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ANALYSIS OF THE TERRITORIAL DIFFERENTIATION OF THE ECONOMIC POTENTIAL OF THE SERVICES SECTOR AND THE EFFICIENCY OF ITS UTILISATION

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Abstract

The article analyses the territorial differentiation of the economic potential of the services sector for 2010-2025 using official statistical data. A U-shaped trajectory of concentration is identified: the coefficient of variation fell from 132.3% in 2010 to 109.8% in 2015, then returned to 134.3% by 2025. The Herfindahl-Hirschman Index follows the same trajectory (1876 -> 1514 -> 1910). A beta-convergence test shows no convergence between regions ($b = +0.0435$; $t = 0.82$). Samarkand region ranks second in absolute volume but reaches only 63.7% of the national average per capita. This gap empirically confirms the need to distinguish potential from the degree of its utilisation.

Keywords: Territorial differentiation, economic potential, concentration, beta-convergence, coefficient of variation, services per capita, Samarkand region.

INTRODUCTION

Territorial differentiation is one of the key characteristics of the services sector because the scale and structure of demand, population density, income, infrastructure and urbanisation differ substantially across regions. Absolute service volume alone does not reveal whether a region's economic potential is being used effectively.



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The purpose of the study is to measure changes in interregional differentiation over 2010-2025, test whether regions are converging, and determine the relative position of Samarkand region using both absolute and per-capita indicators.

LITERATURE REVIEW

Regional convergence theory distinguishes between convergence in levels and convergence in growth rates. Beta-convergence exists when initially weaker regions grow faster than initially stronger ones. Sigma-convergence refers to a decline in dispersion across regions.

Concentration measures such as the coefficient of variation, the Herfindahl-Hirschman Index and the Theil index provide complementary information. The coefficient of variation describes relative dispersion, HHI reflects concentration of total volume, and the Theil index is sensitive to distributional inequality.

RESEARCH METHODOLOGY

The information base consists of official statistics for 14 territorial units of Uzbekistan for 2010-2025. Service volumes are expressed in billion UZS.

The coefficient of variation is used to measure relative dispersion. The Herfindahl-Hirschman Index is calculated as $HHI = \sum s(i)^2 \times 10000$, where $s(i) = V(i)/\sum V(i)$. The Theil index is calculated as $T = \sum s(i) \times \ln[s(i) \times n]$.

Beta-convergence is tested using the equation $\ln[V(i,2025)/V(i,2015)] = \alpha + \beta \times \ln V(i,2015) + \varepsilon(i)$. A statistically significant negative beta would indicate convergence; a positive coefficient indicates the absence of such a tendency.



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ANALYSIS AND RESULTS

Table 1. Regional service volumes and growth, 2015-2025

Territory	2015, bn UZS	2025, bn UZS	2025 share, %	Growth, times
Tashkent city	23,108.6	397,414.2	37.84	17.20
Samarkand region	5,832.9	78,163.0	7.44	13.40
Tashkent region	6,445.7	71,783.7	6.83	11.14
Fergana region	5,256.0	71,765.9	6.83	13.65
Namangan region	3,320.6	56,282.9	5.36	16.95
Kashkadarya region	4,058.9	54,118.0	5.15	13.33
Andijan region	4,684.5	53,969.6	5.14	11.52
Bukhara region	3,751.2	42,659.2	4.06	11.37
Khorezm region	2,548.6	36,911.6	3.51	14.48
Surkhandarya region	3,067.8	35,561.3	3.39	11.59
Republic of Karakalpakstan	2,550.3	35,196.2	3.35	13.80
Navoi region	2,067.5	25,733.6	2.45	12.45
Jizzakh region	1,727.0	24,612.9	2.34	14.25
Syrdarya region	1,103.1	14,611.4	1.39	13.25
Republic total	78,530.4	1,050,292.5	100.00	13.37

The table shows a pronounced territorial asymmetry. Tashkent city alone accounts for 37.84% of total service volume in 2025, while the share of Samarkand region is 7.44%. At the same time, Samarkand's growth over 2015-2025, at 13.40 times, is almost identical to the national growth factor of 13.37. This is a critical result. Because Samarkand grew at approximately the national average rate, its share remained practically unchanged: 7.43% in 2015 and 7.44%



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in 2025. Thus, rapid nominal growth did not improve its relative territorial position.

