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# IMPROVING INTEGRATED FINANCIAL AND ECONOMIC MECHANISMS FOR ENHANCING THE INVESTMENT EFFICIENCY OF SMALL BUSINESS ENTERPRISES

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**ABSTRACT**

This article substantiates a set of interconnected research proposals aimed at improving the investment efficiency of small business enterprises in Uzbekistan within an integrated financial and institutional framework. The approach encompasses an optional simplified value-added tax (VAT) regime, scenario-based projections for 2026–2030, reinvestment of export proceeds, phased business growth, an integrated efficiency index, and an assessment of returns on workforce training expenditure. The study employs official statistics for 2021–2025, discounted cash-flow analysis, multicriteria evaluation, and scenario analysis. It distinguishes investment volume from investment efficiency and identifies the transmission channels and verification indicators associated with the proposed measures. These mechanisms are presented as the author's research proposals requiring subsequent testing, rather than as programmes whose empirical effectiveness has already been established.

**KEYWORDS**

Small business, investment efficiency, integrated index, financial mechanism, reinvestment, value-added tax, human capital, forecasting, exports

## Introduction

Small businesses play an important role in economic growth and employment. Nevertheless, an increase in investment financed through borrowing, equity capital, or public support does not necessarily imply that these resources are being used efficiently. Assessing investment performance requires a comprehensive consideration of cash flows, value creation, liquidity, and risk.

According to the National Statistics Committee, fixed-capital investment by small business entities increased from UZS 109,202.2 billion in 2021 to UZS 362,910.0 billion in 2025 [1]. Their share of total investment rose from 45.6% to 61.4% over the same period [2]. These indicators describe the scale of capital investment but do not directly measure the returns on individual investment projects.

International research has documented the financing constraints faced by small enterprises [6; 7]. World Bank evidence also indicates gaps in access to finance for small businesses in Uzbekistan [5]. Accordingly, support measures should target not only the volume of resources provided but also the net economic outcomes generated by investment.

The objective of the study is to integrate research proposals concerning tax administration, financial forecasting, exports and reinvestment, phased business growth, integrated evaluation, and human capital into a unified mechanism for small businesses.

## MATERIALS AND METHODS

The analysis draws on the National Statistics Committee's SIAT database for 2021–2025, including small business investment and the sector's shares in total investment, gross domestic product (GDP), and exports [1–4]. International literature on financing, entrepreneurship, and managerial efficiency was reviewed to develop the theoretical framework [5–9].

The methodology comprises descriptive analysis of nominal trends, discounted free-cash-flow analysis, a risk-adjusted integrated index, scenario forecasting, and a proposed design for future empirical validation. Nominal series that have not been adjusted for inflation are not interpreted as measures of real investment returns. Each author-proposed measure is linked to financial-outcome and monitoring indicators.

The financial outcome of a project is expressed in terms of net present value (NPV):

$$NPV = -I_0 + \Sigma_{t=1}^{T} [FCF_t / (1 + r)^t], \quad (1)$$

where $I_0$ denotes the initial investment; $FCF_t$ is free cash flow in period t; r is the discount rate reflecting risk and the cost of capital; and T is the appraisal horizon. The cash-flow model also accounts for taxation, working capital, employee training, and investment commissioning costs.

A risk-adjusted integrated investment efficiency index (IES) is proposed in the following form:

$$IES_i = \Sigma_j w_j \cdot z_{ij}, \quad \Sigma_j w_j = 1, \quad 0 \le z_{ij} \le 1. \quad (2)$$

The proposed index incorporates financial returns (NPV relative to investment), capital productivity, liquidity (including the debt-service coverage ratio, DSCR), an inverse measure of risk, and the outcomes of human-capital investment. Indicators are normalised to a common scale, and sensitivity to the assigned weights is assessed. Binding constraints, such as a negative NPV or inadequate liquidity, cannot be offset by a high overall index score.

