MODERN METHODOLOGY FOR ASSESSING THE STABILITY OF THE DEPOSIT BASE OF COMMERCIAL BANKS

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Abstract: This article examines modern methodological approaches to assessing the stability of the deposit base of commercial banks in the context of global financial crises, digital transformation and the evolution of prudential regulation. Particular attention is paid to the Basel III framework and its two key liquidity metrics — the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR) — as well as the concept of stable funding, run-off rates, Deposit Beta and Deposit Pass-through indicators. The paper analyses the impact of the 2008 global financial crisis, the COVID-19 pandemic and the 2023 collapse of mid-sized U.S. banks (Silicon Valley Bank, Signature Bank, First Republic Bank) on the revision of traditional methods of deposit stability assessment. On the basis of international experience and empirical studies, the author substantiates directions for further improvement of the methodology and its adaptation to the digital environment, and also assesses the current state of the process of implementing Basel III standards in the banking system of the Republic of Uzbekistan.

Keywords: commercial bank, deposit base, deposit stability, Basel III, Liquidity Coverage Ratio (LCR), Net Stable Funding Ratio (NSFR), stable funding, run-off rate, core deposits, Deposit Beta, Deposit Pass-through, digital bank run, prudential regulation, banking system of Uzbekistan.

Introduction

In the modern banking system, the problem of assessing the deposit base is becoming increasingly relevant in connection with global financial crises, technological transformation and the improvement of regulatory mechanisms. The 2008 global financial crisis, the COVID-19 pandemic of 2020, and the 2023 crisis of mid-sized U.S. banks (Silicon Valley Bank, Signature Bank, First Republic Bank) have highlighted the need to revise the traditional methods of assessing the deposit base and to develop modern methodological approaches. The Basel III package, proposed by the Bank for International Settlements (BIS) in 2010 and finalized in 2017, established a new paradigm of modern banking regulation, defining clear criteria and standards for assessing the stability of the deposit base.

Within the framework of Decree of the President of the Republic of Uzbekistan No. PF-5992 of 12 May 2020 "On the Strategy for Reforming the Banking System of the Republic of Uzbekistan", the process of aligning the national banking system with international standards is being actively implemented. As of 2026, the phased transition to Basel III standards in the country's banking system is nearing completion, which necessitates the development of a new methodology for assessing the deposit base.

Basel III standards were developed by the Basel Committee on Banking Supervision (BCBS) at the Bank for International Settlements after the 2008 global financial crisis and are considered the most important component of modern banking regulation. Basel III standards cover four main areas: increasing capital adequacy, regulating liquidity, managing the leverage ratio, and reducing systemic risks. From the perspective of assessing the deposit base, the regulation of liquidity is of paramount importance.

The concept of stable funding developed by the Basel Committee made the use of stable sources of financing for long-term assets mandatory. This concept is based on the principle of "asset-liability matching", according to which the maturity and quality of the bank's assets must correspond to the maturity and quality of its liabilities. B. Bernanke (2022), in his research, emphasizes that one of the

most important achievements of Basel III standards was the restriction on banks' excessive use of short-term and volatile sources of financing.

Within the framework of the stable funding concept, bank liabilities are divided into three main categories. The first category comprises extremely stable funding sources, which include bank capital, long-term bonds and household deposits with a state guarantee. The second category comprises stable funding sources, which include insured household deposits, medium-term bonds and deposits based on long-term relationships with large corporations. The third category comprises less stable funding sources, which include uninsured large deposits, short-term interbank credits, and operational deposits.

Within the Basel III framework, two main ratios were introduced to assess stable funding: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). These two ratios are complementary in nature and together provide a comprehensive assessment of a bank's liquidity and financial stability. The LCR indicator assesses the short-term (30-day) liquidity position, while the NSFR indicator evaluates the long-term (over 1 year) stable funding position.

Analysis and Discussion

Within the framework of the "financial accelerator" theory developed by M. Brunnermeier and Y. Sannikov (2014), the importance of stable funding is particularly emphasized. They point out that excessive reliance on short-term sources increases the banking system's sensitivity to shocks, so that even small economic fluctuations can turn into large-scale crises. For this reason, making stable funding mandatory under Basel III is considered an important tool for ensuring the stability of the global banking system.

