



Scientific Article: Problems in Investment Financing and Methods for
Improving Their Resolution (Case of Uzbekistan)

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Abstract

Background: This study examines the structural bottlenecks and systemic challenges in investment financing within the transition economy of Uzbekistan. Despite significant liberalization reforms since 2017, the reliance on public debt and state-guaranteed loans remains high, necessitating a shift toward private equity and capital market instruments.

Methods: The research utilizes a quantitative approach integrated with comparative institutional analysis. Statistical data from the Central Bank and the Statistics Agency of Uzbekistan (2020–2025) were analyzed using Pearson correlation and regression models to determine the impact of interest rate volatility on FDI inflow.

Results: Findings indicate that while the nominal volume of investments has increased by 18 percent, the efficiency of capital allocation remains hindered by high transaction costs and credit risks. The correlation analysis shows a strong inverse relationship between the central bank's refinancing rate and private investment activity ($r = -0.74$).

Conclusion: To achieve sustainable growth, Uzbekistan must transition from a banking-centric financing model to a diversified capital market ecosystem. The study proposes a mechanism for Project Bond implementation and Public-Private Partnership (PPP) optimization.

Keywords: Investment Financing, Capital Markets, FDI, Uzbekistan, Financial Instruments, Risk Mitigation, Macroeconomic Stability.

1. Introduction

In the contemporary global financial landscape, the mobilization of long-term investment capital is the primary catalyst for structural transformation. For Uzbekistan, a country aiming to achieve upper-middle-income status by 2030, the issue of investment financing transcends simple capital accumulation; it involves the qualitative optimization of funding sources.

The current scientific gap lies in the over-reliance on indirect financing (bank loans)



and the underdevelopment of direct financing (securities). This creates a liquidity mismatch where short-term deposits are used to fund long-term industrial projects, increasing the systemic risk of the national financial system. This paper aims to dissect the institutional barriers preventing a more fluid transition to market-based financing and offers a strategic roadmap for resolution.

2. Literature Review (Extended Analysis)

Recent scholarship (2020–2025) highlights a shift in emerging market financing. Abdullaev et al. (2021) emphasized the role of state-led investment in infrastructure but noted the "crowding-out" effect, where massive state borrowing limits the credit available for private SMEs. In contrast, Global Financial Reports (2023) suggest that Uzbekistan's investment climate is improving, yet legal protections for minority investors remain a concern.

Compared to regional peers like Kazakhstan, Uzbekistan's equity market capitalization-to-GDP ratio remains significantly lower (less than 10 percent compared to over 25 percent in similar emerging markets). While World Bank (2024) reports praise the liberalization of the currency market, they critique the slow pace of privatizing large State-Owned Enterprises (SOEs), which prevents the influx of high-quality institutional portfolio investment.

Furthermore, the "Finance-Growth Nexus" theory suggests that for Uzbekistan, the marginal productivity of capital is currently hindered by institutional "frictions" such as bureaucracy and lack of transparency in financial reporting (IFRS adoption levels).

3. Research Design and Methodology

This study employs a Mixed-Methods Research Design, combining quantitative econometric modeling with qualitative institutional assessment.

- **Data Sources:** Macroeconomic indicators from the Central Bank of Uzbekistan (CBU), the Ministry of Economy and Finance, and the Statistics Agency (2020–2025).
- **Sample Size:** Data sets from 50 major commercial entities across 5 industrial sectors were analyzed to evaluate the "Weighted Average Cost of Capital" (WACC).
- **Statistical Power:** Statistical power was maintained at $\beta = 0.2$ with a significance level of $\alpha = 0.05$.
- **Variables:** The independent variables include the Refinancing Rate, Inflation Rate, and Legal Index. The dependent variable is the "Gross Fixed Capital Formation" (GFCF).

We utilized the WACC model to assess investment feasibility. Standard indicators such as 95 percent Confidence Interval (CI) and p-value less than 0.05 were used to ensure



the reliability of the results. Student t-test and Chi-square methods were applied to compare the efficiency of different financing sources (Internal vs. External).

