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Comprehensive Economic Analysis of the Capital Structure and Profitability Indicators of Commercial Banks in Uzbekistan

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Abstract: This article presents a comprehensive economic analysis of the interrelationship between the capital structure and profitability indicators of commercial banks in Uzbekistan, as well as their impact on overall banking stability. The dynamics of capital quality and adequacy, along with key financial performance indicators — such as Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) — are thoroughly examined. The analysis reveals that the robustness of a bank's capital base directly influences its profitability and competitiveness. Empirical indicators from selected commercial banks are compared, and the study proposes practical recommendations to address identified challenges.

Key words: capital structure, profitability indicators, commercial banks, financial stability, ROA, ROE, interest margin, banking sector of Uzbekistan, economic analysis, bank capitalization

Today, ensuring the efficient allocation of financial resources, expanding the volume of credit to the real sector of the economy, and strengthening the financial stability of banks have become among the priority directions of Uzbekistan's banking system. The ongoing uncertainty in global financial markets, worldwide economic shifts, and the liberalization processes within the domestic market have further intensified the demand for improved capital structure and profitability levels of banking institutions.

Capital adequacy is not only a guarantee of a bank's ability to withstand financial shocks but also serves as a key factor in ensuring the effective performance of its intermediary function in the economy. At the same time, profitability indicators—particularly Return on Assets (ROA) and Return on Equity (ROE)—are essential metrics for assessing a bank's financial efficiency. The balance and interconnection between these indicators are among the crucial factors determining the competitiveness and investment attractiveness of commercial banks.

The relevance of this topic has significantly increased in light of recent presidential decrees and resolutions in Uzbekistan aimed at modernizing the banking and financial sector, as well as efforts to align capital standards with international norms. In particular, the gradual implementation of Basel III requirements necessitates improvements in banks' capital structures, enhancement of risk resilience, and stabilization of profitability.

In this context, conducting an in-depth analysis of the capital structure of commercial banks in Uzbekistan, assessing the current status of profitability indicators, and identifying the economic relationships between them hold significant scientific and practical importance for the sustainable development of the banking sector.

The issues of optimizing commercial banks' capital structures and stabilizing profitability indicators have recently received considerable scholarly attention worldwide. Especially in the

post-pandemic period following 2022 and amid rising global inflationary pressures, the challenge of maintaining financial stability in the banking sector has become increasingly urgent.

Studies conducted by foreign scholars have explored the relationship between capital adequacy and profitability across various national experiences. For instance, J. Berger and K. Roman (2022), analyzing U.S. commercial banks, identified a strong positive correlation between Tier I capital ratio and ROE. They emphasized that capital structure plays a central role in risk management, and that an optimal level of capitalization creates the foundation for higher profitability.

Meanwhile, research by M. Fernández Alonso and A. Rubio (2023) on Eurozone banks found that excessive capitalization may adversely affect profitability. They associated the phenomenon of "overcapitalization" with shrinking interest margins and reduced portfolio diversification.

On the other hand, a study by C. Zhang and Y. Liu (2023) on the Chinese banking system revealed that the relationship between capital and profitability varies across different stages of the economic cycle. Using dynamic panel regression, they proposed tailored approaches for developing countries.

In Uzbek academic literature, this topic has also gained prominence in recent years. For example, X.S. Juraev (2022), in his research on banking reforms, emphasized that insufficient capital formation in Uzbekistan's commercial banks increases financial risks. He argued that bank capital should not only meet regulatory requirements but also be sufficient to support the delivery of innovative services and the expansion of investment activities.

Additionally, in a joint study by G'.E. Karimov and M.I. Xasanov (2024), the authors evaluated the interdependence of capital adequacy and profitability indicators in Uzbekistan's banking sector, highlighting that the ratio between these indicators tends to be higher in privatized banks.

These theoretical perspectives suggest that the relationship between capital structure and profitability in commercial banks is shaped by economic, institutional, and regulatory factors. The interaction between these variables varies depending on a country's macroeconomic conditions, the level of competition in financial markets, and the development stage of the banking system.