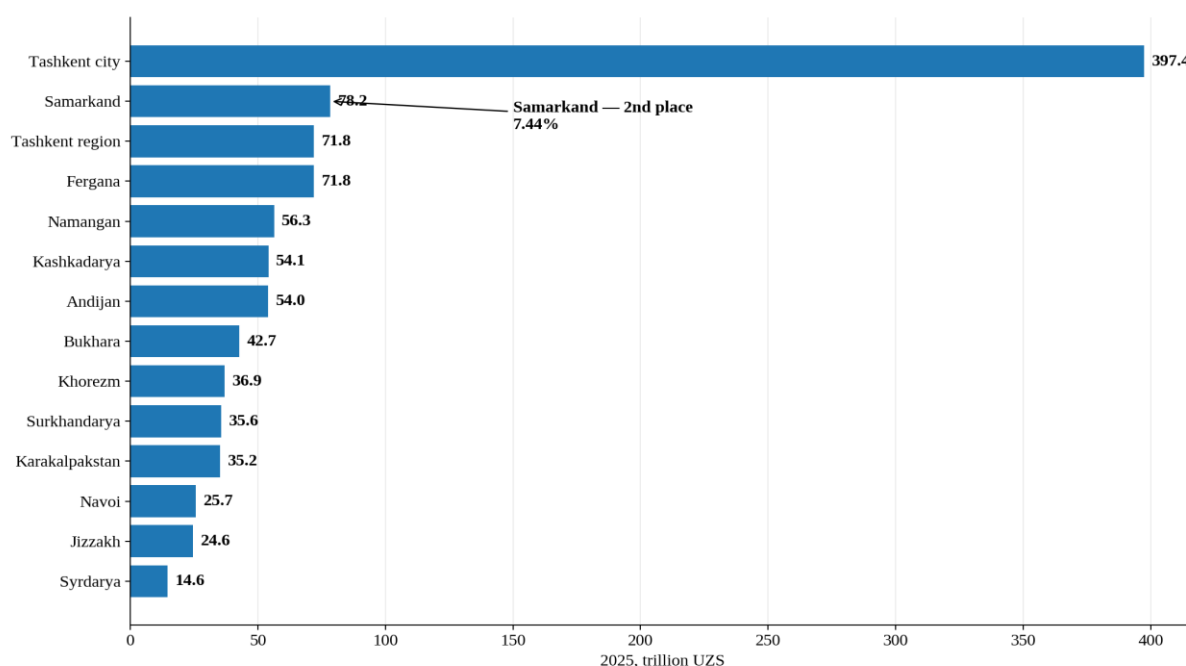


Figure 1. Dynamics of territorial concentration in the services sector, 2010-2025.

The coefficient of variation demonstrates a U-shaped trajectory: it declined from 132.3% in 2010 to 109.8% in 2015, but then rose to 134.3% by 2025. The HHI moved in the same direction, from 1876 to 1514 and then to 1910.

The initial decline indicates a temporary reduction in concentration, while the subsequent increase shows that the largest service centres regained and strengthened their relative position. The renewed concentration is largely associated with the growing role of Tashkent city.



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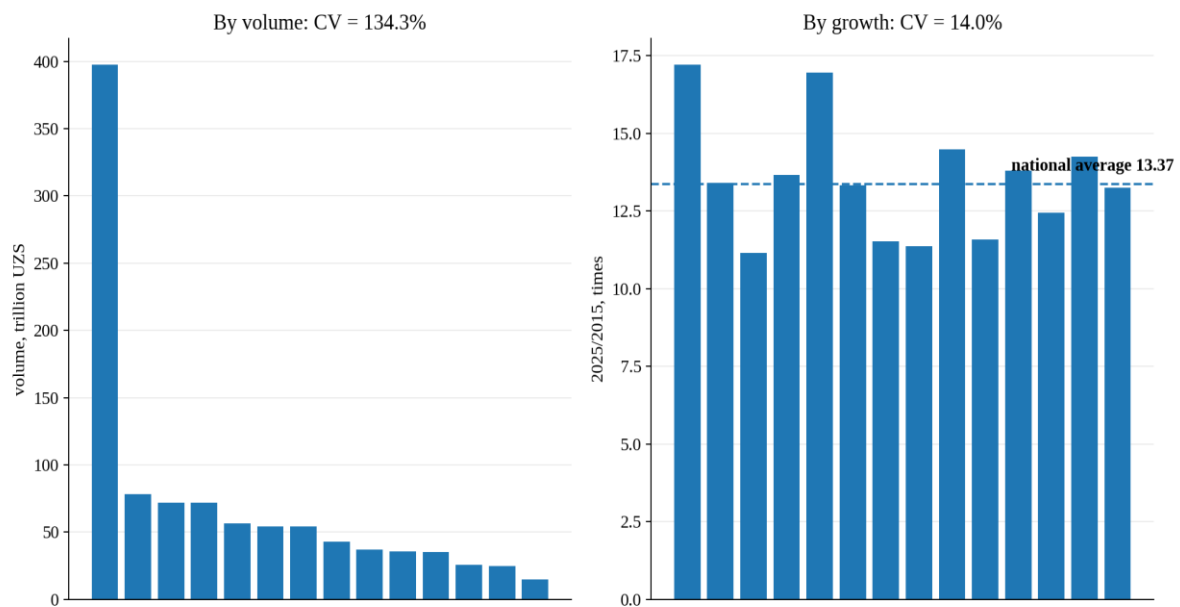


Figure 2. Relationship between initial service volume and subsequent growth, 2015-2025.

The beta-convergence coefficient is positive ($b = +0.0435$) and statistically insignificant ($t = 0.82$). Therefore, the data do not support the hypothesis that regions with lower initial service volumes systematically grew faster than regions with higher initial levels.

