

**"THE ROLE OF SMALL BUSINESS AND PRIVATE ENTREPRENEURSHIP IN THE DEVELOPMENT OF UZBEKISTAN'S ECONOMY"**

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**ABSTRACT.**

This article examines the role of small business and private entrepreneurship in the development of the country's economy using various econometric models, as well as the relationship between factors related to small business and private entrepreneurship. This project aims to study the importance of small business and private entrepreneurship as important components of the economy of Uzbekistan, and to identify the specific place and role of small business and private entrepreneurship in the country's economy. In the first part of the analysis, it is determined how many main components the small business and private entrepreneurship sector has in the economy of Uzbekistan, how it is defined, and the main factors and results of development in this sector. In the following sections, a more detailed analysis of topics related to the impact of the sector on the development of the country's economy is provided. This analysis shows that it has many important initiatives, such as state policy, investment and innovation, international cooperation, population incomes, and legal issues. The analysis focused on this topic will help to study the unique capabilities and development-enhancing role of the small business and private entrepreneurship sector in the Uzbek economy and to develop the country's economic strategy.

**Keywords:** Micro-firms; small businesses; private entrepreneurship; liberalization; capital investments; innovations; national economy; job creation; international cooperation; legal issues.

**INTRODUCTION.**

Small businesses and entrepreneurship play a significant role in creating jobs, wealth for their owners, and revenue for governments in many regions. However, their survival is often short-lived and they are subject to high levels of failure due to several factors. The impact of small businesses and entrepreneurship on economic development is now widely recognized, and recently the role of small businesses and private entrepreneurship in economic growth and employment generation has been the subject of much discussion among governments, policymakers, academics, researchers, and economists in both developed and developing countries.

Currently, the role of small business and entrepreneurship in the country's economy in the Republic of Uzbekistan is unparalleled. In Uzbekistan, there are many indicators of the impact of small business and entrepreneurship on the economy. This type of business makes a significant contribution to the country's economy and has a high potential for job creation or social development. For this, small businesses and entrepreneurs meet the requirements of open trade, the development of high-quality products leads to an increase in gross domestic product in almost all areas. When each entrepreneur understands the requirements for the time of development, sale and transportation of their products and the necessary resources, they will achieve greater income, and more importantly, their contribution to the development of the economy in the future is significant.

The formation of a solid foundation is precisely due to this stable social development, and the country's economy is interested in this, which is the driving force for the development of social-

democratic and fundamental changes in the form of strata. All processes were further liberalized, simplified and cost-effective in the country, as well as measures to support small businesses. As a result of the acceleration of small business, its role in the economy of our country is increasingly increasing. Ensuring reliable protection of private property and implementing future measures, first of all, reducing the active participation of the state in the economy and business growth, small business entities in the current quarter of the year. The number of newly established small enterprises and microfirms in the Republic of Uzbekistan as of July 1, 2022 by region, compared to July 1, 2021, was the largest in the Samarkand region - 6,499 or 126.3%. 51.8 percent of GDP, that is, the share of small businesses in its structure, was calculated. The vast majority of new jobs were created in this region. It is precisely the competitiveness and development of this sector of the domestic market that is rapidly growing, the urgent issues of today, and on this basis, the creation of new jobs and ensuring the well-being of the population are considered one of the most important factors in increasing incomes.