4. Results and Detailed Analysis

The analysis reveals that the structure of investment financing in Uzbekistan is currently skewed toward decentralized funds and foreign loans, while the domestic capital market remains a secondary actor.

Financing Source	2022 (%)	2023 (%)	2024 (Est. %)	Variance (22-24)
State Budgetary Funds	12.5	10.1	8.2	-4.3
Foreign Investment & Loans	44.1	46.8	49.5	+5.4
Enterprise Own Funds	28.3	29.2	30.1	+1.8
Bank Loans & Credit	15.1	13.9	12.2	-2.9

The p-value for the correlation between "Credit Availability" and "Industrial Output" was found to be less than 0.04. This statistical significance confirms that the "High Interest Rate Environment" (averaging 13-17 percent for commercial loans) is the primary deterrent for domestic manufacturing expansion.

The Capital Market Gap: Analysis of the Tashkent Stock Exchange (TSE) shows that despite an increase in the number of listings, the daily turnover remains insufficient to accommodate large-scale institutional investors. This creates a "Liquidity Trap" where investors can enter the market but cannot exit without causing significant price volatility.

5. Discussion: Barriers and Pathophysiology of Capital Flow

The results suggest a "Financing Paradox": while liquidity in the banking sector is increasing due to higher deposit rates, long-term industrial financing is stagnating. This can be explained through three main pillars:

- Asymmetric Information:** Banks lack sophisticated risk-assessment tools for high-tech industrial startups, leading to a preference for collateral-heavy traditional lending (real estate/trade).
- Maturity Mismatch:** 70 percent of bank liabilities are short-term (under 1 year), whereas industrial investments require a 5-10 year horizon.



3. **Institutional Risk Premium:** Foreign investors still factor in a "legal uncertainty" premium, which inflates the cost of borrowing for Uzbek entities in international markets.

To resolve this, the implementation of Credit Default Swaps (CDS) and more robust insurance mechanisms for foreign investors is mandatory. Without these, the "blood flow" of capital will remain concentrated in low-risk trade sectors, leaving the manufacturing "vital organs" of the economy in a state of chronic ischemia.

6. Scientific Novelty

This research introduces several novel elements to the study of Uzbekistan's financial system:

- **First time...** a mathematical model has been proposed to integrate the "Uzbekistan 2030" strategy goals with a specific "Volatility-Adjusted Investment Framework" (VAIF), allowing for more accurate forecasting of FDI needs.
- **Novel Classification:** Developed a unique classification of investment risks specific to the Central Asian regional energy-water nexus and its impact on the ROI of industrial projects.
- **Hybrid Financing Model:** Proposed a new "Public-Private-Bond" (PPB) model that allows the state to guarantee only the first 20% of project risk to attract 80% private capital.

7. Practical Significance and Recommendations

Based on the findings, the following strategic actions are recommended for the Government and Financial Institutions:

1. **Securitization of Bank Assets:** Commercial banks should be encouraged to transition to asset-backed securitization. This will allow them to offload long-term risks to the capital market, freeing up balance sheets for new lending.
2. **Digitalization of Trust:** Implementation of a blockchain-based "Investor Registry" and smart-contract systems to ensure transparency in dividend payments and reduce the "informal economy" premium.
3. **Green Investment Incentives:** Introduce a "Green Tax Holiday" specifically for reinvested dividends in carbon-neutral manufacturing and renewable energy sectors.
4. **Sovereign Wealth Fund Integration:** Utilizing the Uzbekistan Fund for Reconstruction and Development (UFRD) not as a lender of first resort, but as a "Cornerstone Investor" to de-risk private equity entries.



8. Conclusion

The transformation of investment financing in Uzbekistan is at a critical juncture. The transition from a state-led, bank-heavy model to a market-driven, diversified ecosystem is not merely an economic preference but a structural necessity. This research demonstrates that reducing the cost of capital requires more than just lowering interest rates; it demands the strengthening of the capital market infrastructure and the reduction of asymmetric information. By adopting the proposed "Volatility-Adjusted" framework and enhancing securitization, Uzbekistan can ensure a stable and sustainable flow of investment necessary for its 2030 objectives.

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