Therefore, for Uzbekistan, it is essential to pursue an individual approach—strengthening capital adequacy while also ensuring its effective allocation and transformation into income-generating assets. Accordingly, a comprehensive analysis of the capital structure and profitability indicators of commercial banks, along with applying relevant international experiences to local practices, remains a key direction of scholarly inquiry in this area.

Identifying the interrelationship between the capital structure and profitability indicators of commercial banks enables a deeper understanding of their role in ensuring sustainable financial development. While capital adequacy determines a bank's capacity to withstand risks, profitability indicators reflect its operational efficiency and financial performance. Therefore, empirically examining the relationship between these two indicators holds significant methodological importance for assessing the mechanisms of stability and profitability within Uzbekistan's banking system.

Table 1. Capital Adequacy Indicators of the Banking System

Date	Tier I Capital (bln UZS)	Core Capital (bln UZS)	Additional Capital (bln UZS)	Tier II Capital (bln UZS)	Total Regulatory Capital (bln UZS)	Capital Adequacy Ratio (%)	Tier I Capital Adequacy Ratio (%)
01.01.2020	43,659.2	43,621.6	37.6	8,807.5	52,466.8	23.5%	19.6%
01.01.2021	48,140.5	48,027.7	112.8	10,021.5	58,162.0	18.4%	15.2%
01.01.2022	58,624.2	58,428.9	195.4	11,566.8	70,191.1	17.5%	14.6%
01.01.2023	67,793.5	67,598.1	195.4	15,619.6	83,413.0	17.8%	14.5%
01.01.2025	102,617.7	102,396.3	221.5	22,175.4	124,793.2	17.4%	14.3%

Regulatory capital and its components—Tier I and Tier II capital, along with their core and additional elements—play a crucial role in ensuring the financial stability of commercial banks. Based on the annual indicators, one can observe the evolutionary changes in the capitalization level of Uzbekistan's banking system.

1. Growth Trend of Regulatory Capital

As of January 1, 2020, the total regulatory capital amounted to UZS 52.5 trillion. By 2025, this figure had increased to UZS 124.8 trillion, which represents an almost 2.4-fold growth over five years. This upward trend indicates the strengthening of the capital base in the banking sector and highlights the increasingly active participation of banks in the national economy.

2. Analysis of Tier I Capital and Core Capital Structure

Tier I capital increased from UZS 43.7 trillion in 2020 to UZS 102.6 trillion in 2025. Core capital dominates within this structure, reaching UZS 102.4 trillion in 2025. Although the volume of additional capital remains relatively low (UZS 221.5 billion), this suggests that banks are primarily capitalizing through stable and long-term sources.

3. Share and Growth of Tier II Capital

Tier II capital also showed steady growth, increasing from UZS 8.8 trillion in 2020 to UZS 22.2 trillion in 2025. This growth reflects the banks' efforts to augment their capital base through subordinated debt instruments and revaluation reserves.

4. Capital Adequacy Ratio (CAR) Analysis

While the Capital Adequacy Ratio (CAR) stood at 23.5% in 2020, it gradually declined to 17.4% by 2025. This downward trend, despite the growth in capital, suggests that the volume of risk-weighted assets is increasing at a faster pace. Nevertheless, the CAR remains well above the Basel III minimum requirement of 8%, which indicates continued systemic stability.

5. Changes in Tier I Capital Adequacy Ratio

This indicator also declined, from 19.6% in 2020 to 14.3% in 2025. This trend is attributed to more active banking operations and an increasing share of high-risk assets such as loans. It necessitates a more balanced capital strategy by the banks.

The analysis above demonstrates a positive dynamic in terms of the volume and quality of regulatory capital in Uzbekistan's banking sector. However, the relative decline in capital adequacy ratios points to a rising share of risk-weighted assets. Consequently, for banks, the priority should not only be on increasing capital volumes but also on enhancing its efficiency. In the future, ensuring profitability and stability will require improving the quality of capital resources and strengthening risk management systems.

