

THEORETICAL APPROACHES TO ENSURING THE STABILITY OF THE COMMERCIAL BANK DEPOSIT BASE

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Abstract: This article comprehensively examines the theoretical foundations and conceptual approaches to ensuring the stability of the deposit base of commercial banks. The essence of the category of "deposit stability" is disclosed on the basis of statistical-empirical, institutional-structural and behavioural approaches, and its structural and functional aspects are identified. Particular attention is paid to the fundamental works of F. Diamond, Ph. Dybvig, J. Stiglitz, G. Akerlof, F. Mishkin, D. Kahneman, A. Tversky and R. Thaler, on the basis of which the theory of deposit behaviour, the theory of bank runs, the theory of financial intermediation, and the problems of information asymmetry and depositor confidence are analysed. The impact of the COVID-19 pandemic (2020), the geopolitical uncertainty of 2022, and the 2023 collapse of Silicon Valley Bank, Signature Bank and First Republic Bank on the rethinking of the concept of deposit stability in the digital age is assessed. The specific features of applying these approaches to the banking system of the Republic of Uzbekistan, as well as the possibilities of using machine learning technologies in the assessment of deposit stability, are substantiated.

Keywords: commercial bank, deposit base, deposit stability, structural stability, functional stability, deposit behaviour theory, bank run, financial intermediation, information asymmetry, depositor confidence, Prospect Theory, behavioural economics, digital bank run, machine learning, banking system of Uzbekistan.

Introduction

The problem of ensuring the stability of the deposit base of commercial banks is one of the most pressing and complex areas of modern economic science, encompassing not only the practice of bank management but also profound theoretical foundations and conceptual approaches. Over the past four decades, world economic thought has produced an extensive body of scientific literature devoted to the study of deposit stability. This body of work includes the fundamental research of F. Diamond, Ph. Dybvig, D. Douglas, J. Stiglitz, G. Akerlof, F. Mishkin, M. Rothschild and other prominent economists. Their studies have made a significant contribution to the formation of the theoretical foundations of deposit stability and to the improvement of mechanisms for ensuring the financial stability of the banking system.

Under modern conditions — after the COVID-19 pandemic of 2020, the geopolitical uncertainty of 2022 and the 2023 collapse in the United States of Silicon Valley Bank, Signature Bank and First Republic Bank — the need has arisen to revise the theoretical foundations of deposit stability and to adapt them to the conditions of the digital economy. This article provides a comprehensive analysis of modern theoretical approaches and conceptual foundations for ensuring deposit stability. In particular, the concept of deposit stability, the criteria for its assessment, the theory of deposit behaviour, the theory of bank runs, the theory of financial intermediation, and the issues of information asymmetry and depositor confidence are examined in depth.

The concept of deposit stability is considered one of the most complex and multifaceted categories of modern banking theory. In order to fully disclose its essence, this concept must be analysed from various scientific perspectives. Etymologically, the word "stability" comes from the Latin "stabilitas", meaning "firmness", "balance" and "invariability". As applied to the deposit base, this category reflects a state of the resource base of commercial banks that is relatively constant over time, predictable, and resilient to external and internal shocks.

Analysis and Discussion

In international scholarly literature there are several approaches to defining deposit stability. According to the first approach, deposit stability is the ability of a bank to ensure that its deposit base does not undergo significant contractions over a given

period of time (usually 12 months). This approach is statistical-empirical in nature and can be quantitatively assessed by numerical methods. The second approach is institutional-structural in nature; it emphasises that deposit stability depends on the quality of the institutional infrastructure, legal framework and market mechanisms of the banking system. The third approach is behavioural: it stresses the decisions of depositors under the influence of psychological and social factors.

Of particular importance for the in-depth study of the theoretical foundations of deposit stability is the definition given by F. Mishkin and S. Eakins (2019). They define deposit stability as "the ability of a bank's deposit portfolio to maintain its compositional structure and ensure operational efficiency under conditions of external and internal economic change". This definition distinguishes two main aspects of deposit stability — structural and functional stability.

Structural stability reflects the relative invariability of the components of the deposit base over time. That is, the ratio of term and demand deposits, the share of deposits in national and foreign currency, and the balance between deposits of individuals and legal entities should not undergo significant changes. Functional stability, in turn, depends on the ability of the deposit base to ensure the continuous operation of the bank. Here, the timely execution of deposit payments, the satisfaction of liquidity needs and the implementation of the bank's credit policy are of key importance.

In modern banking practice the following main principles are recommended for assessing deposit stability. First, the principle of comprehensiveness — as a multifaceted category, stability must be assessed by a variety of indicators. Second, the principle of dynamism — stability must be interpreted not as a static but as a dynamic process. Third, the principle of context sensitivity — quantitative estimates of stability must be interpreted with allowance for the macroeconomic environment. Fourth, the principle of foresight — it is important to assess stability not only retrospectively but also from a prospective point of view.

Modern researchers particularly emphasise the twofold nature of deposit stability. On the one hand, deposit stability is a positive phenomenon for a bank, as it ensures the predictability and reliability of the resource base. On the other hand, an excessively high level of stability may in some cases lead to a weakening of banks' innovative activity, hinder the structural improvement of the resource base, and reduce flexibility in adapting to market conditions. Therefore, maintaining deposit stability at an optimal level is an important task.

