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Analysis of Factors Affecting the Effectiveness of Risk Assessment in Commercial Banks

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Abstract: This study analyzes the key factors affecting the effectiveness of risk assessment in commercial banks. In the context of increasing financial intermediation and expanding lending activities, accurate risk evaluation has become a critical determinant of banks' financial stability. The research focuses on internal and external factors influencing risk assessment, including the quality of credit risk models, information asymmetry, borrowers' financial transparency, macroeconomic conditions, and the efficiency of monitoring systems. Particular attention is given to the role of non-performing loans (NPLs) as an indicator of weaknesses in risk assessment practices. The findings highlight the necessity of improving scoring models, strengthening internal rating systems, and integrating advanced technologies such as artificial intelligence and big data analytics. The study concludes that enhancing risk assessment mechanisms contributes to reducing NPL levels, improving credit portfolio quality, and ensuring sustainable banking sector development.

Keywords: Commercial Banks, Risk Assessment, Credit Risk, Non-Performing Loans (Npls), Risk Management, Scoring Models, Internal Rating Systems, Financial Stability, Big Data, Artificial Intelligence

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1. Introduction

In recent years, the rapid development of the banking sector, along with the expansion of lending activities and financial services, has significantly increased the importance of effective risk assessment in commercial banks. As financial institutions play a crucial role in economic growth, their ability to accurately identify, measure, and manage risks directly affects overall financial stability. Ineffective risk assessment practices can lead to the accumulation of non-performing loans, deterioration of asset quality, and increased vulnerability to financial shocks.[1]

Modern banking practice demonstrates that risk assessment is influenced by a wide range of factors, including the availability and reliability of information, the methodological soundness of risk evaluation models, and the broader macroeconomic environment. However, challenges such as information asymmetry, insufficient analysis of borrowers' financial conditions, and limitations of traditional scoring systems continue to hinder the effectiveness of risk assessment processes.[2]

Therefore, analyzing the factors that influence the effectiveness of risk assessment in commercial banks and identifying ways to improve them is of great scientific and practical

importance. This study aims to examine these factors comprehensively and propose approaches to enhance risk assessment mechanisms, thereby strengthening financial stability and improving the overall performance of commercial banks.[3]

Literature review

Yu.G. Veshkin and G.L. Avagyan consider the financial stability of commercial banks as the excess of income over expenses. Assessing the financial stability of commercial banks based on their income, as well as the payment of dividends from their profits, is somewhat controversial. This is because bank profits are a key indicator of their overall performance, but we believe that in order to determine the financial stability of banks, it is necessary to pay attention to the sources that form them[4].

Economist O.I. Lavrushin stated in his work that "the credit mechanism should be organized in such a way that it has the ability to timely prevent the conversion of credit into expenses, as well as to timely notify about possible deviations, and thus actively influence economic entities that have committed deviations from established norms" [5].

Building upon the aforementioned perspectives, modern academic literature emphasizes that financial stability and effective risk assessment in commercial banks cannot be limited solely to income-based indicators, but must incorporate a comprehensive evaluation of risk exposures and the quality of assets. In this regard, scholars such as Frederic S. Mishkin highlight that asymmetric information in financial markets significantly influences the efficiency of credit allocation and risk assessment, often leading to adverse selection and moral hazard problems. These issues, in turn, increase the likelihood of non-performing loans and weaken the overall financial stability of banks.

Furthermore, according to Anthony Saunders and Marcia Millon Cornett, effective risk management in commercial banks requires the integration of quantitative risk measurement tools with qualitative assessment frameworks. Their research underlines the importance of internal rating systems, stress testing, and portfolio diversification in minimizing credit risk and enhancing the resilience of banking institutions.[6]

In addition, international financial institutions, particularly the Basel Committee on Banking Supervision, have developed standardized approaches to risk assessment through frameworks such as Basel III. These frameworks emphasize capital adequacy, liquidity management, and risk-sensitive supervision, thereby ensuring that banks maintain sufficient buffers to absorb potential losses arising from credit, market, and operational risks.