Growth rates themselves are much less dispersed than absolute service volumes. The coefficient of variation for growth factors is about 14.0%, whereas the coefficient for 2025 service volumes reaches 134.3%. This means that regions are growing at relatively similar rates from very different starting positions.



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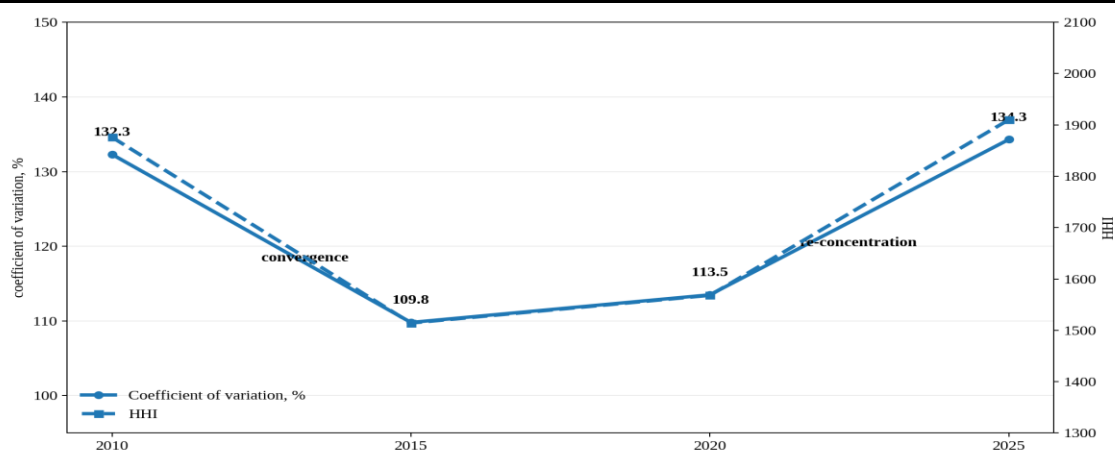


Figure 3. Service volume per capita by region

Samarkand region occupies second place in absolute service volume, but its per-capita indicator equals only 63.7% of the national average. The difference between absolute rank and per-capita position demonstrates why volume should not be interpreted as a direct measure of realised economic potential.

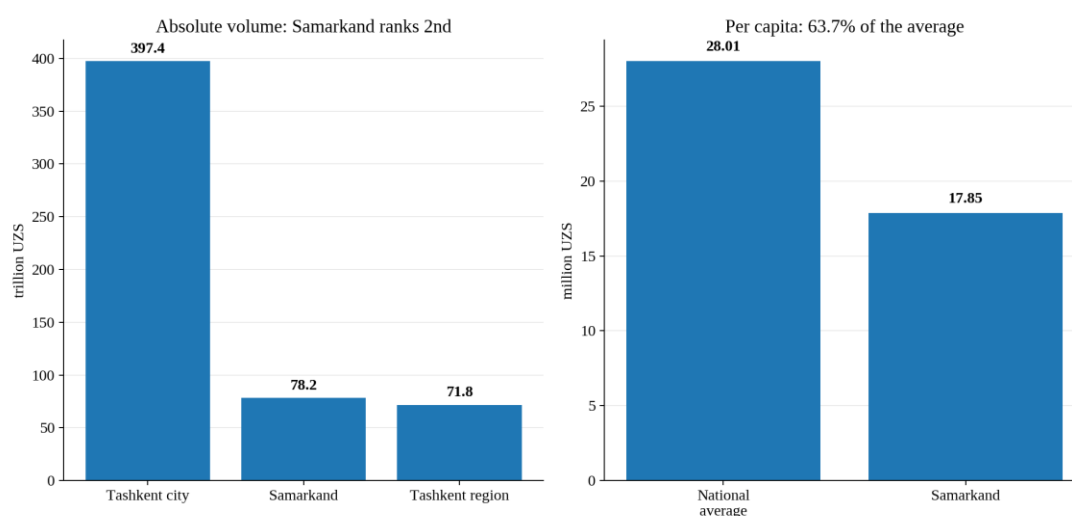


Figure 4. Potential and utilisation: interpretation of Samarkand region's position.



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The empirical results support a two-dimensional interpretation. A region may possess substantial aggregate potential because of population size, location, tourism, labour resources and market capacity, yet still use that potential less intensively on a per-capita basis.

CONCLUSIONS AND RECOMMENDATIONS

First, territorial concentration in Uzbekistan's services sector follows a U-shaped trajectory over 2010-2025: dispersion declined in the first half of the period but subsequently increased to approximately its initial level.

Second, beta-convergence is not observed. Regions with lower initial service volumes did not systematically grow faster than leading regions, so relative territorial positions remained largely stable.

Third, Samarkand region's absolute scale and its per-capita performance lead to different conclusions. The region ranks second by total service volume but reaches only 63.7% of the national average per capita.

Fourth, territorial policy should therefore evaluate not only growth in absolute service volume but also relative indicators that measure the degree to which regional potential is being utilised.

Fifth, reducing territorial differentiation requires lagging regions to grow persistently faster than the national average rather than merely maintaining the average national growth rate.

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