In modern interpretations of deposit stability an important place is occupied by the factors of digital transformation and technological renewal. The 2023 crisis of Silicon Valley Bank showed that in the digital age deposits can be withdrawn at "digital speed". At SVB, USD 42 billion of deposits was withdrawn within 48 hours, which is considered the fastest bank run in banking history. This situation has required a rethinking of the traditional concept of deposit stability and its adaptation to the demands of the digital age.

Under the conditions of Uzbekistan, the concept of deposit stability has a number of specific features. First, the transitional characteristics of the national economy are linked to the process of improving market mechanisms in the banking system. Second, the historical dynamics of the population's confidence in the banking system and the process of its restoration. Third, changes in the currency structure of deposits within the framework of the de-dollarisation policy. Fourth, the rapid development of digital banking services and their impact on the deposit base. In 2020–2026, within the framework of the "Strategy for Reforming the Banking System", the Central Bank of the Republic of Uzbekistan implemented a number of measures aimed at increasing deposit stability, including the improvement of the deposit insurance system, the alignment of prudential norms with Basel III standards, and ensuring transparency in the banking system.

Assessing the stability of the deposit base is a complex and multi-stage process which requires the use of a wide range of quantitative and qualitative indicators. In modern scholarly literature three main levels of assessing deposit stability are distinguished: first, micro-assessment at the level of an individual bank; second, meso-assessment at the level of the banking sector (banking system); and third, general macroeconomic assessment. Each level requires its own system of criteria and indicators.

Modern approaches to assessing deposit stability also involve the use of Machine Learning and artificial intelligence technologies. In particular, algorithms such as Random Forest, Gradient Boosting and Neural Networks are widely used to forecast deposit behaviour and to identify in advance clients at high risk. These technologies make it possible to assess deposit stability with much greater accuracy and efficiency than traditional statistical methods.

The theory of deposit behaviour is an important area of modern economic science that analyses depositors' decisions to place, hold and withdraw deposits. The formation of this theory dates back to the 1950s and to the "Permanent Income

Hypothesis" of M. Friedman and F. Modigliani's "Life Cycle Theory". In subsequent decades this area was significantly enriched through the research of R. Thaler (2021), D. Kahneman and A. Tversky (1979) and other behavioural economists, and today it has become a separate scientific paradigm.

In classical economic theory, depositors were interpreted as rational agents. According to the concept of the rational agent, depositors have complete information and seek to maximise their utility functions. Their deposit decisions are taken solely on the basis of interest rates, liquidity needs and the risk-return trade-off. However, empirical studies have shown that in reality the behaviour of depositors differs significantly from the predictions of classical theory.

The formation of behavioural economics has made it possible to analyse depositors' decisions from a new perspective. The "Prospect Theory" developed by D. Kahneman and A. Tversky revealed depositors' high sensitivity to losses (loss aversion) and their asymmetric approach to assessing risks. According to this theory, depositors feel 2.5 times stronger negative emotions from a unit loss than positive emotions from an equivalent gain, which explains their sensitive reaction to information about the probability of a banking crisis.

Modern researchers of the theory of deposit behaviour identify a number of key factors. First, economic factors — interest rates, inflation, the rate of economic growth, the level of employment and real household incomes. Second, institutional factors — the reliability of the banking system, the existence and coverage of deposit insurance, legal framework and investment environment. Third, behavioural factors — psychological characteristics, social norms, cultural traditions and family history. Fourth, technological factors — the availability of digital banking services, the quality of mobile applications and the speed of online transactions.

Conclusion

The conducted study shows that ensuring the stability of the deposit base of commercial banks is a multifaceted problem that requires the integration of theoretical, methodological and practical approaches. Deposit stability should be interpreted as a dynamic category having two interrelated aspects — structural and

functional — and should be assessed by means of comprehensive indicators that take into account the macroeconomic context and prospective trends.

Second, in the modern digital age the classical theory of bank runs, the theory of financial intermediation and the theory of information asymmetry retain their fundamental importance, but require substantial reinterpretation. The 2023 crisis of Silicon Valley Bank, Signature Bank and First Republic Bank, at which USD 42 billion was withdrawn from SVB within 48 hours, demonstrated that in the digital environment traditional mechanisms of protection against deposit outflows are insufficient and that a new methodology adapted to "digital-speed" bank runs is needed.

Third, behavioural approaches — in particular D. Kahneman and A. Tversky's "Prospect Theory" and R. Thaler's studies — have proved that in real practice depositors act far more emotionally and asymmetrically than the classical rational-agent model assumes. Depositor confidence, sensitivity to information and cultural-social norms should therefore be considered independent objects of banking policy alongside economic and institutional factors.

Fourth, in the context of the banking system of the Republic of Uzbekistan, ensuring deposit stability calls for the combined use of the following areas: further improvement of the deposit insurance system, full transition to Basel III standards, strengthening depositor confidence in the banking system, development of digital banking services on the basis of cybersecurity, implementation of the de-dollarisation policy, and the application of modern Machine Learning technologies (Random Forest, Gradient Boosting, Neural Networks) for forecasting deposit behaviour.

Thus, ensuring the stability of the deposit base of commercial banks in the modern age requires a comprehensive approach that combines theoretical foundations, digital technologies and behavioural insights. Only such a synthesised approach can guarantee the sustainable development of the banking system, the maintenance of depositor confidence and the overall financial stability of the economy.

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