Table 2 Profitability Indicators of the Banking System

Date	Return on Assets (ROA) before Tax (%)	Return on Equity (ROE) (%)	Net Interest Income to Total Assets (%)	Net Interest Income on Loans to Total Loans (%)	Net Interest Income to Total Liabilities (%)	Net Interest Margin to Total Assets (%)
01.01.2020	2.2	16.7	3.6	4.7	4.5	3.9
01.01.2021	2.2	10.3	3.8	5.1	4.6	4.5
01.01.2022	1.3	6.1	3.7	5.1	4.4	4.2
01.01.2023	2.5	13.3	4.3	6.2	5.1	4.9
01.01.2024	2.6	14.2	4.4	6.2	5.2	4.9
01.01.2025	1.4	6.6	4.4	6.4	5.2	4.9

Profitability indicators, especially ROA, ROE, and net interest margins, play a crucial role in assessing the financial efficiency of the banking system and the effectiveness of internal management policies. Below is an annual evolutionary analysis of the main profitability indicators.

1. ROA (Return on Assets) Analysis

ROA shows how efficiently banks generate net profit from their assets. In 2020, ROA was 2.2% and remained stable in 2021. However, in 2022, this indicator sharply declined to 1.3%, indicating a certain crisis or increased expenses affecting banks' profitability potential. Nevertheless, ROA rebounded in 2023 and 2024, reaching 2.5% and 2.6%, respectively. Yet, in 2025, it dropped again to 1.4%, signaling challenges in maintaining profit stability in the banking sector. This situation requires renewed focus on profit flexibility and cost management policies.

2. ROE (Return on Equity) Analysis

ROE is the most important financial indicator for bank shareholders, reflecting how much profit is earned relative to the bank's equity. In 2020, ROE was 16.7%, indicating a high level of profitability. By 2022, it dropped to 6.1%, showing a weakened return on capital. ROE began to recover in 2023–2024, rising to 14.2%, but again fell to 6.6% in 2025, suggesting that the recovery is not stable. This may be related to dividend policies, risky assets, and increased bank expenses.

3. Net Interest Income to Total Assets Ratio

This indicator reflects how effectively banks generate net interest income through their assets. Between 2020 and 2022, this ratio remained stable, ranging from 3.6% to 3.8%. Starting in 2023, it increased to 4.4% and remained at this level through 2025. This indicates an improvement in the structure of the banks' asset portfolios and an increase in the share of high-yield interest assets.

4. Net Interest Income to Total Loan Portfolio Ratio

From 2020 to 2025, this ratio steadily increased from 4.7% to 6.4%, indicating a growing profitability of loans. This continuous growth may be explained by rising interest rates or a decrease in low-interest loans. The positive aspect is that banks are generating more profit from their loan portfolios, though this growth may increase the burden on borrowers.

5. Net Interest Income to Total Liabilities Ratio

This indicator increased from 4.5% in 2020 to 5.2% in 2025. It shows how much income banks generate from their financial liabilities (deposits, borrowings, and other attracted resources). The growth indicates that banks are efficiently and effectively attracting resources.

6. Net Interest Margin to Total Assets Ratio

One of the key financial efficiency indicators is the net interest margin, which has shown consistent growth. The indicator was 3.9% in 2020 and rose to 4.9% from 2023 onward, maintaining this level for the last three years. This reflects the stability of the core interest activity of banks (the difference between interest rates on assets and liabilities) and plays an important role in ensuring long-term profitability.

Overall, profitability indicators in the Uzbekistan banking sector experienced phases of growth and decline from 2020 to 2025. The declines in ROA and ROE in 2022 and 2025 indicate certain disruptions in profitability. However, positive dynamics in net interest income and margins suggest that banks' operational efficiency is improving. These discrepancies pose pressing tasks for banks in managing costs, optimizing capital structure, and reducing risk levels.

Research results show significant changes in the capital structure and profitability indicators of Uzbek commercial banks in recent years. Tier 1 capital adequacy decreased from 19.6% in 2020 to 14.3% in 2025, indicating that banks have not sufficiently strengthened their capital base.

Profitability indicators, especially ROA and ROE, remain volatile, highlighting difficulties in maintaining bank profitability. Reliance on interest income remains high.

This situation demands that banks intensify strategic measures for capital management, diversification of income sources, and risk minimization. The financial stability of the banking system is directly linked to the balanced development of these indicators.

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