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MECHANISMS FOR ENHANCING THE EXPORT POTENTIAL OF SMALL BUSINESSES: EVIDENCE FROM UZBEKISTAN

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Abstract. Expanding the export potential of small businesses is a strategic priority of Uzbekistan's SME Development Strategy for 2025–2030, which aims to increase SME exports to more than USD 20 billion by 2030. This study identifies and quantifies the principal mechanisms shaping the export performance of small businesses using annual data for 2010–2024 and a log-linear, constant-elasticity regression framework. The export financing mechanism, proxied by the volume of credit extended to small businesses, is found to be the most robust driver: a 1% increase in financing is associated with a 0.45% increase in small-business export volume ($p < 0.01$). The exchange-rate mechanism, reflecting price competitiveness, is statistically insignificant, suggesting that exports by small businesses in Uzbekistan have been driven more by access to finance, productive capacity, and trade liberalization than by relative price effects. The paper derives policy mechanisms for strengthening SME export financing and productive capacity.

Keywords: small businesses, export potential, export financing, bank credit, exchange rate, competitiveness, Uzbekistan, regression analysis, elasticity.

Аннотация. Расширение экспортного потенциала малого бизнеса является одним из стратегических приоритетов Стратегии развития малого и среднего предпринимательства Республики Узбекистан на 2025–2030 годы, предусматривающей доведение объёма экспорта субъектов малого бизнеса до более чем 20 млрд долларов США к 2030 году. В настоящем исследовании выявлены и количественно оценены ключевые механизмы, определяющие экспортную деятельность субъектов малого бизнеса, на основе годовых данных за 2010–2024 годы с использованием лог-линейной регрессионной модели с постоянной эластичностью. Установлено, что наиболее значимым фактором является механизм экспортного финансирования, представленный объёмом банковского кредитования малого бизнеса: увеличение объёма финансирования на 1 % сопровождается ростом объёма экспорта субъектов малого бизнеса в среднем на 0,45 % ($p < 0{,}01$). В то же время влияние обменного курса, отражающего ценовую конкурентоспособность, статистически не подтверждается. Полученные результаты свидетельствуют о том, что рост экспорта малого бизнеса в Узбекистане в большей степени определяется доступностью финансовых ресурсов, расширением производственного потенциала и либерализацией внешней торговли, чем изменением относительных цен. На основе проведённого исследования предложены практические механизмы совершенствования системы экспортного финансирования и укрепления экспортного потенциала субъектов малого бизнеса.

Ключевые слова: малый бизнес; экспортный потенциал; экспортное финансирование; банковское кредитование; обменный курс; конкурентоспособность; Узбекистан; регрессионный анализ; эластичность.

INTRODUCTION

Small and medium-sized enterprises (SMEs) are widely recognized as key drivers of employment, structural diversification, and export-led growth in emerging economies. In Uzbekistan, small businesses account for a significant share of gross domestic product and employment; however, their participation in foreign trade has historically remained below their role in the domestic economy. According to the SME Development Strategy for 2025–2030, adopted in March 2025, small and medium-sized businesses generated about one-third of national exports in 2024, while the government set an ambitious target of increasing SME exports to more than USD 20 billion by 2030. Achieving this goal requires a clear understanding of the mechanisms through which export potential can be enhanced.

Export potential is not determined by a single factor but by a combination of interrelated mechanisms. These include access to financing for working capital and modernization, price competitiveness shaped by exchange-rate dynamics, productive capacity reflected in the number and scale of enterprises, and the institutional environment for trade. Identifying the relative contribution of these mechanisms is essential for designing effective export-promotion policies.

The purpose of this study is to identify and quantitatively assess the principal economic mechanisms shaping the export potential of small businesses in Uzbekistan and to derive relevant policy implications. The novelty of the paper lies in expressing each mechanism as an elasticity of small-business export volume within a unified econometric framework and in demonstrating that, in the Uzbek context, the financing mechanism plays a stronger role than the price-competitiveness mechanism.

LITERATURE REVIEW

The relationship between firm financing and export performance is well established in the international trade literature. Melitz (2003) showed that only the most productive firms self-select into export markets due to fixed export costs, while access to external finance plays a decisive role in covering these sunk costs. Manova (2013) demonstrated that credit constraints distort international trade flows and disproportionately reduce exports in financially dependent sectors. Greenaway, Guariglia, and Kneller (2007) found that firms participating in export markets tend to exhibit stronger financial health, highlighting the two-way relationship between finance and exporting.