In accordance with Basel III standards, banks are required to adhere to the following principles of stable funding in their operations. First, the principle of maturity matching — long-term assets must be financed by long-term liabilities. Second, the principle of source diversification — a bank must attract its financial resources from a variety of sources. Third, the principle of concentration limitation — a specific source (for example, a single large depositor) must not account for a significant share of a bank's funding. Fourth, the principle of stress testing — a bank must ensure that its funding structure is resilient to various stress scenarios.

According to the BIS (2026) annual report, the implementation of Basel III standards has significantly strengthened the stability of the global banking system. Whereas in 2010 the average NSFR indicator of the world's largest banks was 92%, by 2026 this indicator had risen to 118%. At the same time, the structure of banks' assets has also undergone significant changes: the share of liquid assets has increased from 12% to 18%.

Table 1.

Main requirements of Basel III standards for assessing the deposit base[1]

№	Requirement	Essence	Minimum threshold	Year of implementation
1	Liquidity Coverage Ratio (LCR)	Adequacy of liquid assets during a 30-day stress period	≥ 100%	2015 (phased in by 2019)
2	Net Stable Funding Ratio (NSFR)	Stable funding of long-term assets	≥ 100%	2018 (phased in by 2021)
3	Leverage Ratio	Ratio of capital to total assets	≥ 3%	2018
4	Countercyclical Capital Buffer	Additional capital against economic cycles	0–2,5%	2016
5	Capital Conservation Buffer	Capital conservation buffer	2,5%	2016
6	Common Equity	Adequacy of core	≥ 4,5%	2015

[1] *Basel Committee on Banking Supervision (2022).*

	Tier 1 (CET1)	capital		
7	Total Capital Ratio	Adequacy of total capital	≥ 10,5% (with CCB)	2015
8	Large Exposure Framework	Limitation of exposures to large counterparties	≤ 25% CET1	2019

Within the Basel III framework, one of the important aspects of assessing the deposit base is the concept of the "run-off rate". This indicator shows the share of various types of deposits that may be withdrawn from a bank during a 30-day stress period. The standard run-off rates established by the Basel Committee (2022) are as follows: 3–5% for insured household deposits, 10% for uninsured household deposits, 25% for operational corporate deposits, 40% for uninsured non-operational corporate deposits, and 100% for interbank deposits.

These run-off rates provide a basis for modelling the behaviour of the banking system under stress. E. Egan, A. Hortaçsu and G. Matvos (2022) point out in their research that in real practice the deposit run-off rate can differ significantly from Basel norms. In particular, during the 2023 SVB crisis, more than 25% of uninsured deposits were withdrawn within 30 hours, which is well above Basel norms. This situation prompted the Basel Committee to review the standards and adapt them to the digital environment.

In 2026, the Basel Committee announced a new package of proposals to improve the Basel III standards, introducing additional requirements to counter digital bank runs. In particular, additional liquidity reserves were made mandatory for banks with a high share of transactions carried out via mobile banking applications. These innovations lay the foundation for the formation of a new set of standards known as Basel IV.

When calculating available stable funding (ASF), an ASF factor is applied to the bank's liabilities. An ASF factor of 100% is applied to capital and liabilities with a maturity of more than 1 year; 90% to insured household deposits and funds attracted for a period from 6 months to 1 year; 90% to uninsured household deposits; 90–95% to deposits of small and medium-sized businesses; 50% to volatile corporate deposits; and 0% to short-term interbank funds.

When calculating required stable funding (RSF), an RSF factor is applied to the bank's assets. An RSF factor of 0–5% is applied to cash and HQLA-1 assets; 15% to HQLA-2A assets; 50% to HQLA-2B assets and other liquid assets; 65–85% to loans with a maturity of more than 1 year; and 100% to other assets.

I. Drechsler, A. Savov and Ph. Schnabl (2023) provide an in-depth analysis of the impact of the LCR and NSFR indicators on bank management practices. In their view, the introduction of these two indicators has significantly changed the structure of banks' assets and liabilities. In particular, banks were forced to increase high-quality liquid assets and to expand long-term stable funding sources. This gave rise to serious competitive pressure in the deposit market, leading to an increase in interest rates on household deposits.