Recent studies also focus on the application of advanced technologies in risk assessment. Researchers argue that the use of artificial intelligence, machine learning, and big data analytics significantly improves the accuracy of credit scoring models and early warning systems. Such approaches enable banks to better predict borrower behavior, detect potential defaults, and reduce the level of non-performing loans.[7]

Thus, the existing literature suggests that improving the effectiveness of risk assessment in commercial banks requires a multidimensional approach that combines traditional financial indicators with advanced analytical tools, robust regulatory frameworks, and proactive risk monitoring mechanisms.

2. Material and Methods

The main purpose of this study is to develop scientific conclusions and practical recommendations by analyzing the dynamics of long-term assets and long-term liabilities in commercial banks and assessing their influence on the banks' credit activity. The research focuses on how the maturity structure, stability, and diversification of long-term financial resources shape the capacity of commercial banks to expand lending, support investment projects, and maintain sustainable credit growth.[8]

The theoretical, methodological, and practical foundations of this article include a comprehensive review of economic literature and scientific publications, expert opinions on the financial stability of commercial banks, as well as analytical approaches to long-term resource mobilization and lending mechanisms. The study employs a systematic assessment of asset–liability management practices, expert evaluations, and comparative analysis with international experience in long-term funding and credit expansion. Based on these analyses, relevant conclusions and evidence-based recommendations are presented.[9]

In the research process, alongside general economic methods, various analytical tools were used, including statistical data collection, structural analysis of long-term balance sheet components, comparison, generalization, and systematic evaluation. These methods enabled a deeper understanding of how long-term funding sources affect the credit potential and financial sustainability of commercial banks.

3. Results and Discussion

As of December 1, 2024, 9 commercial banks in our country had a state share, and JSCB "Microcreditbank" ranked 7th among banks with a state share in terms of bank assets (24,070 billion soums) and 10th among all banks, accounting for 3% of the total assets of existing commercial banks. Also, the capital of this bank on this date was 4,829 billion soums, and according to this indicator, it was 7th among banks with a state share and 10th among all banks.[10]

In addition, the state of general indicators representing the bank's credit activity as of December 1, 2024 is as follows: the share of bank loans in the total loan portfolio is 3% (17703 billion soums); the ratio of loans to deposits is 239%; with the volume of problem loans amounting to 1066 billion soums, it reached 6.0% of the bank's total loans and recorded the second negative result after "Business Development Bank" among banks with a state share.

We will conduct our research, first of all, to analyze the state of the bank's assets and liabilities in recent years in order to study changes in the structural structure of the existing resources of JSCB "Microcreditbank" and the dynamics of the formation of their sources. [11]

In addition, the Table 1. structure of the bank's assets suggests that the bank is not sufficiently active in the securities market and investment activities. Therefore, it is necessary to create and develop an infrastructure that will allow the bank to conduct extensive activities in these areas.

We will continue our analysis based on the formation of conclusions by studying and analyzing the composition of the liabilities of JSCB "Mikrokreditbank".

Table 1. Composition of liabilities and equity of JSCB Mikrokreditbank, in percentage

№	Bank liabilities and equity	31.1.2.017	31.12.2018	31.12.2019	31.12.2020	31.12.2021	31.12.2022	31.12.2023	Difference
1.	Obligations to banks	0,7	9,5	21,3	16,3	10,4	15,2	10,0	9,3
2.	Total deposit	58,6	40,9	23,6	23,2	23,4	32,2	33,4	-25,2
3.	Obligations under credit and leasing operas	8,1	26,4	21,9	41,8	37,7	29,6	33,3	25,2
4.	Bank issued securities	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
5.	Subordinate debt	0,0	0,0	0,0	0,0	0,0	0,3	0,3	0,3
6.	Accrued interest to be paid	0,2	0,2	0,3	0,6	0,7	0,6	0,8	0,6
7.	Other commitments	1,1	0,8	5,3	1,1	10,5	0,4	1,6	0,5

	<i>Total liabilities</i>	68,7	77,9	72,4	83,1	82,8	78,3	79,4	10,7
8.	Share capital	31,3	22,1	27,6	16,9	17,2	21,7	20,6	-10,7
	Total passives (%)	100	100	100	100	100	100	100	---
	<i>Total passives (trln soum)</i>	1,7	3,0	5,9	10,3	13,5	16,8	19,1	17,4

The data in Table 2 shows that, although the liabilities of JSCB "Microcreditbank" to banks have a tendency to grow compared to the beginning of the analysis period, they have decreased compared to the indicators for 2019-2022.