For the illustrative 2026–2030 scenarios, the 2025 index is set at 100 and the formula $I_{2030} = 100 \cdot (1+g)^5$ is applied. Under conservative (g = 8%), baseline (g = 12%), and accelerated (g = 16%) assumptions, the index reaches 146.9, 176.2, and 210.0, respectively. These values are methodological scenarios, not official forecasts.

For subsequent empirical testing, a panel model with firm and period fixed effects is proposed: $\ln(P_{it}) = \alpha + \beta_1 INV_{it-1} + \beta_2 FIN_{it} + \beta_3 EXP_{it} + \beta_4 HC_{it} + \beta_5 TAX_{it} + \mu_i + \lambda_t + \varepsilon_{it}$. Here, P denotes performance relative to capital; INV is investment; FIN is the financing structure; EXP is exports; HC is human capital; TAX is tax-related costs; and $\mu_i$ and $\lambda_t$ represent the corresponding fixed effects. The coefficients have not yet been estimated empirically.

## RESULTS

Between 2021 and 2025, nominal investment by small businesses increased by a factor of 3.32, equivalent to a compound annual growth rate of approximately 35%. However, changes in prices and sectoral composition, together with lags in investment outcomes, mean that this increase cannot be interpreted as growth in real investment efficiency.

**Table 1. Trends in small business investment and shares in key economic aggregates in Uzbekistan, 2021–2025** [1–4]

| Year | Investment, UZS billion | Share of total investment, % | Share of GDP, % | Share of exports, % |
|---|---|---|---|---|
| **2021** | 109 202.2 | 45.6 | 56.3 | 20.0 |
| **2022** | 127 640.6 | 47.9 | 54.3 | 31.2 |
| **2023** | 176 630.5 | 49.6 | 53.8 | 27.9 |
| **2024** | 265 685.8 | 52.4 | 53.5 | 34.1 |
| **2025** | 362 910.0 | 61.4 | 52.2 | 36.6 |

Table 1 shows that the small business share of total investment increased by 15.8 percentage points and its share of exports by 16.6 percentage points, whereas its share of GDP declined by 4.1 percentage points. Because these indicators have different economic denominators and meanings, investment profitability cannot be calculated directly from them; NPV, returns on capital, and risk measures are also required.

The findings provide the basis for integrating the author's interconnected research proposals into a unified conceptual model. A methodology for integrated assessment of investment efficiency captures both financial outcomes and the risk profile, while forward-looking projections facilitate continuous performance monitoring. Reinvestment of export proceeds and phased small business development can support the circulation of resources and entry into new markets. Evaluation of human-capital expenditure and the optimisation of tax administration complement the institutional and productive dimensions of this framework. Table 2 summarises the mechanisms and monitoring criteria associated with the research proposals.

**Table 2. Six research proposals for improving small business investment efficiency and their implementation mechanisms**[1]

| Research proposal | Economic mechanism | Monitoring indicator | Conditions and risks |
|---|---|---|---|
| Optional VAT regime | Reducing accounting and administrative costs | Compliance costs; cash flow | Fiscal oversight; VAT chain |
| Scenario-forecasting model | Planning projects based on risk and outcomes | IES; NPV; forecast error | Data quality; external validation |
| Exports and reinvestment | Financing new investment from net export proceeds | Export margin; reinvestment | Counterparty and exchange-rate risks |
| Phased business growth | Aligning financing with each development stage | Stage transition; job creation | Preventing artificial business fragmentation |
| Integrated evaluation index | Introducing multicriteria project selection | NPV; DSCR; return on capital | Mandatory filters; weight sensitivity |
| Workforce training investment | Evaluating training outcomes through free cash flows | ΔNPV; labour productivity | Effect attribution; employee turnover |

[1] Research proposals and evaluation criteria developed by the author.

