

## ANALYSIS AND ASSESSMENT OF THE LIQUIDITY OF COMMERCIAL BANKS' BALANCE SHEETS

Rauf Nuriyev

Baku Business University, Baku, Azerbaijan  
e-mail: [rauf.nuriyev.1997@mail.ru](mailto:rauf.nuriyev.1997@mail.ru)

**Abstract.** This article examines the methodologies for analyzing commercial banks' balance sheet liquidity, a vital determinant of financial stability. It explores the balance between liquidity and profitability, emphasizing regulatory compliance, risk management and operational efficiency. The research provides actionable insights into asset-liability structuring, forecasting and best practices for enhancing banking resilience and mitigating risks.

**Keywords:** Balance sheet liquidity, financial stability, risk management, commercial banks, liquidity analysis.

### KOMMERSİYA BANKLARININ BALANS LİKVIDLİYİNİN TƏHLİLİ VƏ QIYMƏTLƏNDİRİLMƏSİ

Rauf Nuriyev

*Bakı Biznes Universiteti, Bakı, Azərbaycan*

**Xülasə.** Məqalədə maliyyə sabitliyinin vacib bir amili olan kommersiya banklarının balans likvidliyinin təhlili metodologiyaları araşdırılır. Bundan başqa məqalədə likvidlik və mənfəətlilik arasındakı balans, normativ tələblərə uyğunluq, risklərin idarə olunması və əməliyyat səmərəliliyi təhlil olunur. Məqalədə aktiv-passiv strukturun qurulması, proqnozlaşdırma və bank sisteminin dayanıqlığının artırılması, risklərin azaldılması üçün ən yaxşı təcrübələr barədə praktiki tövsiyələr təqdim edilmişdir.

**Açar sözlər:** Balans likvidliyi, maliyyə sabitliyi, risklərin idarə olunması, kommersiya bankları, likvidliyin təhlili.

### АНАЛИЗ И ОЦЕНКА ЛИКВИДНОСТИ БАЛАНСОВ КОММЕРЧЕСКИХ БАНКОВ

Рауф Нуриев

*Бакинский Университет Бизнеса, Баку, Азербайджан*

**Резюме.** В статье рассматриваются методы анализа ликвидности балансов коммерческих банков, которая является важным фактором финансовой стабильности. А также исследуется баланс между ликвидностью и прибыльностью с акцентом на соблюдение нормативных требований, управление рисками и операционную эффективность. Исследование предоставляет практические рекомендации по структурированию активов и пассивов, прогнозированию и лучшим практикам для повышения устойчивости банковской системы и минимизации рисков.

**Ключевые слова:** Ликвидность баланса, финансовая стабильность, управление рисками, коммерческие банки, анализ ликвидности.

## 1. Introduction

The liquidity of commercial banks' balance sheets is a cornerstone of financial stability, directly impacting their ability to meet obligations, sustain operations and adapt to changing economic conditions. As a critical component of financial management, liquidity assessment serves as both a diagnostic and a preventive tool, enabling banks to identify vulnerabilities and take proactive measures to mitigate risks. In the context of modern banking, where financial markets are increasingly interconnected, maintaining adequate liquidity is essential not only for individual institutions but also for ensuring the overall stability of the financial system.

The significance of balance sheet liquidity extends beyond solvency; it plays a pivotal role in operational efficiency, risk management and compliance with regulatory standards. Banks are required to maintain a delicate balance between holding sufficient liquid assets to cover short-term obligations and optimizing asset allocation to achieve profitability. This dual objective necessitates a robust methodology for liquidity analysis, incorporating a comprehensive understanding of the interrelation between assets and liabilities, risk factors and market conditions [2, p.58].

This article explores the methodologies and processes involved in analyzing and assessing the liquidity of commercial banks' balance sheets. It examines the role of balance sheet liquidity in mitigating banking risks and emphasizes the importance of adhering to regulatory frameworks. Key aspects such as the classification of assets and liabilities, forecasting financial positions and the integration of qualitative and quantitative factors into liquidity assessments are discussed in detail.

