



PROMISING DIRECTIONS FOR ENHANCING THE EFFECTIVENESS OF SMALL BUSINESS ENTITIES IN INDUSTRY

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1. Abstract

This study evaluates the macroeconomic factors influencing regional development in Uzbekistan, specifically focusing on the industrial effectiveness of small business entities (SMEs) and their impact on Gross Regional Product (GRP). Employing a semi-log (log-linear) regression methodology based on fifteen distinct regional observations, the research identifies a significant, counter-intuitive negative correlation between the share of small businesses in the economy and overall GRP growth. Specifically, the model reveals that a 1% increase in the share of small business entities correlates to a 5.36% decrease in GRP. This phenomenon is attributed to "resource capture," where low-productivity small firms divert essential capital, energy, and skilled labor from more efficient large-scale industrial enterprises. Conversely, the economically active population (EAP) remains a robust driver of growth, with an increase of 1,000 persons yielding a 1.38% rise in GRP. The paper argues that current industrial policy must shift from quantitative expansion to a qualitative "entrepreneur-champion" model, utilizing digital transformation and specialized Project Offices to foster high-tech manufacturing and medium-sized enterprise scaling.

2. Keywords

Small business, Gross Regional Product (GRP), Uzbekistan, industrial sector, econometric modeling, economically active population, digitalization, entrepreneur-champions, resource distribution, sustainable development.

3. Introduction

Pillar 1: Economic Context and Reforms

The evolutionary trajectory of Uzbekistan's industrial landscape since independence represents a transition from a centralized command structure to a burgeoning market-driven



ecosystem. In the early 1990s, the contribution of small business entities to the national Gross Domestic Product (GDP) was a negligible baseline of approximately 1.0%. Through systematic liberal reforms and a strategic focus on private sector mobilization, this figure underwent a parabolic ascent, peaking at 56.5% by the end of 2019 [55]. However, contemporary data from 2020 reveals a slight contraction to 54.2%. As a Senior Research Fellow, it is imperative to note that this decrease does not signify a decline in entrepreneurial vitality, but rather a maturation of the industrial structure where large-scale enterprises—leveraging economies of scale and advanced technological integration—have begun to reclaim a larger share of the GDP.

Statistical nuances further illustrate this shift. In 2020, the density of small businesses reached 15.0 units per 1,000 population. Within the industrial sector, SMEs accounted for 27.9% of total production, while their dominance in the construction sector remained absolute at 72.5% [55]. Regional disparities provide even deeper insight: the share of small business in GRP reached its zenith in Jizzakh region at 84.1%, whereas in the heavily industrialized Navoi region, it stood at a mere 31.3%. This suggests that in regions dominated by large-scale mining and metallurgical complexes, the "SME share" is naturally lower, yet the overall GRP is significantly higher, hinting at the efficiency gaps analyzed in this study.

Pillar 2: Legislative Evolution and Strategy 2025-2030

The legislative architecture governing Uzbekistan's business environment has undergone a paradigm shift, moving beyond mere registration facilitation toward productivity-focused development. A foundational pillar was Resolution No. PQ-4525 (November 2019), which prioritized the improvement of the business environment and the protection of private property as constitutional imperatives [141]. More critically, the "Strategy for the Development of Small and Medium Business 2025–2030," codified under Decree No. UP-50 (March 19, 2025), has established rigorous industrial benchmarks.

The 2025 targets are ambitious: increasing the share of SMEs in GDP to 55%, while specifically targeting a 34% share in both industrial output and total exports. This decree represents the first major legislative effort to formalize the transition from "micro-entities" to "medium enterprises" through the "First Opportunity" principle and the "Entrepreneur-Champion" framework. By establishing these mandates, the state seeks to mobilize internal capabilities, ensuring that the legal framework provides the stability necessary for SMEs to transition into high-value-added industrial manufacturing [141].

Pillar 3: Current Industrial Challenges and Geopolitical Pressures

Despite the robust legislative framework, Uzbekistan's industrial SMEs operate within an increasingly volatile global and domestic environment. The current geopolitical situation has disrupted established supply chains, while domestic energy shortages and the rising cost of financial resources (expensive credit) have placed unprecedented strain on SME liquidity [153].



The primary challenge lies in overcoming the "low-productivity trap." Many small businesses remain concentrated in low-tech sectors (trade and simple construction) because of institutional constraints and a lack of access to sophisticated infrastructure. Furthermore, as our econometric analysis suggests, the unchecked proliferation of low-efficiency small firms can lead to "resource capture," where these entities drain resources—skilled engineers, energy, and capital—away from large industrial projects that possess the technological capacity to generate higher GRP. Addressing this requires a strategic pivot toward industrial digitalization and the optimization of resource distribution between large and small industrial actors [153].