### **Research gap**

*While a wealth of research exists regarding the various methods for developing the country economically, there is significantly less understanding of the role of small business and private entrepreneurship in economic sector.*

### **RESEARCH METHODOLOGY.**

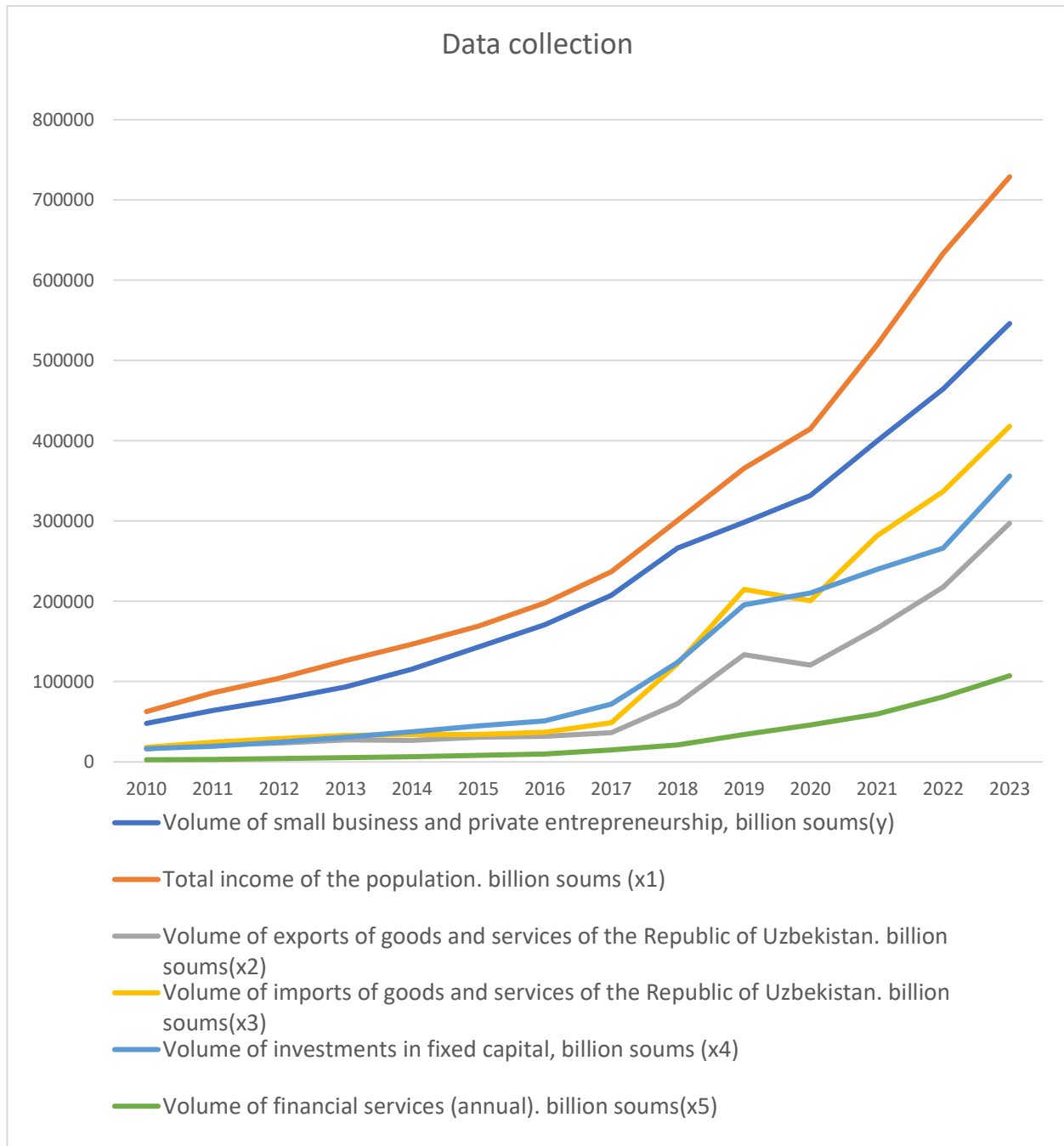
### **THEORITICAL FRAMEWORK**

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### **EMPIRICAL FRAMEWORK**

Uzbekistan is undergoing major reforms in the development of small business and private entrepreneurship, and in this article, through the results of an econometric analysis of the development of small business, we will consider how this will affect the economy for the further development of this sector. In the formation of the methodological part of this study, we used several methods and techniques. In particular, we used statistical and econometric analysis. The data necessary for the methodology were obtained from the stat.uz Internet portal of the Statistics Committee of the Republic of Uzbekistan. This data is reliable and covers 14 years, i.e. 2010-2023, related to the small business sector.

