shows that these economic standards still cannot fully characterize liquidity and other indicators necessary for an objective diagnosis of the financial condition of commercial banks. On this occasion, G.S. Panova rightly notes that "... it is not at all clear to what extent compliance with the standards really guarantees the reliability of the bank" [11, p. 61].

When analyzing liquidity, it is advisable to calculate such an indicator as short-term liquidity:

$$C_{stl} = \frac{\text{Cash and cash equivalents} + \text{Nostro accounts} \pm \text{Short-term securities}}{\text{Customer accounts} + \text{Short-term deposits} + \text{Other short-term liabilities}}$$

For a more objective analysis of its level, the following coefficient can be used:

$$K_1 = \frac{\text{Cash + funds in correspondent accounts + Short-term securities}}{\text{Short-term liabilities}}$$

If the K1 ranges from 1 to 1.5, it means that the bank has enough liquid assets to pay off its short-term liabilities. If the value of this ratio ranges from 1.5 to 2, then this indicates that the structure of the bank's assets will not bring the bank sufficient income.

The financial condition of a commercial bank can be judged by the level of profitability. Its level can be measured by various indicators: a) the ratio of total profit (i.e. profit before tax) to the amount of share (authorized) capital; b) the ratio of total profit to the bank's assets; c) the ratio of total profit to total income.

In the analyzed commercial bank, these indicators are given in Table 5.

**Table 5.**

**Analysis of profitability indicators in the commercial bank UNIBANK**

Indicators	2023	2024
1. Return on share (charter) capital	-24,09	+11,07
2. Return on assets, %	-2,92	+1,34
3. Total profitability, %	-21,67	+7,60

Table 5 shows that the level of all profitability indicators for 2023 was negative. The value of the analyzed profitability indicators for 2024 indicates that the studied commercial bank does not have a sufficiently high efficiency. This is especially true for the level of return on assets and profitability. Total profitability (profitability), defined as the ratio of total profit to total income, shows the part of the income of a commercial bank aimed at generating profit. In the analyzed bank, this figure is only 7.6% in 2024. This means that this bank directed 92.4% of all income to cover its expenses.

For an in-depth analysis of profitability, it is advisable to use other profitability indicators that are used in foreign practice:

$$1) \text{ Return on equity (ROE)} = \frac{\text{Net income}}{\text{Share capital}}$$

The optimal ROE should be in the range of 10-20%. In 2024, in the analyzed bank, ROE was 10.2%.

2) Total return calculated as the sum of dividend income and capital gains (Gordon model):

$$R_0 = \frac{D_1}{P_0} + \frac{P_1 - P_0}{P_0}$$

where,  $R_0$  – total profitability;  $D_1$  – dividends at the end of the year;  $P_0$  – share purchase price;  $P_1$  – sale price of shares.

This indicator characterizes the profitability of a commercial bank at the end of the year. At the same time, an important factor in the growth of profitability is the price of equity capital, which depends on the profitability of shares, the growth rate of income per share, the dividend payout ratio and the level of risk.

3) Expected rate of return (Sharpe formula):

$$E(R) = R_f + [E(R_m - R_f)] \times \beta$$

where,  $E(R)$  – expected rate of return (calculated value);  $R_f$  – risk-free interest rate (for example, on government securities);  $R_m$  – market rate of return, which consists of a risk-free rate and a risk premium;  $[E(R_m - R_f)]$  – premium risk;  $E(R_m - R_f)$  – expected market rate;  $\beta$  - correction factor that determines market risk.

The liquidity of a commercial bank is the basis of its solvency, which is considered a generalizing indicator of assessing the financial condition of a commercial bank. If the level of capital adequacy is ensured, the bank must be solvent as of the balance sheet date. The solvency level (ratio) is defined as the ratio of a bank's assets to its liabilities. In the analyzed commercial bank, this indicator for 2022-2024 is 1.11, respectively; 1.27 and 1.21.

The solvency of a commercial bank depends on its equity capital and on the level of management, the state of the credit, stock and money markets, and the bank's deposit and credit policy. To control and regulate solvency, it is advisable to balance the inflow and outflow of cash required to pay off obligations (Table 6).

As shown in Table 6, as of October 10, 2024, the bank is insolvent, as it has more obligations than means of payment in the amount of 8034 thousand mana.