4. Literature Analysis

The theoretical and empirical foundations of this research are built upon the synthesis of international scholarship and regional industrial data:

- **Foreign Foundations of SME Development:**

- **D. Leyung, S. Kao, R. Anderson, and R. Cooper [46-49]:** These scholars established the scientific foundations of small business development, focusing on the sector's role in employment and market flexibility. Detailed methodologies and regional case studies are accessible via zenodo.org/records/15613166 and the electronic journal innoist.uz.

- **CIS Regional Regulation:**

- **V. Vysokov and Y. Mazilov [50-51]:** Their work analyzes the impact of state regulation and fiscal benefits on SME sustainability in transition economies, highlighting the risk of benefit-dependency.

- **Uzbekistan's Regional Scholarship:**

- **Q.Q. Mambetjanov, H.T. Kadyrov, M.S. Kasimova, and Sh. Yuldashev [91]:** These authors focus on the priorities for regional entrepreneurship within the Republic, emphasizing the necessity of digital platforms to bridge the productivity gap between local SMEs and global standards.

- **Theoretical Anchors:**

- **J. Schumpeter's Theory of Innovation:** This study utilizes Schumpeterian "Creative Destruction" as a lens for the transition to "Entrepreneur-Champions," where the small firm must be an agent of technological disruption rather than a mere survivalist entity.

- **M. Porter's Competitive Advantage:** Porter's framework is applied to explain how SME efficiency depends on the external industrial environment and the strategic distribution of regional resources.

5. Methodology

Model Specification

To evaluate the factors influencing regional economic development with mathematical precision, this study employs a semi-log (linear-log) regression model. The choice of this model is grounded in the observation that Gross Regional Product (GRP) frequently exhibits exponential growth patterns. By log-transforming the dependent variable, we can



interpret the coefficients as the percentage change in GRP resulting from absolute unit changes in the independent variables.

The model is defined as: $\ln(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$

Where:

- **Y (Dependent Variable):** GRP in billion soums (log-transformed to $\ln(YAHM)$).
- **X_1 (Independent Variable):** The share of small business entities in GRP (%).
- **X_2 (Independent Variable):** The economically active population (EAP), expressed in thousands of persons.
- **$\beta_0, \beta_1, \beta_2$:** Parameters representing the intercept and the elasticities of the factors.
- **ϵ :** The stochastic error term.

The selection of the semi-log model allows for a robust assessment of how the relative concentration of small business versus the absolute size of the labor force impacts the speed of economic growth [22].

Data Distribution and Descriptive Statistics

The dataset comprises 15 regional observations from the Uzbekistan industrial sector. Table 1 summarizes the descriptive statistics necessary to establish the central tendencies and variability of the variables used in the regression.

Table 1: Descriptive Statistics for GRP and SME Factors [26]

Variable	Obs	Mean	Std. Dev.	Min	Max
GRP (\ln_YAHM)	15	9.4416	0.8874	7.9685	10.8446
Small Business Share (X_1)	15	74.5582	1.8216	71.6	78.3
EAP (X_2 , thousands)	15	758.3277	66.9390	642	861.4154

The analysis shows that GRP and SME share are relatively concentrated around their means, while the EAP exhibits significant regional dispersion, reflecting the diverse demographic landscape of Uzbekistan's provinces [26].

Econometric Validity Tests

To ensure the integrity of the OLS (Ordinary Least Squares) estimates, a Variance Inflation Factor (VIF) test was conducted to check for multicollinearity between the independent variables. The results are as follows:

- **VIF for X_1 and X_2:** 1.20
- **Tolerance (1/VIF):** 0.8337
- **Mean VIF:** 1.20

In econometric standards, a VIF below 5 (and particularly near 1) indicates a negligible level of multicollinearity. The high tolerance value of 0.8337 confirms that the share of small businesses and the size of the economically active population act as independent agents within the model. This high variable independence ensures that our coefficient estimates for "negative efficiency" are not statistical artifacts but represent genuine economic correlations [36].





6. Results and Discussions

Statistical Significance and Model Fit

The regression results demonstrate an exceptionally high explanatory power. The **R-squared value of 0.9813** indicates that 98.13% of the variability in the log of GRP is explained by the independent variables (X_1 and X_2). The **F-statistic of 314.59** (Prob > F = 0.0000) further validates that the model is statistically robust and the combined influence of the factors is significant.

