

METHODS OF CREDIT RISK MANAGEMENT IN COMMERCIAL BANKS AND THEIR IMPROVEMENT

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Abstract

Credit risk management is a critical function in commercial banking, aimed at ensuring the stability and profitability of the financial institution. This paper explores various methods of credit risk management currently employed by commercial banks, including credit scoring, portfolio diversification, risk-based pricing, credit derivatives, and collateral management. Furthermore, it examines the limitations of these traditional methods and proposes enhancements to improve their effectiveness. The proposed improvements include the integration of advanced analytics and machine learning techniques for more accurate risk assessment, the adoption of automated monitoring systems for real-time tracking of credit exposures, the implementation of comprehensive stress testing frameworks, and the strengthening of regulatory compliance and internal controls. Additionally, the paper highlights the importance of ongoing staff training and the use of fintech innovations to enhance credit risk management practices. By adopting these improved methods, commercial banks can better manage their credit risk, leading to increased financial stability and performance.

Keywords: Credit Risk Management, Commercial Banks, Credit Scoring, Portfolio Diversification, Risk-Based Pricing, Credit Derivatives, Collateral Management, Advanced Analytics, Machine Learning, Stress Testing, Regulatory Compliance, Fintech Innovations.

Credit risk management in commercial banks is essential to mitigate potential losses arising from borrowers' defaults. Effective credit risk management ensures the bank's financial health, protects its capital, and promotes stability within the financial system. This paper outlines current methods used by commercial banks to manage credit risk and suggests ways to improve these methods for enhanced efficiency and effectiveness.

Credit risk management is a crucial component of commercial banking operations, involving the identification, assessment, and mitigation of risks associated with lending activities. Given the inherent uncertainties in the financial landscape,



effective credit risk management is vital for maintaining the stability and profitability of banks. The global financial crises and the increasingly complex regulatory environment have underscored the importance of robust credit risk management frameworks. This introduction outlines the primary methods employed by commercial banks to manage credit risk and explores potential improvements to these methods.

Commercial banks face credit risk when borrowers fail to meet their contractual obligations, leading to potential financial losses. To mitigate this risk, banks have developed various strategies and tools over the years. These methods include credit assessment and approval processes, credit scoring systems, portfolio diversification, collateral management, and continuous monitoring and review of credit exposures. Each method aims to minimize the likelihood of default and reduce the impact of any defaults that do occur.

However, the dynamic nature of the financial markets and advancements in technology necessitate continuous improvements in credit risk management practices. Enhancing these methods not only helps banks comply with regulatory requirements but also provides a competitive edge by improving decision-making and operational efficiency. The following sections will delve into the existing methods of credit risk management and propose ways to refine and advance these techniques in light of current trends and challenges.

Credit risk is the probability of a financial loss resulting from a borrower's failure to repay a loan. Essentially, credit risk refers to the risk that a lender may not receive the owed principal and interest, which results in an interruption of cash flows and increased costs for collection. Lenders can mitigate credit risk by analyzing factors about a borrower's creditworthiness, such as their current debt load and income.

A credit risk can be of the following types:

Credit default risk – The risk of loss arising from a debtor being unlikely to pay its loan obligations in full or the debtor is more than 90 days past due on any material credit obligation; default risk may impact all credit-sensitive transactions, including loans, securities and derivatives.

Concentration risk – The risk associated with any single exposure or group of exposures with the potential to produce large enough losses to threaten a bank's core operations. It may arise in the form of single-name concentration or industry concentration.

Country risk – The risk of loss arising from a sovereign state freezing foreign currency payments (transfer/conversion risk) or when it defaults on its obligations



(sovereign risk); this type of risk is prominently associated with the country's macroeconomic performance and its political stability.

Credit risk refers to the probability of loss due to a borrower's failure to make payments on any type of debt. Credit risk management is the practice of mitigating losses by assessing borrowers' credit risk – including payment behavior and affordability. This process has been a longstanding challenge for financial institutions.

Continued global economic crises, ongoing digitalization, recent developments in technology and the increased use of artificial intelligence in banking have kept credit risk management in the spotlight. As a result, regulators continue to demand transparency and other improved capabilities in this space. They want to know that banks have a thorough knowledge of customers and their associated credit risk. And as Basel regulations evolve, banks will face an even bigger regulatory burden.

To comply with ever-changing regulatory requirements and to better manage risk, many banks are overhauling their approaches to credit risk. But banks who view this as strictly a compliance exercise are being short-sighted. Better credit risk management presents an opportunity to improve overall performance and secure a competitive advantage.

Although it's impossible to know exactly who will default on obligations, properly assessing and managing credit risk can lessen the severity of a loss. Interest payments from the borrower or issuer of a debt obligation are a lender's or investor's reward for assuming credit risk.