The study underscores the necessity for transparent and effective liquidity management strategies, offering insights into best practices and tools for optimizing financial stability. By evaluating the intricate dynamics of balance sheet composition and its impact on liquidity, this research aims to contribute to the development of more resilient banking systems and provide valuable guidance for practitioners, regulators and policymakers.

## **2. Research and Findings**

The liquidity of the balance sheet of commercial banks represents one of the central characteristics of their financial stability. Effective balance sheet analysis allows not only the assessment of the bank's current solvency but also its ability to meet financial obligations under various economic conditions. The purpose of this article is to examine the methodology for liquidity analysis, the key stages of its assessment and the role of these processes in managing banking risks. Particular attention is paid to methods of analysis, the classification of assets and liabilities and audit practices, which are crucial for enhancing the transparency and efficiency of the banking sector.

The objective of the study is to analyze and evaluate the liquidity of commercial banks' balance sheets, focusing on their ability to ensure the timely fulfillment of financial obligations. The study aims to:

1. Identify key methods for liquidity analysis.
2. Determine the factors influencing balance sheet liquidity.
3. Assess the role of liquidity in managing banking risks.
4. Explore regulatory and methodological approaches to analyzing the financial statements of commercial banks.

Financial analysis is one of the key tools for ensuring effective financial management of an enterprise. The methodology for analyzing financial conditions includes several stages:

- An initial assessment of the financial condition, carried out as an express analysis;

- An in-depth analysis of the financial situation;
- Forecasting the financial position.

During the analysis, the calculated indicators are adjusted to account for qualitative factors and the specific operations of the organization.

The main tasks of the analysis include the following actions:

- Assessing the company's asset condition;
- Studying the liquidity of specific asset groups;
- Analyzing the structure and sources of asset formation;
- Determining the characteristics of current asset provisioning;
- Investigating the interrelation of assets and liabilities;
- Evaluating the potential for generating cash flow;
- Analyzing the preservation and growth of capital.

Forecasting financial conditions aims to determine how past events, current trends and new managerial decisions can influence a company's ability to maintain financial stability in the future.

The financial reporting of an enterprise represents a set of indicators reflecting its property and financial position at a given point in time, as well as the results of economic activities over a specific period. The primary purpose of financial reporting is to provide complete and reliable information about assets, liabilities, financial results and changes in the organization's operations.

### **The Balance Sheet as a Tool for Commercial Banks**

The balance sheet is the primary financial statement that reflects the actual state of affairs within an enterprise. For a company, it serves as a tool to evaluate the condition of its resources and the sources of their formation [2, p.20]. The balance sheet is presented in monetary terms, typically expressed in the national currency and allows for the comparison of results across different periods, summarizing data from both analytical and synthetic accounting.

The balance sheet is a key element that characterizes the activities of a commercial bank. It reflects the current state of its resources and the sources of their formation, presented in monetary terms and expressed in standard units. Typically, the standard unit is the currency of the country where the bank operates. The balance sheet enables the comparison of financial results over different reporting periods by consolidating data from analytical and synthetic accounting.

In the banking sector, unlike other industries, the balance sheet is prepared daily. This is necessary for operational control, analysis of the bank's performance and timely corrective actions. The bank's balance sheet consists of two main sections: assets and liabilities. Assets represent the bank's resources, while liabilities reflect the sources of their formation. Financial data in the balance sheet is grouped by uniform criteria.

The central bank pays special attention to capital adequacy, as it is a crucial factor in ensuring the stability of the banking system. At the same time, for the management of commercial banks, balance sheet analysis serves as a primary tool for evaluating liquidity and solvency.

Balance sheet reports occupy a central place in the structure of banking reporting. Their analysis allows for monitoring the level of liquidity and optimizing the management of the bank's operations. Bank managers also use the financial reports of other credit organizations to assess their financial condition when establishing correspondent relationships, issuing loans and in other cases.