Interpretation of Coefficients

The individual coefficients reveal two distinct and critical narratives regarding Uzbekistan's regional macroeconomics:

- **Analysis of the Negative Efficiency Coefficient (X_1):** The coefficient for the share of small business in GRP is **-0.0551** ($p=0.023$). At a 95% confidence level, this implies that a **1% increase in the share of small business correlates to a 5.36% decrease in GRP**. This finding is significant for industrial policy. It suggests that in the current regional structure, small businesses may be characterized by "negative efficiency." This occurs when SMEs, typically operating with outdated technology and low labor productivity, capture resources (such as capital, energy, and skilled labor) that could be more effectively utilized by large-scale industrial enterprises to generate higher value-added output [30-31]. This is particularly evident in regions with high SME shares but lower technological bases.

- **Analysis of the Labor Resource Coefficient (X_2):** The coefficient for the economically active population is **0.0137** ($p=0.000$), demonstrating extreme statistical significance. This implies that **an increase of 1,000 economically active persons leads to a 1.38% increase in GRP** [32-33]. This aligns with Solow-Swan growth theories, indicating that labor remains a primary driver of regional production and consumer demand. However, the contrast between the positive impact of labor and the negative impact of SME share highlights a critical policy failure: labor is productive, but the current small business framework is not an efficient vehicle for utilizing that labor in the industrial sector.

7. Discussion: Strategies for Growth

The "Entrepreneur-Champion" Transition

To reverse the trend of "negative efficiency," the government is implementing a shift from quantitative SME expansion to a qualitative "Entrepreneur-Champion" model as part of the 2025 targets. Under Decree UP-50, the state aims to transform 600 SMEs into "champions" by facilitating a growth chain: **"self-employed -> individual entrepreneur (IP) -> small -> medium -> large"** [87]. This includes specific turnover and employment tiers:

- **District Level:** Targeting 2 subjects per district with >10 billion soum turnover and >50 employees.
- **Regional Level:** Targeting 5 subjects per region with >100 billion soum turnover and >500 employees.



• **National Level:** Targeting entities with >1 trillion soum turnover and >5,000 employees. Scaling these entities is supported by беззалоговые (unsecured) loans—up to 50 million soums for IP-to-small transitions and up to 150 million soums for the Continuous Support Program [87].

Industrial Digitalization and Efficiency

The transition from mere digitization to comprehensive digital transformation is vital for improving SME productivity. The implementation of **cloud collaboration systems** allows industrial SMEs to overcome management opacity and coordinate tasks in real-time. By moving to digital transformation, SMEs can integrate more effectively into the supply chains of larger enterprises, reducing the "resource capture" friction identified in the regression model. This allows for higher unique value propositions and the adoption of modern management tools that mirror the efficiency of large holdings [217].

Cluster Systems and Project Offices

A key structural solution to the negative efficiency problem is the establishment of **Project Offices for accelerated industrial development** in 20 districts. Supported by a 100-billion-soum state allocation, these offices are designed to bridge the human capital gap. Their primary role is to attract qualified engineers, technologists, and designers for SMEs, effectively turning small firms into high-productivity suppliers within large industrial clusters [244]. This ensures that SMEs function as innovators rather than resource drains.

8. Conclusion and Strategic Recommendations

The econometric analysis concludes that while Uzbekistan's labor force is a potent engine of growth, the current industrial contribution of small businesses is hampered by low productivity and inefficient resource allocation. To enhance the effectiveness of the sector, the following strategic policy recommendations are proposed:

1. **Strict Adherence to the "First Opportunity" Principle:** Implement a moratorium on administrative responsibility for SMEs during their first year of operation for first-time violations, valid until **January 1, 2028**. This allows firms to prioritize technological adoption over administrative compliance [42].

2. **Strategic Resource Optimization:** Move away from "unnecessary benefits" that distort competition. Focus support on SMEs that demonstrate the capacity to scale into "Entrepreneur-Champions" (those with >10 billion soum turnover).

3. **Financial "Carrots" for Scaling:** Provide **VAT refunds within 7 days** for SMEs transitioning to the "medium" or "large" category. This liquidity incentive is essential for high-tech industrial scaling.

4. **High-Tech Manufacturing Incentives:** Expand tax incentives and access to **state property (up to 10,000 sq. m)** on a 5-year free-use basis for SMEs producing high-tech, branded industrial goods [45].

5. **Labor Mobility Revisions:** Reform the household registration system to allow for the cross-regional allocation of human capital, ensuring that the economically active population can move to regions with high industrial potential.



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