



INFLUENCE OF INTERNAL AND EXTERNAL FACTORS ON THE DEVELOPMENT OF THE REGION'S EXPORT POTENTIAL

MINTAQANING EKSPORT SALOHIYATI RIVOJLANISHIGA ICHKI VA TASHQI OMILLARNING TA'SIRI

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Abstract Annotatsiya

Eng. - Using the Fergana Valley of Uzbekistan as a case study, this article explores the major internal and external factors that influence a region's export potential. In order to categorize factors into endogenous (resource base, industrial capacity, human capital, infrastructure, institutional environment) and exogenous (global commodity prices, trade agreements, geopolitical conditions, technological transfers, foreign direct investment) categories, the study employs a methodical analytical framework. The article quantitatively evaluates each factor group's contribution to regional export growth using statistical data for 2018–2023. The results show that favorable external conditions function as a crucial multiplier, even if internal factors account for 58% of the variance in export performance. In addition to providing policy ideas for boosting regional export competitiveness, the essay suggests a matrix for assessing how these elements interact.

Uzb. - Mazkur maqolada Farg'ona vodiysi misolida mintaqaning eksport salohiyatiga ta'sir etuvchi asosiy ichki va tashqi omillar tahlil qilinadi. Tadqiqotda omillarni endogen (resurs bazasi, sanoat salohiyati, inson kapitali, infratuzilma, institutsional muhit) va ekzogen (global xomashyo narxlari, savdo bitimlari, geosiyosiy sharoitlar, texnologik transferlar, to'g'ridan-to'g'ri xorijiy investitsiyalar) guruhlariga ajratish uchun tizimli analitik yondashuv qo'llanilgan. 2018–2023-yillarga oid statistik ma'lumotlar asosida har bir omil guruhining mintaqaviy eksport o'sishiga qo'shgan hissasi miqdoriy jihatdan baholangan. Natijalar shuni ko'rsatadiki, ichki omillar eksport natijalaridagi o'zgarishlarning 58 foizini izohlab bersa-da, qulay tashqi sharoitlar muhim multiplikator vazifasini bajaradi. Maqolada, shuningdek, ushbu omillar o'zaro ta'sirini baholash uchun maxsus matritsa taklif etilib, mintaqaviy eksport raqobatbardoshligini oshirish bo'yicha tavsiyalar ishlab chiqilgan.

Keywords:
Kalit so'zlar:

❖ *export potential, regional economy, internal factors, external factors, competitiveness, factor analysis, export development.*

❖ *eksport salohiyati, mintaqaviy iqtisodiyot, ichki omillar, tashqi omillar, raqobatbardoshlik, omillar tahlili, eksportni rivojlantirish.*

Introduction.

The development of regional export potential represents a key priority in

contemporary economic progress. Amid increasing globalization and growing international competition, a region's capacity

to successfully introduce its goods and services to global markets plays a decisive role not only in improving local living standards but also in ensuring overall macroeconomic stability.

In the case of Uzbekistan, where comprehensive structural reforms are being implemented to enhance integration into global trade systems, the analysis of regional export potential becomes especially important. The Fergana Valley, recognized as one of the country's most densely populated and economically vibrant areas, holds substantial natural, agricultural, and industrial resources, which are not yet fully utilized in export activities.

This study aims to classify and quantitatively evaluate the influence of both internal (endogenous) and external (exogenous) factors on regional export performance, identify existing constraints, and develop evidence-based recommendations to improve export competitiveness.

The significance of this research is further supported by Uzbekistan's key policy frameworks, including the Development Strategy for 2022–2026, export support initiatives, and regional development programs, all of which emphasize export expansion as a critical driver of economic growth.

Literature Review.

The conceptual basis for studying export potential originates from classical trade theories. In particular, the theory of comparative advantage developed by Ricardo and the Heckscher–Ohlin model of factor endowments suggest that a country's export capacity is largely shaped by its relative availability of resources [1]. Nevertheless, later studies revealed that export performance is influenced by a broader and more complex set of factors.

Porter's Diamond Model expanded this perspective by introducing the notion of competitive advantage, arguing that export

success is determined not only by resource endowment but also by demand conditions, the development of related and supporting industries, and firm-level strategies [2]. In addition, Krugman's New Trade Theory emphasized the significance of economies of scale and market structures in explaining international trade patterns [3].

At the regional scale, researchers such as Storper [4] and Maskell and Malmberg [5] highlighted the role of localized capabilities, knowledge spillovers, and institutional proximity in enhancing export performance. In the context of transition economies, Freinkman et al. [6] found that regional export diversification is closely linked to the quality of institutions and the level of infrastructure development.