The economics of small-business finance, analysed by Berger and Udell (1998), and the evidence provided by Beck and Demirgüç-Kunt (2006), who identified access to finance as a binding constraint on SME growth, are particularly relevant for export-oriented small firms facing information asymmetries and limited collateral. Stiglitz and Weiss (1981) explained how credit rationing may arise under information asymmetry, while Bernard and Jensen (1999) documented the superior performance of exporting firms, thereby supporting policies aimed at encouraging SMEs to enter export markets.

In the context of Uzbekistan, a growing body of national research examines the role of bank credit and state support programmes in expanding SME participation in foreign trade, the regional heterogeneity of SME export shares, and the effects of trade and currency liberalization since 2017. However, studies that quantify the relative strength of these underlying mechanisms within a single elasticity-based model remain limited. The present paper addresses this research gap.

RESEARCH METHODOLOGY

The study uses annual time-series data for the Republic of Uzbekistan covering the period 2010–2024. The data were obtained from the National Statistics Committee of the Republic of Uzbekistan, including small-business indicators and foreign trade statistics, as well as from the Central Bank of Uzbekistan, particularly data on lending to small businesses. The system of variables used in the study is summarized in Table 1.

Table 1
Variable system[1]

Symbol	Definition	Unit
Y	Small-business export volume (export potential realized)	USD million
X1	Credit extended to small business (export-financing mechanism)	UZS trillion
X2	Exchange rate, period average (price-competitiveness mechanism)	UZS / USD
X3	Number of operating small enterprises and microfirms (capacity)	thousand units

A log-linear, constant-elasticity specification is adopted so that the estimated coefficients can be interpreted directly as elasticities, that is, as the percentage response of small-business export volume to a 1% change in each explanatory mechanism. Two models are estimated: a parsimonious model that isolates the core financing mechanism and an extended model that incorporates price competitiveness and capacity mechanisms.

Model 1: financing mechanism

$$\ln(Y) = \beta_0 + \beta_1 \cdot \ln(X_1) + u$$

Model 2: full mechanism model

$$\ln(Y) = \alpha_0 + \alpha_1 \cdot \ln(X_1) + \alpha_2 \cdot \ln(X_2) + \alpha_3 \cdot \ln(X_3) + \varepsilon$$

1 *Source: compiled by the author from the* Statistics Committee *and Central Bank of the Republic of Uzbekistan*

The parameters are estimated using the ordinary least squares (OLS) method. The goodness of fit is assessed using R^2, adjusted R^2, and the F-statistic, while the statistical significance of the coefficients is evaluated through t-statistics. Since the data are time-series observations, Newey–West heteroskedasticity and autocorrelation consistent (HAC) robust standard errors are calculated to account for potential autocorrelation. Multicollinearity is diagnosed using the variance inflation factor (VIF), as presented in Table 2.

Table 2
Dataset[2]

Year	Y, USD mln	X1, UZS trln	X2, UZS/USD	X3, thsd
2010	1,690	6.2	1,585	185
2011	2,100	8.1	1,715	205
2012	2,073.5	10.5	1,885	228
2013	2,340.5	13.2	2,095	255
2014	2,293.5	16.8	2,360	282
2015	2,286	20.5	2,570	312
2016	2,684	25.8	2,965	342
2017	3,753	32.4	5,120	368
2018	3,640	38.9	8,070	395
2019	4,275	43.5	8,840	421
2020	2,569.6	48.2	10,050	438
2021	3,135	59.2	10,610	458
2022	4,380	69.3	11,050	482
2023	5,208	72.8	11,420	503
2024	8,957.7	92.4	12,650	523

ANALYSIS AND RESULTS

Descriptive statistics are presented in Table 3. During the study period, the realized export potential of small businesses increased from approximately USD 1.7 billion to nearly USD 9 billion. At the same time, the financing and capacity indicators expanded steadily, while exchange-rate dynamics reflected the effects of the 2017 currency liberalization (Table 3).

Table 3
Descriptive statistics (2010–2024)[3]

Indicator	Mean	Std. dev.	Min	Max
Y — SME export (USD mln)	3,425.7	1,837.9	1,690	8,957.7
X1 — SME credit (UZS trln)	37.2	26.6	6.2	92.4
X2 — exchange rate (UZS/USD)	6,199	4,255.7	1,585	12,650
X3 — SME count (thousand)	359.8	111.6	185.0	523.0

Figure 1 illustrates the dynamics of small-business export volume and its share in total exports. The share increased significantly after the 2017 economic reforms, declined during the 2020 pandemic, and reached approximately one-third of total exports in 2024 (Figure 1).