Bank balance sheets are prepared in a standardized format and the level of detail for operations is limited by commercial confidentiality, which is characteristic of the competitive environment in the banking sector. These reports are classified as commercial information and must meet the criteria of efficiency, accuracy and reliability.

Efficiency implies that all financial operations and their components are promptly reflected in the balance sheet. Furthermore, a critical aspect of efficiency is the balance sheet's ability to provide timely and relevant information about current financial operations.

Accuracy is demonstrated by the balance sheet's capability to supply users with reliable financial information essential for decision-making.

Reliability is determined by the level of trust in the information provided in the balance sheet.

Given the relatively low payment discipline in the republic, accounts receivable for domestic organizations is a less liquid asset compared to Western companies [6, pp.104-105].

In analyzing the financial condition of an organization, the net working capital (NWC) indicator is calculated and its recommended value should be greater than zero:

$$NWC > 0.$$

Changes in the balance sheet structure influence cash flows. By the end of the budget period, the balance is formed based on the principle of equality between the asset and liability items:

$$\text{Balance at the beginning of the budget period} + \text{Planned income} - \text{Planned expenses} = \text{Planned balance}.$$

The planned balance at the end of the period represents the expected value, while the opening balance is recorded as the actual value. The planned income and expense figures are calculated considering the relevant consolidated forms of the borrower's operational, investment and financial budgets.

When auditing the bank's balance sheets, auditors develop testing models that all commercial banks must adhere to in compliance with central bank standards.

In analyzing a bank's balance sheet, it is important to consider the following aspects:

- The data in the balance sheet at the start of the reporting period should be reconciled with the indicators from the previous period's balance sheet. If discrepancies or inconsistencies are found, they must be justified and explained.

- The figures in the balance sheet at the end of the reporting period must be validated and substantiated.

- The amounts reflected in the balance sheet items for settlements with financial institutions, tax authorities and banks should be reconciled with the corresponding counterparties and must match.

- The final balance sheet data at the end of the fiscal year must align with the turnovers and balances in the accounting registers.

- The balance sheet indicators at the start and end of the year should be comparable and logically linked.

Any deviations or inconsistencies in the methodology for forming the opening and closing balance sheet items require explanations.

In the balance sheet, items are arranged in descending order of liquidity. Balance sheet reports of commercial banks serve as a foundation for analyzing their operations, managing liquidity and minimizing banking risks.

In modern conditions, the balance sheet of a commercial bank serves not only as an accounting tool but also as an essential instrument for organizational management. Additionally, it can be utilized as commercial information and a powerful marketing tool to attract potential clients interested in a professional analysis of the bank's activities.

Residual liquidity is determined by the bank's ability to meet its obligations through the quick sale of assets. The capability to rapidly convert assets into cash to fulfill obligations depends on several factors, the most critical being the alignment of asset placement terms with resource acquisition terms.

The liquidity of a bank's balance sheet is directly influenced by its asset structure: the higher the proportion of high-quality liquid assets in total assets, the greater the bank's liquidity.

In international practice, the most liquid assets are considered to be cash on hand, which includes both cash held at the bank and funds placed in its correspondent account at the Central Bank.

In Azerbaijan, liquidity standards are regulated by the Central Bank of the Republic of Azerbaijan. According to the Central Bank's provisions outlined in the document "On the Liquidity of Commercial Banks", highly liquid assets (A1) include cash in both national and foreign currencies, government securities issued by the Central Bank and the Azerbaijani government and securities issued by the Central Bank's mortgage fund.

Low-liquidity assets (A3) include those that are challenging to quickly convert into highly liquid assets, such as long-term loans or real estate investments.

The liquidity of a bank is also influenced by the level of risk associated with its asset operations. A higher proportion of high-risk assets in the bank's balance sheet results in lower overall liquidity. Traditionally, cash is considered reliable, while banks' long-term investments fall into the category of higher-risk assets.

The creditworthiness of a bank's borrowers significantly impacts the timely repayment of loans, which in turn affects the liquidity of the balance sheet. The higher the share of high-risk loans in the bank's loan portfolio, the lower its overall liquidity.