A pilot mechanism is proposed to introduce an optional simplified VAT accounting procedure for selected categories of small businesses. The approach could be considered for enterprises in which the state's ownership share does not exceed 50% and that are not classified as large taxpayers; where necessary, a dedicated procedure would require legislative amendments. Its primary purpose is not to reduce the tax rate but to lower the costs of accounting, documentation, and compliance guidance while facilitating participation in the formal economy. The evaluation should jointly monitor budget revenue, possible disruptions to the VAT chain, formalisation of business turnover, and the taxpayer's total compliance costs. Thus, the proposal is an institutional pilot subject to a fiscal-neutrality constraint, rather than a description of an existing legal regime. Given the International Monetary Fund's caution regarding the proliferation of inefficient tax incentives, the proposed arrangement should be time-limited and linked to measurable outcomes [10].

The study proposes a multifactor scenario model for forecasting small business investment performance over 2026–2030. Instead of treating investment volume as an independent final objective, the model considers it one determinant of risk-adjusted financial outcomes. The cost of capital, loan maturities, real demand, exchange-rate risk, and workforce productivity vary across conservative, baseline, and accelerated scenarios. Forecast errors are calculated against actual observed outcomes each year, and model parameters are subsequently updated. This approach could provide a basis for dynamic monitoring of results-based financing programmes; however, the illustrative index values presented above are not official national forecasts.

It is proposed to link the 'Export Ambassadors' service to a mechanism for reinvesting export proceeds. Initially, small businesses would receive assistance in identifying foreign buyers, negotiating contractual terms, obtaining product certification, and organising logistics. In the next stage, free cash flow would be determined by deducting operating costs, import expenditure, and debt service from foreign-currency export receipts. The portion of these net resources allocated to investment could finance technological upgrading or strengthen working capital; its actual effect on NPV would then be assessed. Consequently, the service should be evaluated using confirmed new contracts, net export margins, and returns on new investment rather than gross export volume. It must also be recognised that an increase in exports does not automatically translate into higher profits or returns on capital.

A mechanism is proposed for managing the stages of 'family entrepreneurship – microbusiness – small business – medium-sized enterprise' as a continuous growth pathway. Financing instruments would be aligned with the level of management and financial reporting at each stage: basic bookkeeping and financial literacy for family businesses; microfinance and working capital for microbusinesses; investment loans, leasing, and guarantees for small enterprises; and equity investment, export finance, and professional corporate governance when transitioning to medium-sized enterprises. The system should be assessed not only by the number of registered businesses but also by transition rates, newly created jobs retained for two years, and returns on capital. Risks associated with artificial business fragmentation or manipulation of eligibility criteria to obtain preferential treatment should also be addressed.

The use of an integrated investment efficiency index combining NPV, capital productivity, liquidity, risk, and human-capital outcomes is proposed for investment project selection. Conventional single-indicator approaches may favour high-return but risky projects or, conversely, undervalue projects with stable cash flows. The integrated index could support multicriteria project ranking and differentiated financing conditions under public programmes. However, it must not allow a high composite score to

conceal binding constraints such as a negative NPV, liquidity shortfalls, or legal non-compliance. Applying mandatory eligibility filters before ranking constitutes a methodologically important two-stage decision procedure.

A separate assessment is proposed for the investment-related returns on employee training and retraining costs. For illustration, assume training expenditure of UZS 5 million generates an additional UZS 3 million in annual free cash flow over five years, with a discount rate of 15%. The resulting $\Delta NPV = -5 + 3 \cdot [1-(1.15)^{-5}]/0.15 \approx$ UZS 5.06 million. This is a methodological calculation rather than an observed outcome for a real enterprise. Estimating the effects of training requires accounting for changes in technology, demand, and employee turnover. International experimental evidence on the productivity effects of management practices supports further systematic research in this area [8]. The proposal does not imply automatic capitalisation of training expenditure on the accounting balance sheet.