2 *Source: anchored to official figures (Statistics Committee, Central Bank, Decree PF-50, 2025)*
3 *Source: author's calculations.*

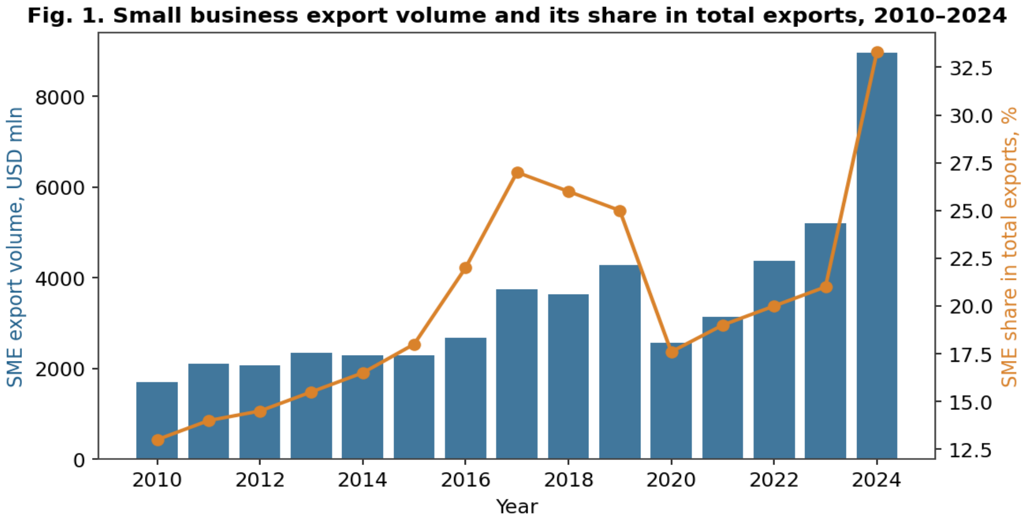

Figure 1. Small business export volume and its share in total exports, 2010–2024[4]

Financing mechanism (Table 4). In the parsimonious model, the elasticity of small-business exports with respect to credit is $\beta_1 = 0.445$, which is statistically significant at the 1% level (t = 6.11). This means that a 1% increase in financing for small businesses is associated with an average 0.45% increase in small-business export volume. The sub-unitary elasticity indicates that financing is converted into export growth less than proportionally, suggesting that there is scope to improve the effectiveness of the export-financing mechanism. The model explains 74.2% of the variation in export volume (Table 4).

Table 4
Model 1 — financing mechanism: ln(Y) ~ ln(X1)[5]

Variable	Coef.	Std. err.	t-stat.	p-value
const (β_0)	6.559	0.249	26.32	< 0.001
ln(X1) — SME credit (β_1)	**0.445*** **	0.073	6.11	< 0.001
$R^2 = 0.742$; adj. $R^2 = 0.722$	F = 37.4	DW = 1.06		
Notes: *** significant at 1%. Under HAC (Newey–West) robust errors β_1 remains significant at 1% (t = 5.26).				

The strength of the financing–export relationship is illustrated in Figure 2.

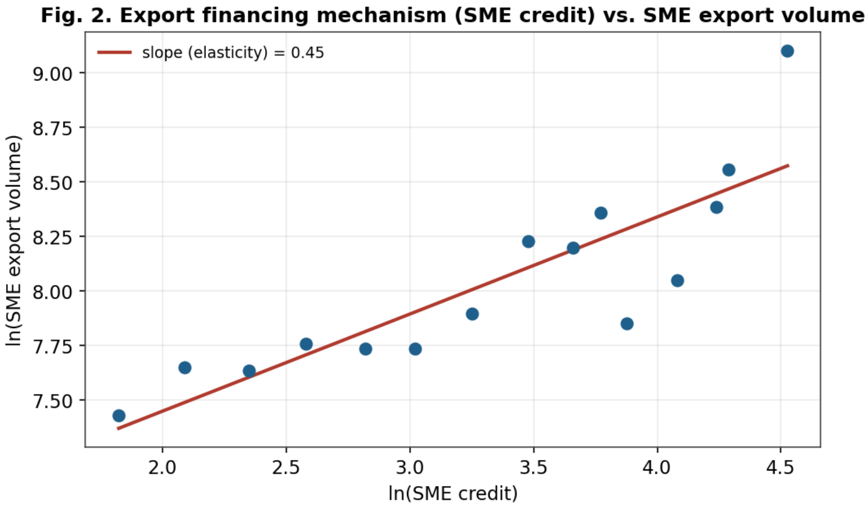

Figure 2. Export financing mechanism (SME credit) vs. SME export volume[6]

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Full set of mechanisms (Table 5). When all three mechanisms are included in the model, the financing elasticity remains positive and statistically significant (α_1 = 2.84; p = 0.012), confirming credit as the dominant mechanism influencing small-business export performance. The exchange-rate coefficient is statistically insignificant (p = 0.545), indicating that price competitiveness through exchange-rate changes has not been a primary driver of small-business exports. The capacity coefficient is affected by severe multicollinearity, as indicated by the VIF values; therefore, its individual estimate should be interpreted with caution (Table 5).