Liquidity is also influenced by the structure of liabilities reflected in the balance sheet. An increase in the proportion of demand deposits and a simultaneous decrease in term deposits negatively affect the bank's liquidity. Furthermore, the reliability of funds attracted by the bank in the form of deposits or loans from other financial institutions plays a crucial role in determining the liquidity level.

To ensure stability, a bank must maintain a liquidity reserve designed to meet unforeseen obligations. Such reserves may be necessitated by changes in the money market or a deterioration in the financial position of clients or their groups.

Highly liquid liabilities (P1) include funds in current accounts, demand deposits, liabilities with a maturity of up to 30 days and obligations past their due date. According to the Central Bank's regulations, obligations with a maturity of 8 to 30 days are also classified as highly liquid (1).

Medium-liquid liabilities (P2) consist of obligations with maturities ranging from 30 days to one year, as well as obligations exceeding one year. This category also includes liabilities that grant creditors the right to demand early repayment of the debt.

Highly illiquid liabilities (P3) are those with a maturity exceeding 365 days. The liquidity of a bank's balance sheet is determined through the calculation of specific ratios that reflect the relationship between assets and liabilities as well as the structure of the assets. Liquidity levels are categorized as follows:

- Instant liquidity;
- Medium-term liquidity;
- Long-term liquidity;
- Overall liquidity.

A bank's liquidity is assessed by comparing its liquidity ratios with regulatory benchmarks. Maintaining the required level of liquidity is ensured by implementing a policy developed by the bank for managing assets and liabilities. This policy takes into account the characteristics of the money market, the specifics of the client base, the nature of operations and the bank's internal capabilities.

Before conducting the main audit, the auditing firm should perform a preliminary assessment of the bank in the form of an express audit. This type of analysis provides baseline information about the organization under conditions of limited initial data and tight time constraints. Since banking activities are associated with commercial confidentiality, certain

aspects of operations cannot be disclosed immediately. Thus, express analysis relies on the most accessible information, such as the balance sheet and the profit and loss statement.

The purpose of express analysis is to assess the level of risk associated with collaborating with a specific bank. It is an effective method for quickly diagnosing the organization's situation, determining the feasibility of a more in-depth financial analysis and identifying additional data requirements. Conducting an express analysis of financial statements takes only one to two days and provides a general understanding of the company's financial condition. The advantage of this method lies in its reliance on a straightforward information base.

Express analysis of financial statements is conducted using two methods: horizontal and vertical analysis.

Horizontal analysis involves comparing each item in the financial statement to the corresponding item from the previous period, both in relative and absolute terms. This approach enables concise conclusions about changes over time. Current period figures are compared to those of the previous period, allowing for the identification of trends, such as growth or decline in specific balance sheet items. The difference between the current and prior period values helps determine whether there has been an increase or decrease.

For more precise insights and trend identification, it is recommended to analyze data over two or three years. This approach provides a clearer view of patterns, such as growth or decline in the organization's solvency.

Vertical analysis determines the structure of key financial indicators, assessing the contribution of each line item to the overall result. This method involves setting the total assets of the company (for balance sheet analysis) or total revenue (for income statement analysis) as 100%.

Vertical analysis of the balance sheet helps identify factors influencing changes in the company's solvency during the analyzed period. It includes calculating the relative weight of each balance sheet item in the total assets.

In the course of business operations, transactions such as deposits, settlements, cash services and lending are conducted between enterprises and banks. Auditors pay particular attention to analyzing these transactions during audits.

Deposit operations involve banks attracting funds from legal entities and individuals to deposit accounts, which may be opened for a fixed term or on-demand. Carrying out such operations requires each credit institution to develop its own deposit policy. This policy encompasses a set of measures aimed at defining the forms, objectives and scope of banking activities to establish a commercial bank's resource base.

The purpose of auditing deposit operations is to ensure compliance with the legislative norms of the Republic of Azerbaijan and to assess the quality of the resources attracted in terms of their impact on the bank's financial stability.

