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Development of Mechanisms for Ensuring Asset Quality and Credit Portfolio Stability in Commercial Banks

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Abstract: This article examines the main directions for improving asset quality and ensuring the stability of loan portfolios in commercial banks. Particular attention is given to credit risk, non-performing loans, portfolio concentration, borrower assessment, collateral quality, loan monitoring, provisioning, and capital adequacy. The study analyzes the current condition of the banking sector of Uzbekistan using official statistical data from the Central Bank of the Republic of Uzbekistan. As of June 1, 2026, the total assets of the banking sector reached 984.4 trillion UZS, while the total loan portfolio amounted to 636.0 trillion UZS and deposits reached 460.6 trillion UZS. The analysis demonstrates that the rapid expansion of lending increases the importance of strengthening credit-risk management and maintaining adequate capital buffers. The study proposes an integrated approach based on improved borrower assessment, sectoral diversification, early-warning systems, portfolio stress testing, effective collateral management, data-driven credit scoring, and enhanced recovery mechanisms. The results indicate that loan portfolio stability should be considered not only in terms of reducing non-performing loans but also through maintaining an appropriate balance between profitability, liquidity, concentration risk, and capital adequacy.

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1. Introduction

The quality of bank assets is one of the fundamental determinants of financial stability and sustainable profitability in the banking sector. Since loans normally represent the largest component of commercial bank assets, the quality and structure of the loan portfolio have a direct impact on liquidity, profitability, capital adequacy, and the overall resilience of financial institutions [1], [2], [3].

Rapid credit expansion can contribute to economic development by increasing the availability of financial resources for businesses and households. However, excessive or inadequately controlled lending may simultaneously increase credit risk and create future problems with loan repayment. Consequently, commercial banks need to maintain a balance between credit expansion and portfolio quality.

This issue is particularly relevant for Uzbekistan, where the banking sector has experienced significant expansion. According to the Central Bank of the Republic of Uzbekistan, total banking sector assets increased from 829.8 trillion UZS as of June 1, 2025 to 984.4 trillion UZS as of June 1, 2026, representing an increase of approximately 19%. During the same period, the total loan portfolio increased from 567.7 trillion UZS to 636.0

trillion UZS, or approximately 12%. Deposits increased from 345.6 trillion UZS to 460.6 trillion UZS, representing growth of approximately 33% [4].

The structure of bank assets also demonstrates the dominant role of lending operations. As of June 1, 2026, net loans accounted for approximately 62.6% of total banking assets. At the same time, investments and other securities increased substantially during the year, indicating a gradual diversification of bank assets [5].

The objective of this study is to identify effective ways to improve asset quality and strengthen loan portfolio stability in commercial banks.

The main research objectives are to:

1. Analyze the current structure and dynamics of bank assets and lending;
2. Identify major factors affecting loan portfolio quality;
3. Examine the role of non-performing loans and credit concentration;
4. Assess the importance of capital adequacy in maintaining portfolio stability;
5. Develop practical mechanisms for improving credit-risk management.

Literature Review

Asset quality and loan portfolio stability are central topics in banking theory and financial risk management. Traditional banking theory emphasizes that the profitability of commercial banks is closely associated with the quality of their assets and the effective management of credit risk [6].

Credit risk arises when a borrower fails to meet contractual obligations or when the probability of default increases. Therefore, the assessment of borrower creditworthiness is a fundamental component of sound banking practice [7].

Modern credit-risk management increasingly relies on quantitative models, credit scoring, probability-of-default estimation, loss-given-default assessment, and exposure-at-default calculations. These instruments allow banks to estimate expected credit losses and establish appropriate provisions.

The Basel regulatory framework emphasizes the importance of adequate capital, effective risk management, internal controls, and supervisory oversight. Capital acts as a financial buffer against unexpected losses and therefore plays an important role in maintaining the stability of loan portfolios.

Another important area discussed in the literature is portfolio diversification. Concentration of lending in a limited number of sectors, regions, borrowers, or economic activities increases vulnerability to sector-specific shocks. Therefore, banks should establish concentration limits and continuously monitor portfolio structure.

The development of financial technologies has also changed credit-risk management. Digital credit scoring, alternative data, artificial intelligence, automated monitoring systems, and early-warning indicators can improve the speed and quality of credit decisions [8].

