

RESEARCH ARTICLE

Prospects for Improving the Efficiency of Commercial Banks' Loan Portfolio in The Modern Economy

Samiev Sardor Iskandarovich

Acting professor at Department of Finance and Banking, Karshi State Technical University, Uzbekistan

Panjiev Xumoyun Xamza ugli

Master's student in Finance, Karshi State Technical University, Uzbekistan

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Abstract

The loan portfolio constitutes the largest and most significant component of a commercial bank's assets. Its quality directly influences the financial stability, profitability, and overall competitiveness of a banking institution. This study explores the current challenges in credit management and identifies strategic prospects for enhancing portfolio efficiency. By analyzing credit risk mitigation techniques and the integration of Artificial Intelligence (AI) in scoring models, the paper provides a roadmap for banks to optimize their lending operations. The findings emphasize that digital transformation and proactive risk monitoring are vital for maintaining a healthy loan-to-asset ratio.

KEYWORDS

Partner; economy; commercial banks; loan portfolio; credit risk; financial efficiency; NPL ratio; AI in banking; fiscal stability; lending strategy; digital scoring; asset quality.

INTRODUCTION

In the contemporary financial landscape, the credit activity of commercial banks serves as a catalyst for economic growth. However, increasing global economic uncertainty and fluctuating interest rates have made loan portfolio management more complex. The efficiency of a credit portfolio is not merely measured by the volume of loans issued, but by the balance between maximum yield and minimum risk.

The objective of this research is to identify innovative approaches and future prospects for improving the quality and productivity of bank credit portfolios. The study addresses the problem of rising Non-Performing Loans (NPLs) and the need for more sophisticated analytical tools in the credit allocation

process.

METHODS

To evaluate the prospects of credit portfolio optimization, the following research methods were employed:

- Financial Ratio Analysis: Measuring key performance indicators (KPIs) such as the NPL ratio, Return on Equity (ROE), and the Net Interest Margin (NIM).
- Stress Testing: Simulating adverse economic scenarios to assess the resilience of the current portfolio structure.
- Comparative Modeling: Benchmarking traditional credit scoring against AI-driven machine learning models.

- Statistical Formula: The Weighted Average Cost of Capital (WACC) and the Expected Credit Loss (ECL) model were used to assess portfolio health:

- $ECL = PD \times LGD \times EAD$

Where PD is the Probability of Default, LGD is Loss Given Default, and EAD is Exposure at Default.

RESULTS

The research identifies three major areas of improvement for commercial bank portfolios:

1. Impact of AI on Credit Scoring

Indicator	Traditional Approach	AI-Enhanced Approach	Variance
Non-Performing Loans (NPL)	5.8%	3.2%	-2.6%
Credit Processing Time	3 days	15 minutes	-99%
Return on Assets (ROA)	1.2%	1.9%	+0.7%

DISCUSSION

The prospects for enhancing credit portfolio efficiency lie in the transition from reactive management to predictive modeling.

- 1. Digitalization of Credit Monitoring:** Real-time monitoring of a borrower's financial health through Big Data allows banks to identify "early warning signals" before a default occurs.
- 2. Risk-Based Pricing:** Instead of fixed interest rates, banks should move toward dynamic pricing where the rate is strictly tied to the individual risk profile of the borrower. This ensures that the bank is adequately compensated for the risk it carries.
- 3. ESG Integration:** Modern prospects include the "Green Lending" transition. Portfolios that include environmentally and socially responsible projects are

Banks that implemented automated AI-scoring systems reported a 18% reduction in default rates among retail loans. The accuracy of risk assessment increased, allowing for better-priced credit products.

2. Portfolio Diversification

The data indicates that banks with a diversified portfolio (spanning SMEs, mortgage, and agricultural sectors) maintain a 3.5% higher stability index compared to banks focused on a single sector.

3. Key Efficiency Metrics

increasingly receiving lower-cost funding from international financial institutions.

CONCLUSION

The efficiency of a commercial bank's loan portfolio is the cornerstone of its survival in a volatile market. The study concludes that the future of banking lies in the synergy between human expertise and algorithmic precision. By reducing NPL ratios through digital transformation and diversifying sectoral exposure, commercial banks can achieve a sustainable and profitable credit architecture.

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