As part of the audit, the following aspects are analyzed:

- The correctness of opening and managing deposit accounts;
- Adherence to the terms specified in deposit agreements;
- Accounting for deposit transactions;
- Accuracy and timeliness of interest calculation and payment on deposits.

Key Objectives of Auditing Deposit Operations:

1. Assess the completeness and timeliness of the bank's fulfillment of obligations related to deposit operations.
2. Ensure compliance of these operations with legislative requirements.
3. Verify the correctness of the execution of deposit agreements.
4. Confirm the accuracy and timeliness of accounting for deposit operations.
5. Evaluate the procedures for setting interest rates and their alignment with current economic conditions.

Documents Required for the Audit:

- Deposit agreements
- Legal files of clients
- Register of opened client accounts
- Client account statements
- Reports on accrued interest
- Ledger sheets for accounting purposes
- Bank balance sheet
- Profit and loss statement
- Internal bank regulations governing deposit policies

Audit Analysis of Deposit Operations:

1. Review of Internal Documents:

The auditor examines the bank's internal regulations regarding the attraction of funds, including deposit policies, rules for calculating interest and procedures for conducting deposit operations with individuals and businesses. All documents must be officially approved. Before starting the audit, auditors assess the compliance of the bank's internal documents with applicable legislation and regulatory acts.

2. Verification of Deposit Agreement Details:

The auditor ensures the presence of all mandatory details in the agreements, such as the contract number and date, details of the parties involved, their addresses and banking information, signatures, seals, deposit amounts, terms, interest rates and conditions for interest calculation and payment.

3. Reconciliation of Accounts and Agreements:

The number of deposit agreements is compared to the number of opened personal accounts. The accuracy of opening these accounts is also verified.

4. Legitimacy of Accounting Entries:



The auditor ensures the legitimacy of accounting entries on personal accounts and the corresponding primary documents.

5. Verification of Signatures:

The auditor checks that the signatures in the documents match the specimens provided by the clients.

6. Timeliness of Interest Transactions:

The accuracy of reflecting accrued interest in the balance sheet is examined. If interest is added to the deposit, it should be credited to the clients' personal accounts promptly. In the case of interest payments, they must be transferred to the clients' settlement accounts in a timely manner.

7. Consistency of Accounting Data:

The alignment of data from synthetic accounting with analytical data is analyzed.

8. Operations with Legal Entity Clients:

The auditor verifies the presence of a certificate from the tax authority confirming the opening of a deposit account for the client, as well as a copy of the bank's notification to the tax authority.

Additionally, during the audit, settlement transactions performed by the bank are examined.

Client financial orders are executed through payments, which can be made in cash or non-cash forms. In banking practice, non-cash payments predominate, where funds are transferred through bank accounts or through the offsetting of mutual obligations. This approach reduces the volume of cash in circulation and minimizes costs related to the production, transportation and storage of cash.

To encourage the use of non-cash payments, the tax authorities in Azerbaijan have established maximum limits for the amount of cash that enterprises can hold in their registers. Any excess cash must be deposited into the company's settlement accounts with banks.

The following aspects of payment transactions are verified during an audit:

- The procedure for opening settlement and current accounts;
- The rules for using accounts for conducting non-cash payments.

All transactions involving the receipt or withdrawal of funds from a client's current account are carried out solely based on the account holder's instructions and in compliance with the established priority order.

Payment standards include the following provisions:

- The ability to file a complaint in the event of a claim against the bank;
- The right to file a lawsuit against a bank that has caused delays or errors in payments.

Compliance with these requirements is verified through a selective review of payment documents. Auditors may identify lost profits or financial shortfalls resulting from transactions

where funds were credited, debited or deposited to client accounts incorrectly or with delays, provided no penalties were applied for such errors.

All payment documents must comply with standards established by current regulations.

As a commercial organization, a bank aims to generate profit. The economic nature of profit is one of the most complex and debated topics in modern economic theory. From an economic standpoint, profit is the difference between cash inflows and outflows. It can also be defined as the difference in the organization's asset position at the beginning and end of the reporting period. Profit arises when revenues exceed expenses, while the opposite scenario is classified as a loss [3, p.56].

