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"METHODS OF CREDIT RISK MANAGEMENT IN ENSURING THE FINANCIAL STABILITY OF COMMERCIAL BANKS"

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ABSTRACT. This article investigates the structured mechanisms of credit risk management and evaluates their direct, quantifiable impact on the overarching financial stability of commercial banks in Uzbekistan amidst ongoing macroeconomic adjustments. The main objective of the research is to analyze contemporary asset quality trends, particularly non-performing loan (NPL) dynamics, and to formulate strategic, forward-looking recommendations that reinforce banking liquidity and regulatory capital adequacy.

Employing methods of systemic financial analysis, prudential ratio evaluations, and qualitative scenario stress-testing based on aggregate banking sector data provided by the Central Bank of Uzbekistan, the study identifies a tightening capital adequacy margin across the sector. The empirical findings reveal that while the national banking system maintains a resilient baseline, localized credit shocks within the retail micro-lending and cyclical corporate sectors significantly jeopardize the capital buffers of mid-sized commercial banks.

To mitigate these vulnerabilities, the article concludes with actionable recommendations, emphasizing the transition to predictive cash-flow-based underwriting models, the utilization of counter-cyclical capital cushions, and the expansion of secondary debt markets for non-performing asset resolution.

Keywords: credit risk management, financial stability, commercial banks, non-performing loans, capital adequacy ratio, stress-testing, financial resilience.

INTRODUCTION

The financial stability of commercial banks is the fundamental cornerstone of macroeconomic equilibrium, efficient capital allocation, and sustainable economic growth. Within the financial architecture of Uzbekistan, the banking sector acts as the primary intermediary for mobilizing domestic savings and transforming them into long-term investments for the real sector of the economy. In recent years, driven by extensive market liberalization and systemic banking reforms, commercial banks have rapidly expanded their credit portfolios. However, this aggressive credit expansion has concurrently amplified the banking system's exposure to heightened credit risks. Credit risk, broadly defined as the probability that a borrower or counterparty will fail to meet their financial obligations in accordance with agreed terms, remains the leading catalyst for banking crises, liquidity shortages, and capital erosion.

According to the official statistical reports of the Central Bank of the Republic of Uzbekistan, while the aggregate banking sector maintains compliance with baseline regulatory requirements, the volume of Non-Performing Loans (NPLs) has demonstrated visible volatility across specific segments, particularly within retail micro-lending and construction-related corporate financing [1]. When credit risk materializes, it forces commercial banks to rapidly increase their loan loss provisions, a process that directly diminishes net interest margins, reduces profitability metrics such as Return on Equity (ROE), and compresses the regulatory capital buffer. Unchecked accumulation of these toxic assets impairs a bank's ability to extend new credits, which inadvertently triggers a contraction in the broader money circulation system

and dampens real sector productivity [2]. Therefore, developing and refining proactive credit risk management mechanisms is not merely an institutional necessity for individual commercial banks but a macro-critical requirement for safeguarding the national credit-banking framework.

Literature Review

The theoretical and conceptual foundations of credit risk management and its intersection with banking stability have been extensively analyzed within the global financial literature. The foundational works of Joseph Stiglitz and Andrew Weiss on asymmetric information demonstrated how systemic market phenomena such as adverse selection and moral hazard inevitably lead to credit rationing and non-performing asset accumulation [3]. Building upon this institutional framework, Frederic Mishkin comprehensively illustrated how systemic credit shocks distort asset quality, paralyze financial intermediation, and ignite systemic banking distress [4]. From a regulatory perspective, the global benchmarks established by the Basel Committee on Banking Supervision (Basel II and Basel III regulations) emphasize risk-weighted asset classifications and point to capital adequacy ratios as the ultimate structural defense against unexpected credit defaults [5].

In the context of developing and transitioning financial markets, scholars like V. A. Slepov have observed that emerging banking sectors often face localized credit shocks due to lower institutional market depth, highly volatile collateral valuations, and structural dependencies on macroeconomic variables [6].

In Uzbekistan, prominent financial economists such as Sh. Z. Abdullaeva, T. S. Malikov, and A. V. Vakhabov have made significant scientific contributions to the optimization of the national banking and credit system. Specifically, Sh. Z. Abdullaeva's extensive monographs on banking risks provided the country's foundational academic methodology for categorizing and evaluating credit portfolios [7]. Nonetheless, a clear research gap remains in local literature regarding the dynamic interplay between the central bank's tight monetary tools (such as high refinancing rates) and the sudden operational degradation of corporate credit quality. Most existing domestic studies analyze credit risk from a static, descriptive accounting perspective rather than evaluating it as an integrated element of corporate finance and asset-liability management (ALM) [8]. This study directly addresses this research gap by evaluating credit risk management as a dynamic mechanism essential for sustaining structural bank stability under evolving economic conditions.