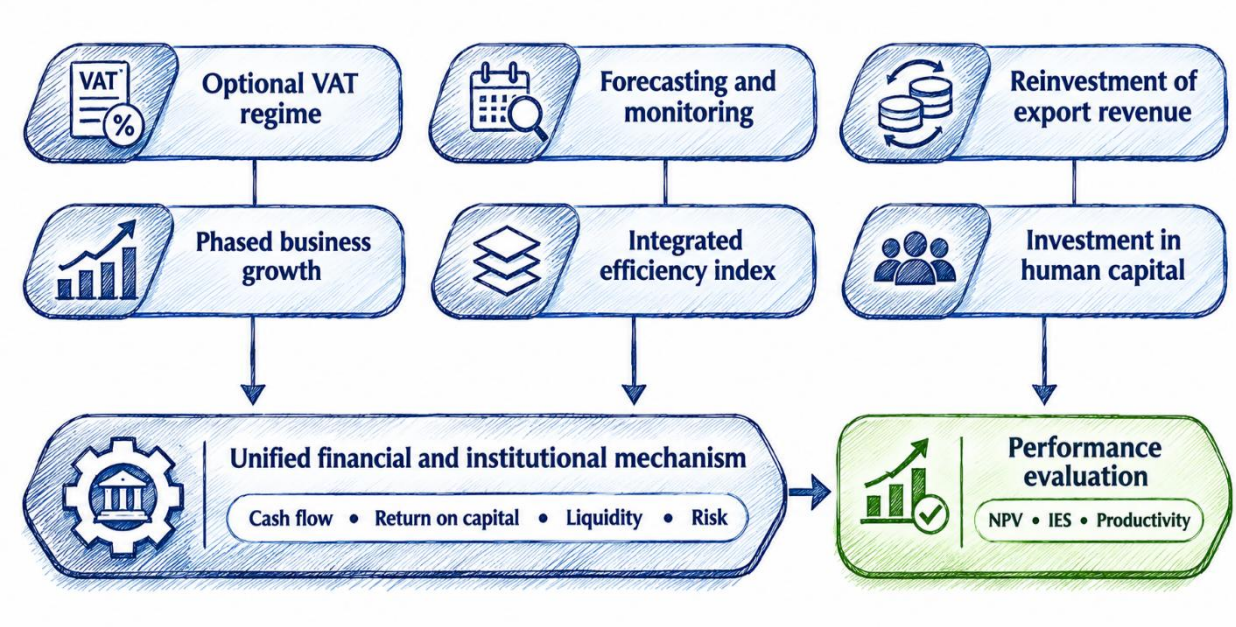



**Figure 1. Integrated mechanism for enhancing small business investment efficiency[2]**

Figure 1 combines the channels through which lower tax compliance costs, reinvestment of export proceeds, phased business growth, and human-capital productivity may influence financial outcomes. Integrated assessment and forecasting provide a basis for comparing these channels in terms of returns on capital, liquidity, and risk. The diagram does not constitute empirical evidence of causal effects.

## DISCUSSION

Although the share of small businesses in total investment has increased, project-level financial returns remain unknown. Likewise, the export share does not reveal net export receipts, logistics costs, or the amount reinvested. Policy effectiveness should therefore be evaluated in terms of net value creation, productivity, and liquidity rather than solely by the volume of credit or exports.