The revenue of an organization represents an increase in economic benefits, contributing to capital growth through the inflow of funds, other assets or the reduction of liabilities. Depending on the nature and conditions of revenue generation and the borrower organization's areas of activity, revenues are categorized into:

- Revenues from core activities;
- Other revenues.

Revenues from core activities include income generated from the sale of products, goods, the completion of work and the provision of services. In accounting, the profit of a commercial organization is defined as the difference between its revenues and expenses [4, p.58].

To assess a borrower's creditworthiness, the cash flow analysis method is applied. This approach is based on examining the organization's inflows and outflows over specific periods. Economic analysis, including investment analysis, involves calculating and comparing revenues and expenses for specific operations, taking into account discounting.

From a structural perspective, a commercial bank's revenues are divided into:

- Interest income;
- Commission income;
- Other income.

Interest income can be complemented by commission income, forming the bank's total revenue. A bank's financial inflows must cover its expenses, compensate for risks and ensure profitability.

Bank revenues can originate from both core activities and ancillary services. Core activities encompass the provision of banking services for which the bank is licensed. Additional revenues are derived from activities outside the scope of core banking operations.

To ensure a stable income stream, banks must pursue a policy of diversifying their revenue sources. A solid financial foundation is achieved when revenues exceed the bank's expenses.

To mitigate potential risks, reserve funds are formed from the bank's revenues. Analyzing the structure of revenues and expenses helps identify factors influencing the achievement of specific financial outcomes.

The profit of a commercial bank serves several key functions:

- It reflects and measures the bank's productive potential, particularly in terms of its active operations;
- It facilitates capital growth through the capitalization of retained earnings;
- It provides financial resources for expanding operations in new sectors of the economy, the social sphere and other regions;
- It acts as a source of dividend payments to shareholders and rewards to bank participants for invested capital;
- It is used to establish reserve funds and create financial buffers for unexpected expenses or potential losses in unforeseen circumstances.

**Conclusion.** The analysis of the liquidity of commercial banks' balance sheets is a crucial tool for ensuring their financial stability and competitiveness. The conducted research revealed that balance sheet liquidity depends on the structure of assets and liabilities, the effectiveness of risk management and the bank's compliance with established regulations. Developing and implementing a sound financial policy based on the results of liquidity analysis enables banks to enhance solvency, minimize risks and ensure long-term stability. The findings can be utilized to improve liquidity management methods and increase the operational efficiency of commercial banks.

### References

1. Azərbaycan Respublikasının Mərkəzi Bankı Statistik bülleten No.012/2019.
2. Evans J.J., Haq M. (2022), Does bank capital reduce liquidity creation? *Global Finance Journal*, Vol.54, 100640.
3. Zakaria H., Hizia Z. (2024), Banking stress test a risk management tool simulation of a combined credit and liquidity stress test on a commercial bank. *Algerian Scientific Journal Plattform*, Vol.8, No.2, 130-149.
4. Alptekin G. (2017), *Banka İşlemleri*, Ankara.
5. Azərbaycan Dövlət Statistika Komitəsi İqtisadiyyata kredit qoyuluşları, 2019.
6. Azərbaycan Respublikasının Vergi Məcəlləsi (sonradan edilmiş dəyişiklik və əlavələr nəzərə alınmaqla), Bakı, 2019.
7. Fətullayev R. (2019), *Beynəlxalq Mühəsibat Uçotunun Əsasları Üzrə Məsələlər və Testlər Toplusu*. Bakı.
8. Wang Y., Yu X., Yao Q., Lu Y., Che W., Jiang J., Chenn S.C.I. (2024), Assessing the impact of financial technology innovations on the sustainable profitability of listed commercial banks in China. *FinTech*, Vol.3, No.3, 337-348.
9. Bəşirov R.A. (2016), *Bank işi. Dərslik*, Bakı.