METHODS

To evaluate the dynamic relationship between credit risk management mechanisms and the financial stability of commercial banks without over-relying on complex econometric modulations, this study utilizes a combination of structural prudential financial analysis and qualitative scenario-based stress-testing. The methodology is divided into three distinct operational steps:

The empirical base of this research relies entirely on aggregate, unclassified regulatory financial statements, prudential reporting sheets, and monthly statistical bulletins generated by the Central Bank of the Republic of Uzbekistan [1]. The timeline under review spans from 2023 to the first quarter of 2026, allowing for a contemporary evaluation of recent credit trends. The object of the study encompasses the structural credit portfolios of the country's registered commercial banks, with specific distinctions analyzed between state-owned commercial banks (SOBs) and private or foreign-capitalized commercial banking institutions to detect structural differences in risk appetites.

In alignment with the international CAMELS evaluation system and the localized Basel III macro-prudential regulations enforced by the Central Bank of Uzbekistan, we select three core financial metrics to serve as the structural indicators of asset quality and bank stability [5]:

- Non-Performing Loans (NPL) Ratio: This ratio measures the total volume of loans that are past due by more than 90 days relative to the gross value of the total outstanding loan portfolio. It is the primary metric indicating structural asset degradation.
- Regulatory Capital Adequacy Ratio (CAR): This indicator measures the bank's eligible regulatory capital against its total risk-weighted assets. According to national standards, the minimum total CAR is legally fixed at 13.0% [9]. It serves as the bank's ultimate financial shock absorber against unexpected loan defaults.
- Loan Loss Provisioning (LLP) Coverage Ratio: This represents the total accumulated financial reserves set aside for loan losses divided by the gross volume of identified NPLs. It quantifies how adequately a bank has built its internal defenses to absorb realized credit write-offs [10].

To observe the resilience of bank stability under macroeconomic friction, a structural scenario stress-test framework is applied. Instead of utilizing abstract mathematical derivatives, we apply a direct simulation of credit quality decay across two highly volatile sectors in the Uzbek credit market [2]. The two simulated shock scenarios are:

1. Scenario A (Retail Segment Shock): A hypothetical 20% immediate increase in delinquency and default volumes within the consumer credit and micro-loan portfolios, simulating a localized credit bubble burst driven by retail over-indebtedness.
2. Scenario B (Corporate Segment Shock): A simulated 15% increase in non-performing assets within the heavy manufacturing and construction credit portfolios, representing the delayed financial strain on corporate borrowers caused by prolonged high interest rates in the domestic market.

The ultimate evaluation benchmark of the stress-test is to observe whether these sector-specific credit defaults compress the aggregate banking system's total Capital Adequacy Ratio (CAR) below the mandatory regulatory 13.0% floor.

RESULTS

The empirical assessment of the credit infrastructure within Uzbekistan's commercial banks indicates a noticeable divergence between credit volume growth and underlying asset health. Over the analyzed period spanning 2023 to the first quarter of 2026, the aggregate loan portfolio expanded rapidly, driven by intensive retail micro-lending campaigns and state-backed sector upgrades. However, this credit velocity has triggered an incremental buildup of structural credit risks across bank balance sheets.

Table 1

Dynamic Credit Quality Metrics and Stability Vectors of Commercial Banks in Uzbekistan

Key Financial Matrix / Indicator	2023	2024	2025	2026 (Q1)
Gross Outstanding Loan Portfolio (Trillion UZS)	472.4	541.2	612.5	628.4
Volume of Identified Non-Performing Loans (Trillion UZS)	17.9	23.2	28.1	30.1
System-wide NPL Ratio (%)	**3.8%**	**4.3%**	**4.6%**	**4.8%**
Regulatory Capital Adequacy Ratio (CAR) (%)	16.1 %	15.4 %	14.8 %	14.3%

Loan Loss Provisioning (LLP) Coverage Ratio (%)	78.4 %	74.2 %	71.5 %	69.8%

The empirical trajectories detailed in Table 1 reveal a persistent compression of the banking sector's financial cushions. The aggregate NPL ratio advanced from 3.8% in 2023 to 4.8% by the end of Q1 2026. This expansion of default tranches has directly impacted structural reserves, causing the total systemic Capital Adequacy Ratio (CAR) to degrade from 16.1% to 14.3%. Simultaneously, the Loan Loss Provisioning (LLP) coverage ratio experienced a downward contraction, slipping below the 70.0% threshold (to 69.8%). This contraction signifies that commercial banks are gradually consuming their built-in provisions to absorb active credit defaults, reducing their capacity to withstand sudden external shocks.

Utilizing the structural scenario framework established in the methodology section, a matrix simulation was performed on the active assets of the banking system to observe capital resilience against clustered default shocks.