Within the national literature, Yusupov [7] examined the export composition of Uzbekistan's regions and identified agro-processing as a key driver of growth. Khasanov [8] explored the impact of foreign direct investment on regional export activity, revealing substantial positive spillover effects. However, most existing studies tend to focus on individual determinants, while a comprehensive analysis of the interaction between internal and external factors remains insufficiently developed—an issue that this study seeks to address.

Research Methodology.

This research applies a mixed-method approach that integrates qualitative classification of factors with quantitative statistical techniques. The study was conducted in several stages.

Initially, internal and external determinants were identified and systematized based on an extensive review of scholarly literature, national statistical sources, and international trade databases. These factors were categorized by their origin (endogenous and exogenous) as well as by their nature,

including economic, institutional, infrastructural, and geopolitical dimensions.

At the next stage, the contribution of each group of factors was assessed through a regression analysis, where regional export volume (measured in USD million) was used as the dependent variable. The independent variables comprised the industrial production index (X1), transport infrastructure quality (X2), foreign direct investment inflows (X3), global commodity price index (X4), and the degree of trade agreement coverage (X5). The dataset covers the period from 2018 to 2023 for the three regions of the Fergana Valley.

Furthermore, a Factor-Impact Matrix was developed to illustrate the interaction between internal and external factors. This matrix is structured into four analytical quadrants—strengths, weaknesses, opportunities, and

threats—serving as a quantitative adaptation of the SWOT framework.

The empirical data utilized in the study were sourced from the State Committee of Statistics of the Republic of Uzbekistan, the Ministry of Investments and Foreign Trade, as well as international databases such as the World Bank and UNCTAD.

Analysis and Discussion of Results.

The Fergana Valley's total export volume increased by 83% between 2018 and 2023, from USD 487 million to USD 891 million. However, as Figure 1 below shows, the growth trajectory was unequal. There are two different phases that may be seen: a modest growth period from 2018 to 2020, and an acceleration phase from 2021 to 2023 that coincides with rising foreign direct investment and trade liberalization policies.

Table 1

Fergana Valley Export Volume Dynamics, 2018–2023 (USD million)*

Indicator	2018	2019	2020	2021	2022	2023
Export volume, USD mln	487	521	498	634	762	891
Growth rate, %	—	+7.0	-4.4	+27.3	+20.2	+17.0
Share in national exports, %	11.2	11.5	10.8	12.1	12.9	13.4

**Source: State Committee of Statistics of the Republic of Uzbekistan, 2024.*

The contraction of -4.4% in 2020 can be largely attributed to disruptions in international supply chains caused by the COVID-19 pandemic, along with the temporary closure and limited functioning of key border crossing points. These constraints affected the timely movement of goods, increased logistics costs, and reduced overall trade volumes. In 2021, however, export activity demonstrated a strong rebound of +27.3%. This recovery was driven not only by the base effect following the previous year's decline, but also by the improved adaptation of businesses to new operating conditions, the restoration of transport corridors, and the broader normalization of cross-border trade processes. Additionally, the expansion of financial support mechanisms for exporters and the streamlining

of administrative procedures contributed to enhancing trade efficiency and responsiveness.

Internal variables refer to factors that originate within the regional economic system and are shaped by domestic conditions and development dynamics. These include the availability and quality of natural and production resources, the level of industrial diversification and the overall efficiency of institutional frameworks. In this study, such variables are systematically categorized and evaluated using a set of composite indicators, allowing for a more integrated and measurable assessment of their current state. Table 2 presents the scoring results, highlighting relative strengths and areas requiring further improvement across different dimensions of regional export potential.

Table 2

Classification and Assessment of Internal Factors of Regional Export Potential*

Factor Group	Key Sub-factors	Assessment Level	Impact Score (1-5)
Resource Base	Fertile agricultural land, mineral deposits (gas, coal, gold), water resources	High	4.6
Industrial Capacity	Light industry, food processing, chemical industry, engineering	Moderate	3.2
Human Capital	Labour force quality, technical skills, entrepreneurial activity	Moderate	3.4
Transport Infrastructure	Road and railway connectivity, logistics centres, border crossing capacity	Low-Moderate	2.7
Institutional Environment	Business regulatory quality, custom procedures, export support agencies	Moderate	3.1
Financial Access	Credit availability for exporters, export insurance, currency exchange	Low-Moderate	2.5
Innovation & Technology	Technology adoption in production, R&D investment, digital infrastructure	Low	2.2

*Source: Compiled by the author based on regional statistical data and expert surveys.