However, technological tools should complement rather than completely replace professional judgment. Reliable data, appropriate model validation, corporate governance, and effective internal controls remain necessary for maintaining asset quality [8].

2. Materials and Method

The study uses statistical, comparative, analytical, and systemic methods.

Statistical analysis is applied to official banking-sector data published by the Central Bank of the Republic of Uzbekistan. Comparative analysis is used to identify changes in assets, loans, deposits, capital adequacy, and non-performing loans [4], [5], [9], [10].

The systemic approach considers asset quality as the result of interaction among several factors:

Borrower Quality → Credit Decision → Loan Monitoring → Repayment Performance → Provisioning → Asset Quality → Bank Stability [11], [12]

The study also uses the following indicators:

1. Loan Portfolio Growth [13];
2. Non-Performing Loan Ratio;
3. Loan Concentration [12], [14];
4. Loan-To-Deposit Ratio [13], [15];
5. Capital Adequacy Ratio;
6. Share Of Loans In Total Assets;
7. Growth Of Deposits;
8. Quality Of Collateral.

The methodological framework assumes that sustainable loan portfolio management requires simultaneous improvement in credit selection, monitoring, diversification, provisioning, recovery, and capital management.

3. Results and Discussion

1. Dynamics of the Banking Sector

The expansion of the banking sector creates both opportunities and risks for commercial banks.

Table 1. Main indicators of the banking sector of Uzbekistan

Indicator	June 1, 2025	June 1, 2026	Growth, %
Total assets, trillion UZS	829.8	984.4	19
Total loan portfolio, trillion UZS	567.7	636.0	12
Total deposits, trillion UZS	345.6	460.6	33
Total capital, trillion UZS	121.5	145.5	20
Loans as a share of assets, %	68.4	64.6*	—

The data demonstrate that the banking sector expanded substantially between June 2025 and June 2026. Assets increased by approximately 19%, while the loan portfolio grew by approximately 12%. At the same time, deposits increased by 33%.

The faster growth of deposits compared with loans is particularly important for financial stability. It may indicate an improvement in the funding base and reduce dependence on potentially more volatile external sources of financing.

The slower growth of loans relative to total assets also indicates that banks have been increasing other asset categories. According to the Central Bank, net loans represented 62.6% of banking assets in June 2026, compared with 65.8% a year earlier. Meanwhile, investments and other securities increased from 70.8 trillion UZS to 124.9 trillion UZS.

2. Non-Performing Loans as a Key Asset-Quality Indicator

Non-performing loans (NPLs) are among the most important indicators of asset quality. A high NPL ratio indicates deterioration in borrowers' repayment capacity and may negatively affect bank profitability and capital.

According to the Central Bank, as of January 1, 2025, the total loan portfolio of commercial banks amounted to 533.1 trillion UZS, of which 21.2 trillion UZS were classified as non-performing loans. The overall NPL ratio was therefore 4.0%. State-owned banks had 14.3 trillion UZS in NPLs, corresponding to 3.9% of their loan portfolio, while other banks had 6.8 trillion UZS, or 4.1%.

These figures demonstrate that NPL management should remain an important component of banking strategy. However, NPL ratios alone do not provide a complete assessment of asset quality. Banks should also monitor loan restructuring, overdue payments, sectoral concentration, collateral coverage, and expected credit losses.

3. Main Factors Affecting Loan Portfolio Quality

The quality of a commercial bank's loan portfolio is influenced by both internal and external factors.

The major internal factors include:

1. Quality of borrower assessment;
2. Effectiveness of credit scoring;
3. Loan approval procedures;
4. Collateral valuation;
5. Credit monitoring;
6. Staff competence;
7. Risk appetite;
8. Internal controls.

External factors include:

1. Economic growth;
2. Inflation;
3. Interest rates;
4. Exchange-rate movements;
5. Unemployment;
6. Sector-specific shocks;
7. Changes in regulation.

A deterioration in macroeconomic conditions may increase default probabilities even when the original credit assessment was appropriate.

Therefore, banks should move from a reactive approach to a proactive approach based on early identification of emerging risks.

4. Improving Borrower Assessment

One of the most effective methods of improving asset quality is strengthening the borrower assessment process.