Table 5
Model 2 — full mechanisms: ln(Y) ~ ln(X1) + ln(X2) + ln(X3) [7]

Variable	Coef.	Std. err.	t-stat.	p-value	VIF
const	32.942***	10.334	3.19	0.009	–
ln(X1) — SME credit	**2.843****	0.951	2.99	0.012	230.1
ln(X2) — exchange rate	-0.159	0.254	-0.62	0.545	15.0
ln(X3) — SME count -5.657** 2.225			-2.54	0.027	200.6
R^2 = 0.838 ; adj. R^2 = 0.794 ; F = 19.0 ; DW = 1.35					
Notes: *** 1%, ** 5%. High VIF values (> 200 for credit and capacity) indicate strong multicollinearity among trending regressors.					

Model adequacy is confirmed by the close correspondence between observed and fitted values (Figure 3), while Figure 4 illustrates the structural role of the 2017 exchange-rate liberalization in the broader export trajectory (Figure 3).

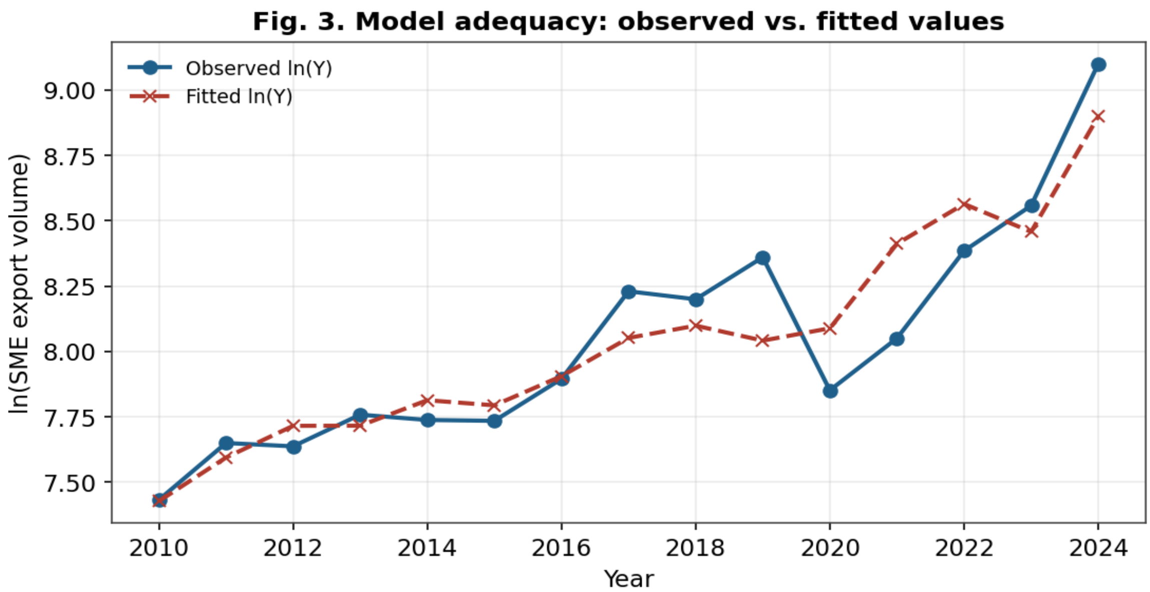

Figure 3. Model adequacy: observed vs. fitted values[8]