During the analysis period, the most significant changes in the composition of liabilities were observed in attracted deposits and liabilities for loans and leasing. It is noteworthy that the dynamics of the share of these two liabilities in liabilities was in the opposite direction. That is, while the share of deposits decreased by 25.2 percent, the bank's liabilities in the form of loans and leasing increased by 25.2 percent, and their share in the composition of liabilities almost equalized. This indicates that loans may be more profitable than deposits in attracting resources in this commercial bank. Therefore, in future analyses, it is advisable to group liabilities for deposits and loans by customer segment and by the terms of attraction.[12]

In this regard, according to international experience, from the point of view of the impact on the financial stability of banks, a positive ratio of bank loans to deposits of 80-90% is considered. If this recommendation is taken into account, it will be necessary to significantly increase the volume of deposits in this bank and its share in liabilities.

In addition, the level of attracting other forms of resources in the bank, in particular, in the practice of raising funds through the issuance of securities and subordinated debt, was almost not noticed.

Therefore, JSCB "Microcreditbank" should develop strategic plans for the structural structure of liabilities and regulate it in order to ensure the financial stability of the bank and reduce the level of risk in the bank, as much as possible in accordance with market principles, based on macroeconomic indicators in the economy, so that all economic entities in the economy receive optimal benefits. Of course, for this, the Central Bank should take appropriate measures to ensure fair competition (for example, setting a minimum level of the share of time deposits in the structure of liabilities for all commercial banks. This Figure 1. in turn, on the one hand, will transform idle money in the economy into a financial resource, on the other hand, it will regulate the level of devaluation that may occur in the economy in the future through foreign loans, and on the third hand, it can serve to form and operate interest rates based on demand and supply between economic entities in the economy that are not lower than the inflation and refinancing rates).[13]

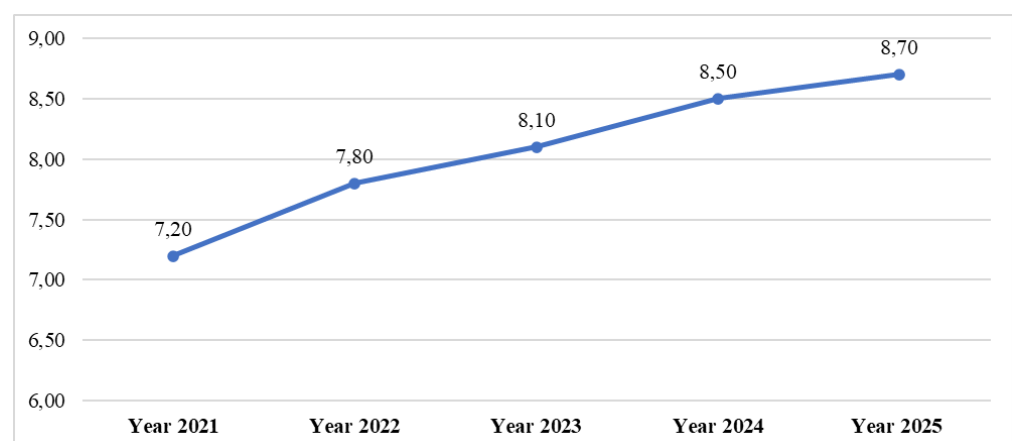


Figure 1. Return on Equity (ROE) of Mikrokredit Joint-Stock Commercial Bank (%)

The data presented in Figure 1 indicate a steady upward trend in the Return on Equity (ROE) of Mikrokredit Joint-Stock Commercial Bank over the period 2021-2025. Specifically, ROE increased from 7.2% in 2021 to 7.8% in 2022, reflecting an improvement of 0.6 percentage points. This positive динамика continued in subsequent years, reaching 8.1% in 2023 and 8.5% in 2024. By 2025, the indicator further rose to 8.7%, demonstrating sustained growth in the bank's profitability.