Traditional assessment often relies heavily on financial statements and collateral. However, modern credit-risk management requires a broader analysis of:

1. Cash-flow generation;
2. Debt-servicing capacity;
3. Business-model sustainability;
4. Financial leverage;
5. Sector risks;
6. Management quality;
7. Historical repayment behavior;
8. Foreign-currency exposure.

For retail borrowers, credit scoring systems can use information concerning income, existing liabilities, repayment history, and other legally available financial information.

For corporate borrowers, banks should place greater emphasis on projected cash flows rather than relying solely on collateral.

The fundamental principle should be:

Repayment Capacity → Primary Source of Repayment

while collateral should function primarily as a secondary source of repayment.

5. Portfolio Diversification and Concentration Risk

Loan portfolio stability depends not only on the quality of individual borrowers but also on the overall structure of the portfolio.

If a large share of loans is concentrated in a particular sector, region, or group of borrowers, a localized economic shock may generate significant losses.

For example, excessive concentration in construction, real estate, agriculture, or a particular industrial sector may expose a bank to sector-specific risks.

Therefore, banks should establish concentration limits for:

1. Individual borrowers;
2. Connected borrowers;
3. Economic sectors;
4. Geographic regions;
5. Currencies;
6. Maturity periods;
7. Types of collateral.

Portfolio diversification does not mean eliminating risk. Instead, it means distributing risk in a manner that prevents an isolated shock from creating disproportionate losses.

6. The Role of Capital Adequacy

Capital adequacy is an important safeguard for maintaining financial stability when asset quality deteriorates.

According to the Central Bank of Uzbekistan, the banking sector's capital adequacy ratio increased from 17.4% on January 1, 2025 to 18.3% on January 1, 2026. By July 1, 2026, the ratio reached 18.5%.

The increase in capital adequacy provides an additional buffer against unexpected credit losses.

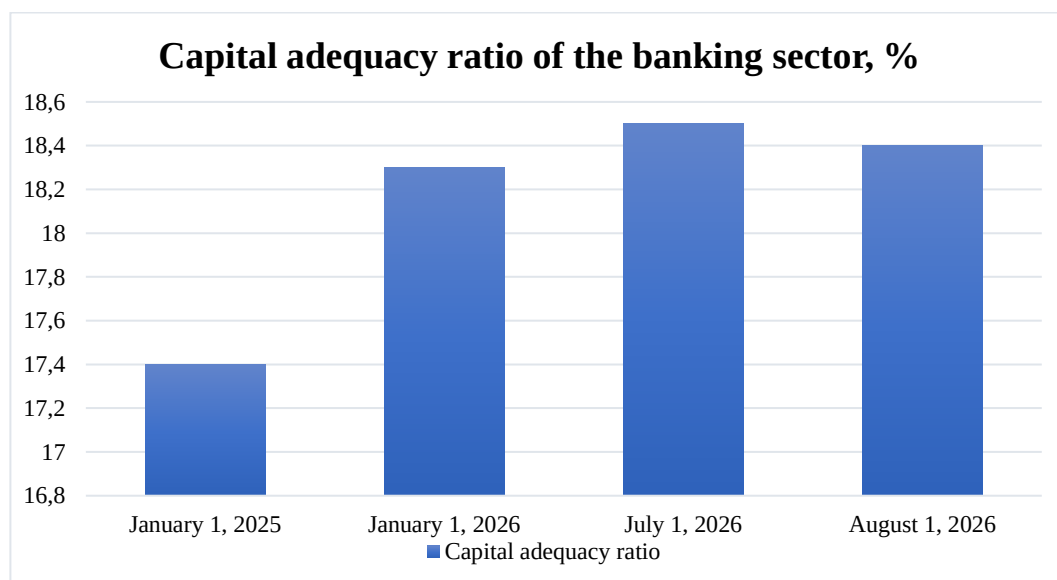


Figure 1. Capital adequacy ratio of the banking sector, %

The data indicate that the capital adequacy ratio remained above 18% during 2026. This creates an important capital buffer, although capital adequacy should not replace effective credit-risk management.

7. Early-Warning Systems for Loan Portfolio Management

A modern bank should identify potential deterioration before a loan becomes non-performing.

An early-warning system can monitor:

1. Overdue payments;
2. Deterioration in borrower cash flows;
3. Declining account turnover;
4. Increasing leverage;
5. Changes in collateral value;
6. Sector-specific risks;
7. Foreign-exchange exposure;
8. Deterioration in credit scores.