[2] Conceptual mechanism developed by the author

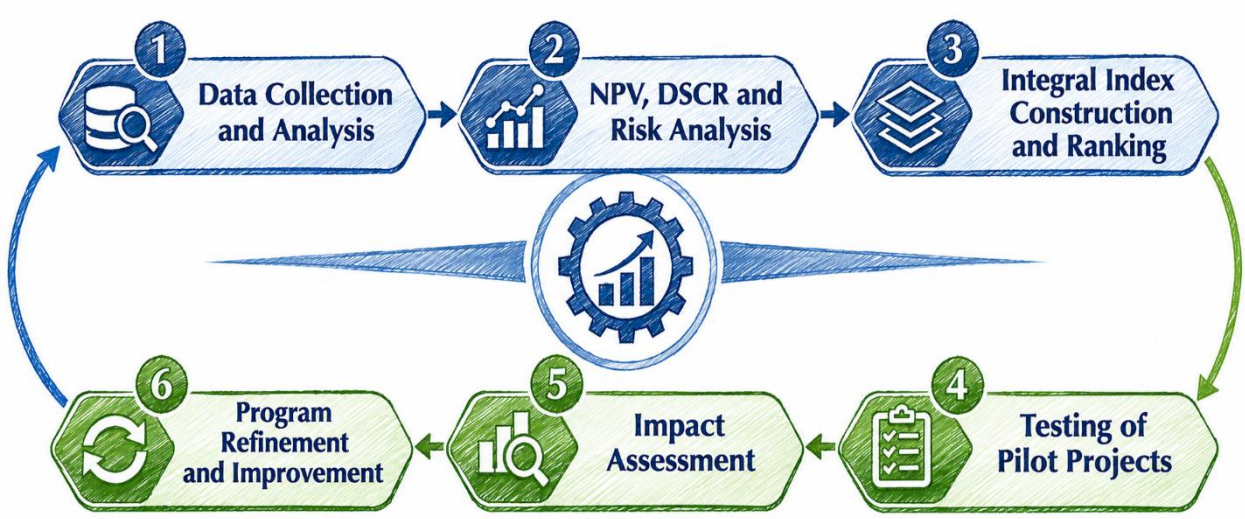



**Figure 2. Proposed algorithm for integrated evaluation, pilot implementation, and monitoring of outcomes[3]**

Source: Conceptual mechanism developed by the author.

Figure 2 illustrates a recurring cycle of data collection, NPV and risk analysis, project screening using the IES, pilot testing, impact assessment, and subsequent adjustment of programme parameters. This iterative mechanism is proposed to ensure that financing and tax-policy decisions are informed by observable outcomes.

The OECD has documented the constraints faced by small and medium-sized enterprises in securing long-term finance [6]. The World Bank's FINGROW initiative highlights the relevance of credit guarantees and equity financing instruments [5]. Nevertheless, expanding financing volumes alone is insufficient: rigorous project selection, debt monitoring, and early identification of cash-flow risks are also necessary.

The research proposals should not be applied uniformly to all firms. Simplifying VAT accounting may affect incentives along supply chains; export support is exposed to foreign-exchange and counterparty risks; and training outcomes depend on staff turnover and technological change. Accordingly, eligibility criteria, targeted pilots, and continuous monitoring are integral to the proposed mechanism.

For empirical validation, data on taxation, financial performance, credit, exports, and employment should be linked through a common firm identifier. Pilot and comparison groups should be formed from enterprises with similar sectoral, geographical, and initial financial characteristics. Over several years, IES, NPV, DSCR, productivity, and job retention would be compared while controlling for selection bias and external shocks.

## CONCLUSION AND RESEARCH PROPOSALS

Growth in small business investment does not automatically imply an improvement in economic efficiency. Official statistics for 2021–2025 demonstrate an expansion in capital investment but also point to the need for firm-level assessments of risk-adjusted NPV, productivity, and cash-flow stability.

The study proposes piloting optional simplified VAT accounting for eligible categories of small businesses, subject to legal and fiscal constraints. A multifactor scenario-forecasting model for 2026–

[3] Conceptual mechanism developed by the author.

2030 is also recommended to assess risk-adjusted investment outcomes and establish annual monitoring. Linking the 'Export Ambassadors' service to the reinvestment of net export proceeds and developing a phased financial ecosystem to support progression from family entrepreneurship to medium-sized enterprises are intended to improve the quality of investment resource utilisation. For project selection, an integrated index combining financial returns, liquidity, risk, and human-capital indicators is recommended, together with a separate evaluation of the economic returns on employee training through project free cash flows and ΔNPV. Only when these measures operate in coordination can their economic effects be systematically monitored and tested against clearly defined criteria.

The practical relevance of the proposals lies in linking them to a unified monitoring framework and testing them against outcome indicators. The next stage should include validating the weights of the integrated index using firm-level data, estimating the causal effects of taxation and financing pilots, and comparing scenario results with actual observations. This approach shifts the focus from investment volume to investment efficiency.

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