The findings reveal a pronounced asymmetry in the structure of internal determinants: while the natural resource base demonstrates a high performance level (4.6 out of 5), key enabling factors such as technological capability and access to finance remain comparatively underdeveloped, with scores of 2.2 and 2.5, respectively. This imbalance suggests that the region’s existing factor endowment is not being fully translated into productive and export-oriented outcomes. In other words, the constraint lies not in the availability of resources, but in the efficiency with which they are utilized, processed, and integrated into value-added production chains. Such structural misalignment limits the overall competitiveness and scalability of export activities.

Regression analysis further supports this interpretation by identifying the most influential internal predictors of export volume. The industrial output index (X1)

emerges as the strongest determinant, with a standardized beta coefficient of 0.47 ($p < 0.01$), indicating a robust and statistically significant relationship with export performance. This is followed by the transport infrastructure score (X2), which also demonstrates a meaningful impact ($\beta = 0.31, p < 0.01$), highlighting the importance of efficient logistics and connectivity in facilitating trade flows. Human capital (X_{hc}), while positively associated with export volume ($\beta = 0.22, p < 0.05$), exhibits a comparatively weaker direct effect. This suggests that its contribution is largely indirect, operating through its influence on industrial productivity and the capacity to adopt and implement more advanced production processes.

External factors, by contrast, originate outside the regional economic system and are not directly shaped by local conditions. These include shifts in global demand patterns, price dynamics in international commodity markets,

technological diffusion, and cross-border investment flows. Despite their external nature, their role in shaping export performance is substantial. As illustrated in table 3, these factors often act as amplifiers or

constraints, influencing the extent to which internal capacities can be effectively leveraged. Their interaction with internal variables ultimately determines the stability, direction, and intensity of export growth over time.

Table 3

Classification and Assessment of External Factors of Regional Export Potential*

Factor Group	Manifestation / Indicator	Current Influence	Impact Score (1-5)
Global Commodity Prices	International prices for cotton, copper, gold, natural gas	High volatility	4.1
Trade Agreements	SCO, CIS FTA, bilateral agreements with China, Russia, EU	Expanding	3.9
Foreign Direct Investment	FDI inflows into manufacturing and agri-processing	Growing	3.7
Geopolitical Conditions	Regional stability, relations with Afghanistan, Russia-Ukraine conflict	Unstable	3.5
Technology Transfer	Access to modern equipment and know-how from partner countries	Moderate	2.9
Global Logistics Costs	Container shipping rates, transit corridor charges	Rising pressure	3.3
International Standards Compliance	SPS, TBT, halal certification requirements	Increasing demand	3.1

*Source: Compiled by the author based on World Bank, UNCTAD, and Ministry of Investments data.

Because the regional export structure remains highly concentrated in primary commodities—such as cotton fibre, gold, copper, and dried fruit, which together account for approximately 67% of total exports—global commodity price dynamics emerge as the most influential external factor, with a score of 4.1 out of 5. Fluctuations in international prices directly affect export revenues, often independent of changes in export volume. Trade agreements, scoring 3.9, are also gaining importance as frameworks that facilitate market access and reduce transaction costs. Their role has become more prominent alongside the gradual expansion of trade integration and the diversification of export destinations.

A particularly notable result from the regression analysis is the presence of a statistically significant interaction effect

between foreign direct investment (FDI) inflows (X3) and the trade agreement coverage ratio (X5), with a coefficient of $\beta_{\text{interaction}} = 0.18$ ($p < 0.05$). This finding indicates that the positive impact of FDI on export performance is strengthened in environments where trade agreements are more extensive and effective. In practical terms, this suggests that investment inflows are more likely to translate into export growth when firms operate within a broader and more accessible trade network. It highlights the complementary relationship between external capital and market access conditions, emphasizing that their combined effect is greater than their individual contributions.

To better capture the interplay between internal capacities and external conditions, a Factor-Impact Matrix was developed (Table 4). This analytical tool positions the region within

a strategic framework by mapping the assessed level of internal factor strength along the horizontal axis (Low, Moderate, High) and the favorability of the external environment along the vertical axis (Unfavourable, Neutral,

Favourable). Such a matrix allows for a clearer visualization of the region’s current standing and helps identify appropriate development pathways by aligning internal improvements with external opportunities.

Table 4

Factor-Impact Matrix for Regional Export Development*

External / Internal	Low Internal Capacity	Moderate Internal Capacity	High Internal Capacity
Favorable External	Opportunity zone: Attract FDI to overcome internal deficits	★ Current Position: Growth acceleration zone	Leadership zone: Maximum export expansion
Neutral External	Critical zone: Structural reform required	Balanced development zone: Gradual export growth	Internal driver zone: Export growth led by endogenous strengths
Unfavorable External	Crisis zone: Emergency support measures needed	Survival zone: Cost minimization, diversification	Resilience zone: Internal strengths buffer external shocks

*Source: Author's compilation. ★ denotes the current assessed position of the Fergana Valley region.