The system can classify borrowers into risk categories:

Low Risk → Moderate Risk → Elevated Risk → High Risk → Default Risk

This classification allows banks to take preventive measures before losses become significant.

Such measures may include restructuring, closer monitoring, additional collateral, revised repayment schedules, or increased provisions where appropriate.

8. Digitalization and Data-Driven Credit Risk Management

Digital transformation provides new opportunities for improving asset quality.

Banks can use automated systems to analyze large volumes of customer information, identify unusual transaction patterns, monitor repayment behavior, and detect early signs of financial deterioration.

The integration of:

Big Data + Credit Scoring + Early-Warning Indicators + Portfolio Analytics

can improve the efficiency of credit-risk management.

However, automated decision-making should be supported by model validation, data-quality controls, cybersecurity, and human oversight.

9. Loan Recovery and Problem Asset Management

Improving asset quality also requires effective management of existing problem loans.

Banks should establish specialized problem-asset management units responsible for:

1. Early identification of distressed borrowers;
2. Restructuring where economically justified;
3. Collateral realization;
4. Legal recovery;
5. Sale or transfer of eligible distressed assets;
6. Post-recovery analysis.

The objective should not simply be to reduce the reported NPL ratio. Instead, banks should seek economically efficient recovery while minimizing ultimate credit losses.

10. Integrated Framework for Improving Loan Portfolio Stability

Based on the analysis, an integrated framework can be proposed.

Table 2. Integrated mechanism for improving loan portfolio stability

Stage	Main mechanism	Expected result
1	Enhanced borrower assessment	Lower probability of default
2	Risk-based pricing	Risk-adjusted profitability
3	Portfolio diversification	Lower concentration risk
4	Continuous monitoring	Early identification of problems

5	Stress testing	Better preparedness for shocks
6	Adequate provisioning	Absorption of expected losses
7	Problem-loan recovery	Reduction of realized losses
8	Capital management	Higher financial resilience

The proposed mechanism demonstrates that asset quality should be managed throughout the entire credit life cycle rather than only after a loan becomes problematic.

4. Conclusion

The study demonstrates that improving asset quality and ensuring loan portfolio stability require an integrated credit-risk management system. The expansion of the banking sector in Uzbekistan has increased the scale of financial intermediation and created additional requirements for effective risk management.

As of June 1, 2026, total banking assets reached 984.4 trillion UZS, while the loan portfolio amounted to 636.0 trillion UZS. Deposits increased to 460.6 trillion UZS. At the same time, the share of net loans in total assets declined compared with the previous year, while investments and securities increased substantially.

The banking sector's capital adequacy ratio remained strong, reaching 18.5% on July 1, 2026. Nevertheless, maintaining strong capital should be accompanied by improvements in credit underwriting, portfolio diversification, monitoring, provisioning, and recovery.

Based on the research findings, the following recommendations are proposed:

1. Strengthen borrower assessment by focusing on cash-flow generation and debt-servicing capacity rather than relying excessively on collateral.
2. Develop advanced credit-scoring systems using reliable financial and behavioral data.
3. Introduce comprehensive early-warning systems to identify potential deterioration before loans become non-performing.
4. Reduce excessive portfolio concentration through sectoral, geographic, currency, and borrower-level limits.
5. Conduct regular stress testing under scenarios involving economic slowdown, interest-rate increases, exchange-rate fluctuations, and sector-specific shocks.
6. Improve collateral management through regular valuation, legal verification, and monitoring of collateral coverage.
7. Strengthen problem-loan recovery mechanisms through specialized units and economically justified restructuring.
8. Maintain adequate capital buffers in accordance with the scale and risk profile of the loan portfolio.
9. Integrate digital technologies into risk management, while maintaining model validation, data governance, cybersecurity, and human oversight.
10. Apply risk-adjusted performance measurement, ensuring that loan growth is evaluated together with profitability, expected losses, capital consumption, and portfolio risk.

In conclusion, stable loan portfolio development should not be measured solely by the growth of lending volumes. Sustainable banking requires a balance between credit expansion, asset quality, risk-adjusted profitability, liquidity, diversification, and capital adequacy. The implementation of an integrated risk-management framework can strengthen the resilience of commercial banks and improve the quality of financial intermediation.

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