



THE VOLUME OF SERVICES PROVIDED IN 2023 BY THE REGIONS OF THE REPUBLIC OF UZBEKISTAN: A STUDY OF THE CORRELATION AND REGRESSION.

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Annotation: *This article discusses theoretical ideas and conclusions regarding the field of services in the context of social-economic developments taking place within the borders of the Republic. In this practical work, a correlation between the volume of services provided in 2023 within the Republic's borders and the volume of services directly related to the population's well-being within those borders in 2023 has been studied. In the process of the research, paired correlation and regression analyses were performed, a paired regression equation was constructed, and conclusions were drawn.*

Keywords: *service delivery, service delivery in small business, volume of provided services, correlation, regression, double regression, unestimated model, econometric model, method of least squares.*

Introduction: One of the priority directions of the ongoing social policy in our country is to increase the scope of services in the field of small businesses and private entrepreneurship, with the aim of increasing the income and improving the living standards of the population. In this regard, it is evident from the practical standpoint that it is possible to generate income in this field in the short term by minimizing costs. Specifically, it is possible to cite several directions of the service sector today, including communication, finance, transportation, construction, tourism services, and trade areas. Currently, a number of conveniences are being provided in the service sector for the population to lead a prosperous and convenient life. As a result, the improvement of service infrastructure in rural areas is approaching the living style of rural residents to that of urban residents.
Literature analysis and methodology:

The additional measures are being implemented to significantly improve the field of service provision and development in rural areas of the Republic of Uzbekistan, given the trends in the demand for development. As a result of the programs and measures being implemented to promote the development of service provision and services, significant progress has been made in the field. During the months of January to September 2023, the overall internal product (OIP) of the service provision sector accounted for 40.3%, according to the data from the State Statistics Committee, compared to 39% in the previous year. For comparison, the internal product in the



service provision sector has increased by 1.3% compared to the corresponding period of the previous year. In the months of January to September 2023, the agriculture, forestry, and fisheries sector accounted for 24.8% of the overall internal product (OIP), while the statistics agency's data showed that it accounted for 26.4% in the previous year. Currently, approximately 82.4% of small businesses are operating in the service provision sector. More than 3,000 companies operating nationwide are benefiting from the privileges under the program. Total service costs have increased by a factor of 1.8, while service costs per capita have increased by a factor of 1.7, as a result of implementing the programs. The main high-demand areas for the development of the economy include finance, construction, healthcare, communication and information dissemination, computer programming, providing technical services and repairs for agricultural equipment, and household services. Analyses show that one of the main factors contributing to the development of this field is the convenience and opportunities provided to small businesses, as well as the convenient investment climate and the credit funds allocated by commercial banks. This article obtained statistical information for the analysis of economic and statistical aspects in the field of activity provided within the borders of the Republic from the official website of the State Committee of the Republic of Uzbekistan on Statistics Studying the interconnections between socio-economic processes is an important task of econometrics. In this study, the volume of services provided within the borders, measured in billion soums (Y), and the volume of services directly related to the population within the borders, measured in thousand soums (X), were analyzed, and their paired regression equation was constructed. The completed tasks are presented below.

No	Territories	volume of services provided by regions in billion soums in 2023 year (Y)	Amount of services for every person in million (X)
1	Republic of Karakalpakstan	12876,6	5 310,8
2	Andizhan	21793,4	5 365,5
3	Bukhara	19344,0	7 916,5
4	Dzhizzak	19518,4	5 470,4
5	Kashkadaryo	11520,7	4 628,0
6	Navoiy	17822,9	8 851,5
7	Namangan	14 722,6	4 966,6
8	Samarkand	22 734,9	5 579,2
9	Surkhandarya	12 878,0	4 640,7
10	Syrdarya	5 029,8	5 666,8
11	Tashkent	25 994,9	8 763,7
12	Fergana	21 960,3	5 578,8
13	Khorazem	10 303,2	5 307,6



14	City of tashkent	137 358,1	47 218,3
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1-Table.

In the Republic of Uzbekistan in 2023, the volume of services provided by regions (in billion soums, Y) and the volume of services corresponding to the population of each region (in thousand soums, X) [6].

These statistical data were analyzed using Microsoft Excel software. The coefficient of correlation (r) indicates the degree of relationship between variables. The coefficient of determination (r²) is the main result of the regression analysis. It is used to indicate the proportion of variability in a dependent variable that is predictable from the independent variable. (2)

	The volume of services provided based on territories in 2023 is y billion soums.	The volume of services tailored to the needs of the population based on territories in 2023 is x million soums
The volume of services provided by regions in 2023, in trillion soums.	1	
In 2023, services that are appropriately proportional to the population's age group, in terms of area, will cost about thousand soums	0,98689032	1

The study of correlation connections involves addressing two types of issues. One of them is assessing the degree of relationship (i.e. the strength of the relationship) among the events (indicators) being studied. This task is the responsibility of the method called correlation analysis. Correlation analysis is a method for evaluating the degree of connection between events. According to the given data, the service volume (in thousand soms, X) that corresponds to the population density by region in 2023 shows a correlation coefficient of (r=0,98689032). Based on this correlation coefficient, it can be inferred that the closer the value of r is to (1), the stronger the connection; and the closer it is to 0, the weaker the connection. Since r=0,98689032 is close to 1, we evaluate the relationship as strong.

In the next stage of the analysis, we will examine the regression equation using Microsoft Excel software [3]

Regressive statistics				
Multiply R	0,991990953			
R-squared	0,98404605			



Normalized R-squared	0,900712717				
Standard error	5498,026273				
Observations	14				
Analysis of variance					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	22373918905	22373918905	740,1648178	1,92846E-1
Balance	12	362739514,8	30228292,9		
soums total	13	22736658420			
In 2023, the volume of services provided in the field of borders amounted to millions of soums.					
In 2023, the volume of services provided to the population in accordance with the borders will be X million soums.	2,880648	0,105883	27,20597	3,75E-12	2,649949

3-table. The author has re-evaluated the regression analysis result between the volume of services provided in 2023 by regions (in billion soums, Y) and the volume of services corresponding to the population share by regions in 2023 (in thousand soums, X).

The relationship between the volume of services provided by regions and the population density that accurately predicts the volume of services provided in 2023 is depicted by the following regression equation:

$$y = 0 + 2,880648x$$

The volume of services provided in 2023 by region and the population size is called the related regression equation or unestimated model.

"CONCLUSIONS AND RECOMMENDATIONS

Drawing conclusions, it is possible to say that factors influencing all areas of socio-economic processes, both internal and external influencing factors, as well as the correlation relationship among variables and factors can be analyzed using the method of least squares. In addition, it is possible to present several conclusions and



recommendations. In addition to industrial enterprises, service enterprises, large economic enterprises, and any social activities in the field of economic activity can be analyzed using these correlation-regression methods, and several forecasting conclusions can be presented about future activities."

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