According to Table 5, the Fergana Valley is now considered to be in the “Growth Acceleration Zone”, which combines a favorable external environment with a modest internal capability. Although this is a strategically advantageous location that allows

for faster export development, there is a risk of external reliance since the area lacks the internal resilience to maintain export momentum in the absence of state intervention in the event that the external environment deteriorates.

Table 5

Regression Analysis Results: Determinants of Regional Export Volume*

Variable	Coefficient (β)	Std. Error	t-value	Significance
Industrial Output Index (X1)	0.471	0.082	5.74	***
Transport Infrastructure Score (X2)	0.312	0.074	4.22	***
Human Capital Index (X3)	0.218	0.093	2.34	**
FDI Inflow, USD mln (X4)	0.263	0.088	2.99	***
Commodity Price Index (X5)	0.384	0.069	5.56	***
Trade Agreement Coverage (X6)	0.197	0.091	2.16	**
X4 × X6 Interaction Term	0.178	0.084	2.12	**
Institutional Quality Index (X7)	0.141	0.102	1.38	n.s.
R ² (Adjusted)	0.874 F-statistic: 42.3*** Obs.: 18			

*Note: *** p < 0.01; ** p < 0.05; n.s. – not significant. Source: Author’s calculations.

Strong explanatory power is demonstrated by the regression model's ability to explain 87.4% of the variance in regional export volume ($R^2_{adj.} = 0.874$). About 58% of the explained variation (partial R^2 sum for X_1 - X_3 and X_7) can be attributed to internal variables alone, with the remaining 42% coming from external factors and their

interaction. This breakdown emphasises that although internal variables are the main drivers of export performance, policymakers should not undervalue the important amplifying effect that external factors play.

Based on the analytical results, the following recommendations are proposed for regional and national authorities:

Table 6

Recommended Policy Measures for Strengthening Regional Export Potential

Nº	Target Factor	Policy Measure	Expected Effect
1	Transport Infrastructure	Develop multimodal logistics centres in Andijan and Fergana; upgrade the Angren–Pap railway electrification	Reduce logistics costs by 15–20%; expand market access
2	Industrial Capacity	Establish special economic zones for light industry and food processing; support SME export consortia	Increase value-added export share from 33% to 50%
3	Financial Access	Launch regional export credit guarantee fund; expand preferential lending for export-oriented SMEs	Reduce export financing gap by USD 80–120 mln
4	Innovation & Technology	Create technology transfer centres linked to universities; subsidize adoption of international quality standards	Improve product compliance rate; increase EU/US market access
5	FDI & Trade Agreements	Proactively negotiate bilateral FTAs with Turkey, UAE, and India; create investor after-care service	Amplify FDI-export interaction effect; target 20% FDI growth p.a.
6	Institutional Quality	Streamline customs procedures; reduce time for export documentation to below 3 days	Reduce transaction costs; improve ease of exporting ranking

*Source: Author's recommendations based on regression analysis results.

Given the statistically large interaction impact shown in the regression model, Recommendation 5 (FDI combined with trade agreements) is especially strategically important. It is estimated that policies that increase market access and draw investment have a multiplier effect on export growth of about 1.4. This means that when both measures are implemented together, export benefits are 40% higher than when they are implemented separately.

Conclusion and Recommendations.

The impact of both internal and external variables on the growth of export potential in

Uzbekistan’s Fergana Valley area between 2018 and 2023 has been methodically investigated in this study. The main conclusions may be summed up as follows:

First, a combination of favorable external conditions and rising internal economic indicators led to a substantial expansion in regional export volume (83% over six years). According to the Factor-Impact Matrix, the area is now in a “Growth Acceleration Zone”, which is good from a strategic standpoint but susceptible to outside shocks.

Second, regression analysis shows that internal variables, which together account for 58% of explained variance, are the primary

predictors of export success, especially industrial production and transport infrastructure. However, there are important independent and interaction impacts from external variables, particularly the scope of trade agreements and the price of commodities globally.

Third, a significant actionable result is the FDI–trade agreement interaction impact ($\beta = 0.178$, $p < 0.05$): measures that both increase market access and draw in foreign investment provide export benefits that are much higher than either measure alone.

Fourth, although being theoretically significant, institutional quality did not reach

statistical significance in the model; this is probably due to the variable's low variation throughout the course of the investigation rather than its actual irrelevance. Robust estimate requires longer time series and institutional variation data at the regional level.

The results add to the empirical literature on regional export determinants in transition economies and provide policymakers in Uzbekistan and similar developing economies with practical advice on how to improve regional export competitiveness by concentrating on both strategic external engagement and internal capacity building.

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