This consistent increase in ROE suggests that the bank has been effectively utilizing its equity capital to generate higher returns. The improvement may be attributed to enhanced asset management, growth in interest and non-interest income, as well as more efficient cost control mechanisms. Additionally, the upward trend reflects a strengthening of the bank's financial performance and operational efficiency.[14]

The Figure 2. analysis shows that Mikrokredit Bank has maintained a stable and positive profitability trajectory, which contributes to its financial sustainability and attractiveness to investors. However, maintaining this growth will require continued attention to risk management, particularly in the context of expanding lending activities and potential.

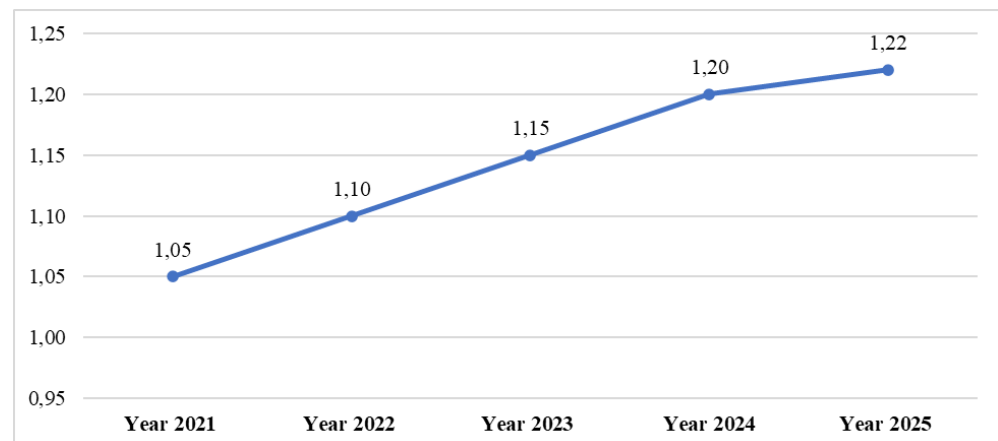


Figure 2. Analysis of Return on Assets (ROA) of Mikrokredit Joint-Stock Commercial Bank (%)

According to the data presented in the figure, the bank's Return on Assets (ROA) demonstrates a steady upward trend over the period 2021–2025. Specifically, ROA increased from 1.05% in 2021 to 1.10% in 2022, and further to 1.15% in 2023. This positive динамика continued in 2024, reaching 1.20%, and in 2025 the indicator rose to 1.22%.

This consistent growth indicates an improvement in the efficiency of asset utilization by the bank. The increase in ROA reflects that the bank is generating higher profits from its asset base, suggesting better asset structure, enhanced income generation, and improved operational performance.

At the same time, the gradual and stable increase in ROA implies that the bank maintains a balanced approach between profitability and risk management. Overall, the observed trend confirms the strengthening of Mikrokredit Bank's financial stability and the improvement in the quality and productivity of its assets.[15]

4. Conclusion

- According to data from JSCB "Microcreditbank" for 2017-2023, in 2017, the share of interest and non-interest income in assets, calculated at an average weighted interest rate of 16.9% on total loans at the bank, was 0.4%, which may be a natural situation;

- In 2023, the average weighted interest rate on total loans in the bank is 14.9% and the share of loans in assets is 74.6%, which means that the share of interest and non-interest income in assets is 5.9%, and its ratio to loans is 7.9% (5.9/0.746). This, in turn, is 53% of the average weighted interest rate on loans, which is not a positive situation from the point of view of the efficiency of the lending mechanism and the financial stability of the bank, as well as increasing the share of liquid assets and providing resources to income-generating assets;
- for this reason, the bank requires measures aimed at ensuring that this balance sheet item is at the standard level, in particular, a review of approaches to each element in lending mechanisms;
- the financial reason for this situation was that the bank's estimated reserves against potential losses on assets for 2023 amounted to 7,755.3 billion soums (+57.7% more than last year), in particular, the estimated amount of potential losses on loans and leasing amounted to 6,116.7 billion soums (+103.17% (or 2.03 times more than last year));
- during the analyzed period, the share of equity capital in liabilities in the bank decreased by 10.7 percent to 20.6 percent, which is explained, on the one hand, by the fact that during this period, the total volume of liabilities increased by 10.9 times, while the volume of liabilities and bank capital increased disproportionately by 12.6 and 7.2 times, respectively. On the other hand, this may be due to the fact that the amount of net profit in the banking activity during this period had a low trend and was unstable in formation.

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