The microeconomic foundations of the LCR and NSFR indicators are examined in detail in the third edition of the textbook "Microeconomics of Banking" prepared by X. Freixas and J.-C. Rochet (2023). In their view, these indicators establish a certain threshold for the risks assumed by banks and thereby help to reduce the "moral hazard" problem. At the same time, these indicators may have a certain negative impact on bank efficiency, since high-quality liquid assets usually have low yields.

Q. Chen, I. Goldstein, Z. Huang and R. Vashishtha (2022) study in their work the impact of the LCR and NSFR indicators on bank transparency. In their view, the requirement for mandatory disclosure of these indicators increases the transparency of banks' activities and satisfies depositors' need for information on the financial condition of banks. This, in turn, helps to reduce information asymmetry and to increase the stability of the deposit base.

The LCR and NSFR indicators clearly demonstrated their practical importance during the COVID-19 pandemic in 2020. According to the IMF (2026) report, banks with strong LCR and NSFR

indicators in accordance with Basel III standards were better able to maintain their financial stability during the pandemic. In particular, banks with an LCR indicator above 150% faced significantly fewer liquidity problems during the pandemic. At the same time, the 2023 crisis of mid-sized U.S. banks revealed certain shortcomings of the Basel III standards. SVB formally complied with Basel III standards, but the rapid pace of a digital bank run proved that the protection ensured by these standards was insufficient.

Modern studies (E.X. Jiang, G. Matvos, T. Piskorski, A. Seru, 2024) substantiate the need to improve the LCR and NSFR indicators. In particular, they propose reforms in the following areas: first, revising the run-off rates to account for digital bank runs; second, introducing additional stress tests for active users of mobile banking applications; third, modelling the impact of information spread through social networks on the deposit base of banks; and fourth, integrating risks related to crypto-assets and DeFi into Basel standards.

Since 2018, the Central Bank of the Republic of Uzbekistan has begun the process of introducing the LCR and NSFR indicators into the national banking system. Since 2020, these indicators have been applied as mandatory prudential norms for all commercial banks. As of 2026, the LCR indicators of all commercial banks in Uzbekistan are above 100% (with an average of 142%), while the NSFR indicators average 118%. These figures demonstrate that the national banking system complies with international standards in terms of liquidity and financial stability.

Conclusion

In banking practice, the Deposit Beta and Deposit Pass-through indicators are used for several purposes. First, for interest rate risk management — the bank uses these indicators to optimize the interest rate balance between its assets and liabilities. Second, for shaping deposit policy — the bank applies Deposit Beta data to set optimal interest rates for different customer segments. Third, for stress testing — the bank uses these indicators to assess its financial position under various interest rate scenarios. Fourth, for profit forecasting — the bank uses Deposit Pass-through models to forecast future profit volumes.

In the modern banking system, the Deposit Beta indicator is considered an important tool for assessing the transmission of central banks' monetary policy to the deposit market. According to research conducted by E.X. Jiang, G. Matvos, T. Piskorski and A. Seru (2024), during the Federal Reserve's rate-hiking cycle in 2022–2023 the Deposit Beta indicators of several U.S. banks suddenly increased significantly, which led to a rapid contraction of the deposit base and to bank runs.

The application of the Deposit Beta and Deposit Pass-through indicators in the banking system of Uzbekistan is still at an initial stage. During 2024–2026, the Central Bank of the Republic of Uzbekistan is preparing methodological guidelines for introducing these approaches into the national banking system. Preliminary estimates suggest that the Deposit Beta indicators of large state-owned banks in Uzbekistan are around 0.25–0.35, while those of private banks are in the range of 0.45–0.65. These data provide important information on the structural features of the deposit base in the national banking system.

On the whole, in the context of the digital transformation of the modern banking system and increasing global financial risks, further improvement of the methodology for assessing the stability of the deposit base of commercial banks — through the integrated use of Basel III standards, the LCR and NSFR ratios, the Core Deposit model, and the Deposit Beta and Deposit Pass-through indicators, together with their adaptation to the specific conditions of the banking system of Uzbekistan — remains one of the most pressing tasks of contemporary banking science and practice.

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