Table 2

Simulated Sector Shocks and Estimated Shift in the Total Regulatory Capital Adequacy Ratio

Simulation Scenario Metric	Post-Shock NPL Volume (Trillion UZS)	Estimated Systemic CAR (%)	Structural Margin Above Minimum (13.0%)	Macro-Prudential Risk Evaluation
Baseline Status (Actual Q1 2026)	30.1	14.3%	+1.3%	Sustainable with low variance buffer
Scenario A: Retail Micro-Loan Shock	36.1	13.6%	+0.6%	Systemic distress for private tranches
Scenario B: Corporate Credit Shock	34.6	13.8%	+0.8%	Structural risk for state-backed SOBs

The stress-testing results demonstrate that while the aggregate national credit system possesses sufficient capital to absorb moderate shocks, the safety margins are narrowing. Under **Scenario A (Retail Lending Shock)**, where localized micro-credit bubbles collapse, the system-wide CAR falls to 13.6%. This leaves an exceptionally thin buffer of only 0.6% above the regulatory floor. While structurally massive state-capitalized institutions can withstand this compression, mid-sized and private banking structures would witness their standalone CAR break below the legal 13.0% requirement. This breach would trigger mandatory regulatory corrections and restrict local liquidity placement. Under **Scenario B (Corporate Shock)**, the total CAR falls to 13.8%, demonstrating that industrial default cascades heavily stress the larger, state-owned commercial banks (SOBs). These entities hold the largest concentrations of unhedged corporate debt and heavy industrial exposures across the national economy.

DISCUSSION AND CONCLUSION

The empirical findings generated through the stress-testing simulations in this study clearly demonstrate that the financial stability of commercial banks in Uzbekistan is heavily susceptible to localized credit shocks, particularly within the rapidly expanding retail micro-lending segment

(where a simulated shock compresses the system-wide CAR close to the regulatory edge at 13.6%). These outcomes strongly align with the macro-prudential theories established by Mishkin [4] and Rose [10], which argue that rapid, unhedged asset velocity during economic transitions often masks underlying credit decay.

When evaluated against the specific characteristics of the Uzbek financial market, these results highlight a structural vulnerability in current risk mitigation practices. Many local commercial banks still rely on backward-looking, collateral-based credit appraisal mechanisms rather than dynamic, forward-looking cash flow evaluations. As monetary policy remains tight to anchor inflation [1], the interest rate pass-through trap triggers a rise in corporate borrowing costs. According to the mechanics of asymmetric information described by Stiglitz and Weiss [3], this environment inherently increases default probabilities (credit risk).

The drop in the Loan Loss Provisioning (LLP) coverage ratio to 69.8% further indicates that banks are expending their built-in shock absorbers faster than they are replenishing them. This structural gap confirms the arguments raised by domestic scholars like Abdullaeva [7], who emphasized that static accounting reserves are insufficient to counter systemic risk clusters in developing financial markets.

To enhance credit risk management mechanisms and preserve the long-term financial stability of commercial banks in Uzbekistan under the 08.00.07 framework, the following comprehensive conclusions and policy recommendations are formulated:

1. Transition to Dynamic Cash-Flow Underwriting: Commercial banks must rapidly shift away from static collateral-dependent risk assessments toward dynamic, forward-looking credit scoring models. Loan underwriting frameworks should explicitly test a borrower's debt-serviceability under simulated macroeconomic shocks—such as prolonged high interest rates or sudden market demand shocks—prior to credit disbursement.

2. Institutionalization of Counter-Cyclical Capital Buffers: The Central Bank of Uzbekistan should require commercial banks to systematically accumulate counter-cyclical capital cushions during phases of accelerated credit growth. Building these specialized reserves during economic upturns ensures that banks possess an independent layer of capital to absorb the localized default clusters simulated in our retail and corporate stress scenarios without breaching the mandatory 13.0% threshold [9].

3. Expansion of Secondary Debt Markets for NPL Resolution: To prevent non-performing loans from permanently locking up bank liquidity, the national financial infrastructure must support secondary markets for distressed assets. Establishing clear legislative protocols for the sale or restructuring of toxic retail and corporate loans will allow commercial banks to rapidly purge their balance sheets and reallocate frozen capital back into productive tranches of the real economy.

4. **Enforcement of Sectoral Credit Diversification Caps:** Macro-prudential regulators must enforce stricter concentration limits on highly volatile, cyclical segments such as high-interest retail micro-credits and speculative construction loans. Banks should be incentivized to rebalance their loan portfolios toward highly diversified small and medium-sized enterprises (SMEs) that feature proven, transparent cash flow streams.

In summary, reinforcing credit risk management through proactive, macro-prudential mechanisms is vital for protecting the asset quality of individual commercial banks. Ultimately, these structural upgrades serve as a macro-critical requirement for maintaining stable money circulation, robust credit relations, and the enduring resilience of Uzbekistan's aggregate financial ecosystem.

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