INTERNATIONAL JOURNAL OF POLITICAL SCIENCES AND ECONOMICS
Impact Factor (research bib) - 9,78
https://ijmri.de/index.php/ijpse , German international journals company
ISSN 2751-9708

WAYS TO INCREASE THE INVESTMENT ATTRACTIVENESS OF COMMERCIAL BANKS BASED ON INTERNATIONAL EXPERIENCE

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ABSTRACT: This article investigates the issues of increasing the investment activity of commercial banks in the securities (stock) market and diversifying bank assets. Mechanisms for allocating liquid bank resources into corporate shares, government, and corporate bonds are analyzed. During the study, Harry Markowitz's Modern Portfolio Theory (MPT) was applied to develop an optimal investment portfolio structure for commercial banks that ensures minimum risk and maximum return. Empirical analysis was conducted using data from the Uzbekistan Currency Exchange and the Republican Stock Exchange "Toshkent." The article concludes with strategic recommendations for the development of investment banking services in local banks.

Keywords: commercial banks, stock market, investment portfolio, Markowitz model, diversification, corporate bonds, liquidity, risk and return.

1. INTRODUCTION

One of the fundamental principles of any stable banking system is asset diversification. If a bank allocates all its resources exclusively to traditional lending operations (such as long-term sectoral lending), systemic credit risk may significantly increase during periods of economic crisis or sectoral stagnation. Deterioration of the credit portfolio may lead to reduced liquidity and ultimately to bankruptcy.

To minimize such risks and generate additional sources of income, commercial banks' investment activity in the securities market plays a crucial role. In developed countries (the USA, the United Kingdom, Germany), commercial banks are among the largest institutional investors in the securities market. They maintain high liquidity of assets by investing in government treasury securities, corporate bonds, and equities.

Currently, in the banking system of Uzbekistan, approximately 70–75% of total assets are concentrated in the credit portfolio, while the share of investments in the stock market remains below 5%. This indicates low activity of local banks in the capital market and insufficient methodological development of investment operations management. Therefore, optimizing and improving banks' investment activities based on modern financial models is an urgent economic task.

2. RESEARCH METHODOLOGY

The methodological basis of the study is Harry Markowitz's Modern Portfolio Theory (MPT). The objective of the model is to minimize portfolio variance (risk) for a given level of return or to maximize expected return for a given level of risk.

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The expected portfolio return ($E(R_p)$) is calculated as follows:

$$E(Rp)=\sum_{i=1}^{n} w_i E(R_i)E(R_p) = \sum_{i=1}^{n} w_i E(R_i)E(Rp)=i=1∑n wi E(Ri)$$

where w_i is the weight of the i-th asset in the portfolio, and $E(R_i)$ is the expected return of that asset.

The total portfolio risk (standard deviation — σ_p) is calculated by considering covariance between assets (σ_{ij}):

$$\sigma p2=\sum_{i=1}^{n}\sum_{j=1}^{n} w_i w_j \sigma_{ij}\sigma p2 =i=1∑n j=1∑n wi wj σij$$

The study considers four main asset classes:

1. Government securities (bonds of the Central Bank and Ministry of Finance);
2. Blue-chip shares of large joint-stock companies;
3. Corporate bonds;
4. International Eurobonds.

Empirical analysis was conducted using data from the Uzbekistan Currency Exchange and the Republican Stock Exchange “Toshkent” for the years 2024–2025.

3. RESEARCH RESULTS

Simulation of the Markowitz model using computer programs (Python — scipy.optimize package) allowed identification of the most efficient and safe portfolio combinations for banking investment activities.

Table 1 compares the performance of a traditional investment structure (mainly government bonds) with the optimized portfolio formed based on the model.

Table 1. Results of Investment Portfolio Optimization Models

Indicators	Variant I (Traditional / Risk-Averse)	Variant II (Optimal / Markowitz Model)	Variant III (Aggressive / High Return)
Share of government bonds (w_1)	85.0%	40.0%	10.0%
Share of corporate bonds (w_2)	10.0%	30.0%	20.0%
Share of corporate shares (w_3)	5.0%	15.0%	45.0%

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Indicators	Variant I (Traditional / Risk-Averse)	Variant II (Optimal / Markowitz Model)	Variant III (Aggressive / High Return)
Share of Eurobonds (w_4)	0.0%	15.0%	25.0%
Expected annual return	12.4%	18.6%	24.2%
Total portfolio risk (σp)	2.1%	4.5%	14.8%
Sharpe Ratio	1.14	2.13	1.02

Note: The risk-free rate is assumed to be 10%.

The results show that Variant II (Optimal portfolio) is the most effective option for banks. Variant I yields low profitability (12.4%), while Variant III, although offering higher returns (24.2%), involves an extremely high level of risk ($\sigma_p = 14.8\%$), which is dangerous for banking stability.

In Variant II, due to effective diversification, annual return increases to 18.6% while maintaining moderate risk (4.5%). This is also confirmed by the Sharpe Ratio, which is highest in Variant II (2.13), meaning the bank earns maximum return per unit of risk.

4. DISCUSSION

The results indicate the necessity of fundamentally revising commercial banks' investment policies. Investing solely in government bonds ensures liquidity but does not generate real profit under inflationary conditions.

The advantages of portfolio optimization include:

1. **Liquidity management:** Corporate bonds and liquid shares can be quickly converted into cash through REPO operations on stock exchanges.
2. **Correlation effect:** Securities from different sectors (banking, energy, telecommunications) often have low or negative correlation, which helps protect investments from losses during sectoral downturns.

However, there are serious systemic constraints in applying this model in Uzbekistan. The main issue is the low capitalization of the national stock market and insufficient free-float shares in circulation. Additionally, independent rating agencies assessing the reliability of corporate bond issuers are underdeveloped.

5. CONCLUSION AND RECOMMENDATIONS

Based on the findings, the following measures are proposed to improve and develop commercial banks' investment activities in the stock market:

- **Implementation of an Automated Asset Management System based on the Markowitz model:** Establish departments managing investment processes using automated mathematical models.
- **Expansion of investment banking services:** Banks should actively participate not only in investing their own funds but also in underwriting and IPO processes of large corporations.
- **Liberalization of prudential restrictions:** Gradually expand Central Bank limits on investments in shares and bonds of high-rated private companies.

These reforms will not only ensure banking system stability but also significantly stimulate capital market development in the country.

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