Table 1. Dynamics of non-performing loans (NPL) of commercial banks ¹, in billion soums

The date	Loans			Non-performing loans (NPLs)		
	Total	from which :		Total	from which :	
		state share is available banks	another banks		state share is available banks	another banks
1	2	3	4	5	6	7
01.01.2020	211 580.5	186 630.3	24,950.2	3 169.1	2 809.0	360.1
01.01.2021	276 974.8	244 483.9	32 490.9	5 784.8	5 167.6	617.2
01.01.2022	326 385.6	280,073.6	46 311.9	16,974.0	15,068.8	1 905.2
01.01.2023	390 048.9	324,680.8	65 368.2	13,992.4	12,643.3	1 349.1
01.01.2024	471 405.5	333 298.1	138 107.4	16,621.4	13 267.2	3 354.2

¹ Author's calculations based on the annual reports of the Central Bank of the Republic of Uzbekistan



The main source of income and the largest part of assets of commercial banks are loans. At the same time, the main part of losses and risks in banks is related to loans. Loans can bring income to banks as well as increase costs, because when classifying bank assets, reserves are created accordingly. If the credit policy is not developed perfectly or if it is not carried out efficiently enough, the quality of loans will deteriorate. This, in turn, increases costs for them, which ultimately negatively affects the financial stability of the bank.

In recent years, the size of the loan portfolio of banks has been steadily increasing. In particular, in 2020 it amounted to 211.6 trillion soums, and by 2024 it increased by 2.2 times and amounted to 471.4 trillion soums. The increase in the volume of lending in banks is a positive thing, of course. On the one hand, this improves the financial condition of banks by increasing their income, and on the other hand, the given loans lead to the development of the country's economy, the creation of new jobs, and the modernization of existing ones.

During the analysis, it was found that the majority of the credit portfolio of the banking system belongs to 10 commercial banks with a state share (Uzmilliybank, Uzsanoatkurilishbank, Agrobank, Asaka Bank, Xalq Bank, Business Development Bank, Mikrokreditbank, Aloqa Bank, Turon Bank, Poytakht Bank). In 2020-2021, the share of this group of banks is 88 percent, in 2022 85.8 percent, in 2023 83.2 percent and in 2024 70.7 percent. We can evaluate the decrease of this indicator over the years as a positive situation. The main reason for the sharp decrease by 2024 is the sale of the state share of Ipoteka Bank, one of the largest commercial banks of the country, to foreign investors.

One of the main financial indicators that assess the financial stability of banks is the percentage of problem loans in the bank. According to the Regulation of the Central Bank of the Republic of Uzbekistan "On the classification of the quality of assets in commercial banks and the formation of reserves to cover possible losses on assets and the procedure for their use", ²assets classified as "unsatisfactory", "doubtful" and "hopeless" are considered problematic assets.

From the data in the table, we can see that in recent years, problem assets in the banking system, in particular, loans, have increased sharply. In 2020, it amounted to 3.2 trillion soums, and by 2024, it increased to 16.6 trillion soums. In the short term, the growth rate of problem loans is 5.2 times. In 2020-2024, the loan portfolio of commercial banks increased by 2.2 times, while problem loans increased by 5.2

²<https://lex.uz/docs/2703053>



times. In our opinion, this situation means that there are serious problems related to lending in banks and requires the development and implementation of a plan of appropriate measures as soon as possible.

In the volume of problem loans, the share of commercial banks with a state share is high, and it mainly corresponds to the contribution of large banks. In 2020, the volume of problem loans in commercial banks with a state share amounted to 2.8 trillion soums, while in other banks (private commercial banks, commercial banks with foreign capital, joint banks, subsidiary banks) it amounted to 360.1 billion soums. By 2024, problem loans in banks with a state share increased 4.7 times and amounted to 16.6 trillion soums, while in other banks during this period it increased 9.3 times and amounted to 3.4 trillion soums.

While banks strive for an integrated understanding of their risk profiles, much information is often scattered among business units. Without a thorough risk assessment, banks have no way of knowing if capital reserves accurately reflect risks or if loan loss reserves adequately cover potential short-term credit losses. Vulnerable banks are targets for close scrutiny by regulators and investors, as well as debilitating losses.

The key to reducing loan losses – and ensuring that capital reserves appropriately reflect the risk profile – is to implement an integrated, quantitative credit risk solution. This solution should get banks up and running quickly with simple portfolio measures. It should also accommodate a path to more sophisticated credit risk management measures as needs evolve. The solution should include:

better model management that spans the entire modeling life cycle;

real-time scoring and limits monitoring;

robust stress-testing capabilities.

Data visualization capabilities and business intelligence tools that get important information into the hands of those who need it, when they need it.

By improving traditional credit risk management methods and adopting advanced technologies and practices, commercial banks can better manage their credit risk, leading to enhanced financial stability and performance. Continuous innovation and adaptation are essential in the dynamic banking environment to effectively mitigate credit risk and safeguard the institution's financial health.

In conclusion, while commercial banks have developed robust methods for managing credit risk, continuous improvement and adaptation to technological advancements and changing market conditions are essential. By leveraging data analytics, AI, and other innovative technologies, banks can enhance their credit risk



management frameworks, leading to more accurate risk assessments and better financial stability.

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