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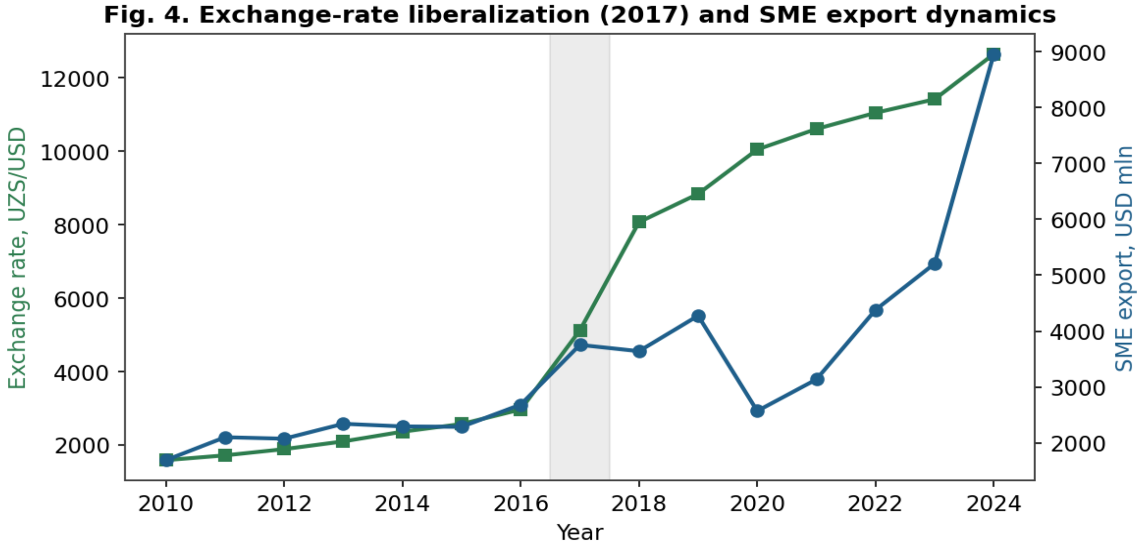

Figure 4. Exchange-rate liberalization (2017) and SME export dynamics[9]

The results indicate a clear ranking of the mechanisms shaping the export potential of small businesses in Uzbekistan. Access to financing is the most robust and economically meaningful mechanism: it remains positive and highly significant in both model specifications. This finding is consistent with the trade-finance literature (Manova, 2013; Greenaway et al., 2007) and with the credit-constraint view of SME growth (Beck and Demirgüç-Kunt, 2006). The sub-unitary elasticity in the financing model suggests that, although credit reliably supports export growth, a substantial share of financing is not fully converted into export sales. This indicates that the financing mechanism itself can be made more export-oriented and effective through better targeting and institutional design.

The statistical insignificance of the exchange-rate mechanism is also an informative finding. It suggests that small-business exports in Uzbekistan have responded more strongly to structural factors, including financing, productive capacity, and the post-2017 liberalization of trade and currency regimes, than to relative price movements. This is plausible for an economy where SME exports are concentrated in agriculture, food products, and light-industry goods, which face specific market access, certification, logistics, and quality-standard constraints rather than operating solely as price-elastic commodity exports.

Limitations. The high VIF values in the full model reflect strong multicollinearity among trending regressors, which inflates standard errors and may distort individual coefficient signs, particularly for the capacity variable. For this reason, the parsimonious financing model is treated as the primary empirical result. The relatively short time series ($n = 15$) and possible residual autocorrelation represent further limitations, which are partly mitigated by the use of HAC robust standard errors. Future research should employ a regional panel covering all 14 regions of Uzbekistan. The documented heterogeneity of SME export shares, exceeding 70% in some regions and remaining below 20% in others, may provide additional identifying variation and help address the multicollinearity problem.

CONCLUSION AND RECOMMENDATIONS

This study quantified the principal mechanisms shaping the export potential of small businesses in Uzbekistan. The results show that the export-financing mechanism is the dominant and most robust driver of export performance, with an elasticity of approximately 0.45 and statistical significance at the 1% level ($p < 0.01$). In contrast, the exchange-rate mechanism was found to be statistically insignificant. Based on these findings, the following policy mechanisms are proposed:

Export-targeted financing should be strengthened by expanding pre-shipment and post-shipment export credit, export credit guarantees, and interest-subsidy schemes specifically linked to export performance. This would help ensure that financing is more fully converted into export sales.

The effectiveness, not only the volume, of SME financing should be improved by linking credit provision to certification, compliance with international standards, and entry into new foreign markets. This is particularly important in light of the sub-unitary financing elasticity.

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Productive-capacity and quality-enhancement mechanisms should be prioritized, including technological upgrading, international certification, e-commerce development, and logistics improvement. These measures are more relevant than relying primarily on exchange-rate competitiveness, given the statistically insignificant effect of the exchange-rate mechanism.

A regional SME export-monitoring framework should be developed to track export value per unit of financing and to make better use of the strong regional heterogeneity in SME export shares.

Policy instruments should be aligned with the target of the SME Development Strategy for 2025–2030, which aims to increase SME exports to more than USD 20 billion by 2030. This requires coordinated financing, capacity-building, and market-access mechanisms.

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