For a more accurate assessment of solvency, you need to use data on overdue loans.

**Table 6.**

**Balance of cash receipts and repayment of liabilities  
as of October 10, 2024 (thousand manats)**

<b>Expected cash inflow</b>	<b>Amount</b>	<b>Expected repayment of liabilities</b>	<b>Amount</b>
Repayment of loans issued	39000	Term deposit liabilities	33340
Return of issued interbank loans	4600	Interbank loan liabilities	23690
Redemption of securities	9660	Investment and settlement securities liabilities	5819
Proceeds from sale of securities	6040	Other liabilities	7751
Other income	3266		
<b>Total</b>	<b>62566</b>	<b>Total</b>	<b>70600</b>

In calculating the need for liquid assets, it is advisable to use a foreign methodology, according to which:

$$LA = \Delta BD - \Delta P - \Delta K$$

where LA – liquid assets;  $\Delta BD$  – increase in deposits and savings accounts;  $\Delta P$  – increase of reserves;  $\Delta K$  – increase in loans.

For a more in-depth analysis of the effectiveness (profitability) of the bank's activities, it is necessary, following the example of foreign banks, to draw up a "balance of average capital". Although it is not a form of financial reporting, here the assets are divided into bringing and not bringing income, and for liabilities – paid and not paid items. As the share of income generating assets increases, profitability increases while liquidity decreases, and as the share of non-income generating assets increases, the opposite picture is observed. In our opinion, this technique is advisable for all commercial banks.

**Conclusions.**

The central link in financial analysis is considered to be "financial condition analysis". In the context of the global financial crisis, the problem of identifying the reliability of commercial banks has become especially urgent. Analysis of the financial condition based on balance sheet elements is necessary to assess the business activity of the bank and the reliability of their activities. The financial

condition of a commercial bank is characterized by a system of synthetic and analytical indicators reflecting the availability and movement of assets, liabilities and capital of a commercial bank. For its assessment, in addition to reliable sources of information, adequate methods and methods of economic analysis are of great importance, the use of which, taking into account the specifics of the bank's activities, makes it possible to objectively assess the nature of changes in the composition and structure of balance sheet elements.

Practice shows that the resource base of commercial banks is formed mainly due to passive operations. However, these operations are not given serious attention not only by the banks themselves, but also by market analysts, experts and rating agencies. Liabilities arising from passive transactions lead not only to debts, but also to the attraction of funds and other financial resources, from the use of which the bank receives income. Without attracting financial resources, it is impossible to carry out full-fledged active operations.

Commercial banks must find sources of increase in equity, primarily through capitalization of profits. Therefore, it is necessary to find a rational relationship between capitalization and the payment of dividends from the profit received. An important source of increased equity is the additional issue of shares and other securities. But such a path can be effective if the money raised in this way contributes to increased profits. An increase in equity due to the additional issue of securities also leads to the need to pay dividends and, therefore, the emergence of additional obligations. If the funds raised from the additional issue of shares are not used effectively, this will lead to an additional deterioration in the ratio between equity capital and funds raised (obligations) of commercial banks. Therefore, in the process of a comprehensive analysis of balance sheet elements, it is important to determine the ratio between equity and liabilities, and trace the trend of such a ratio.

Azerbaijan's phased Liquidity Coverage Ratio adoption will strengthen the banking sector. On 1 August 2025, the CBA was implemented a new regulatory framework that includes the phased adoption, by the end of 2027, of the Liquidity

Coverage Ratio (LCR), a key Basel III liquidity standard that requires the assessment of banks' liquidity positions in both aggregate and national currencies. Implementation of the new framework is credit positive because it will enhance Azerbaijani banks' capacity to build more sustainable liquid positions in national currency – an important step in the development of the country's financial sector and alignment with international best practices.

A commercial bank's solvency depends on its equity capital, the quality of its management, the state of the credit, stock, and money markets, and the bank's deposit and lending policies. To monitor and regulate solvency, it is advisable to compile a balance sheet of cash inflows and outflows required to repay obligations. For a more in-depth analysis of the bank's performance (profitability), it is necessary to compile a "balance sheet of averaged capitals," following the example of foreign banks.

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