Table 1. Summary of data<sup>1</sup>



Analysis of variables. We have identified the variables necessary for the study. In analyzing the role of small business and private entrepreneurship in the development of the skill economy, we have defined y as; the volume of small business and private entrepreneurship as x1; the volume of total income of the population as x2; the volume of exports of goods and services of the Republic of Uzbekistan as x3; the volume of imports of goods and services of the Republic of Uzbekistan as x4; the volume of investments in fixed capital as x5; the volume of financial services as. We construct the relationship between these variables in a linear form and consider econometric analysis using the

<sup>1</sup> Compiled by the author, using the official statistics website of the Republic of Uzbekistan.

STATA program based on the following formulas. The correlation coefficient is used to examine the relationship between variables based on this formula.

The formula is as follows:

$$r_{yx} = \frac{\overline{yx} - \bar{x} * \bar{y}}{\sigma_x * \sigma_y}$$

The formula for a multivariate regression model is expressed as follows:

$$Y = \alpha_0 + \alpha_1 * x_2 + \alpha_2 * x_4 + \dots + \alpha_p * x_p + \varepsilon$$

The coefficient of determination measures the proportion of variance in the dependent variable that is explained by the model of the relationship under consideration. The coefficient of determination varies between 0 and 1. Regression analysis is usually used to calculate the coefficient of determination ( $R^2$ ). After conducting a regression analysis, we can obtain the value of  $R^2$ , which indicates how much the population changes with our model.

The formula is as follows:

$$R^2 = 1 - \frac{D_{\text{model}}}{D(y)} \quad \text{yoki} \quad R^2 = 1 - \frac{\sum_{i=1}^n (y_i - \hat{y}_i)^2}{\sum_{i=1}^n (y_i - \bar{y})^2}$$

$$0 \leq R^2 \leq 1$$

At the same time, confidence intervals are determined for each indicator, that is, the significance of the parameters we find in the regression and correlation coefficients is checked. For this, the Student's t-test is used and is expressed by the following formulas:

$$t_{a_0} = \frac{a_0}{m_{a_0}}; \quad t_{a_1} = \frac{a_1}{m_{a_1}}; \quad t_r = \frac{r}{m_r}$$

We can determine the significance of the research model using Fisher's exact test and approximation error. According to Fisher's F-test, the statistical significance of the regression equation is tested. The F value can be expressed in terms of the coefficient of determination  $R^2$ .

The formula is as follows:

$$F = \frac{R^2}{1 - R^2} \cdot \frac{n - k - 1}{k}$$

Approximation error is the average relative deviation of the theoretical  $y$  from the true values of  $Y$ .

$$\varepsilon = \frac{1}{n} \sum \left| \frac{y_i - \hat{y}}{y_i} \right| * 100\%$$

The formula is as follows:

where  $n$ - number of observations

$y_i$ - actual values of the main factor

$\hat{y}$ - smoothed theoretical values of the main factor

If the value of  $\varepsilon$  does not exceed 10-12 percent, the constructed regression equation is considered satisfactory.

The Durbin-Watson criterion or dw-criterion is used to check the property of the independence of the residuals, that is, the presence or absence of autocorrelation. The formula is as follows:

$$dw = \frac{\sum_{i=1}^n (e_i - e_{i-1})^2}{\sum_{i=1}^n e_i^2}$$

Where:

$dw$  – criterion lies in the interval  $0 \leq d \leq 4$ . We will use these formulas to perform our econometric analysis.

In economic analysis, the elasticity of a function is the limit of the ratio of the relative changes of the variables  $y$  and  $x$ . The formula is as follows:

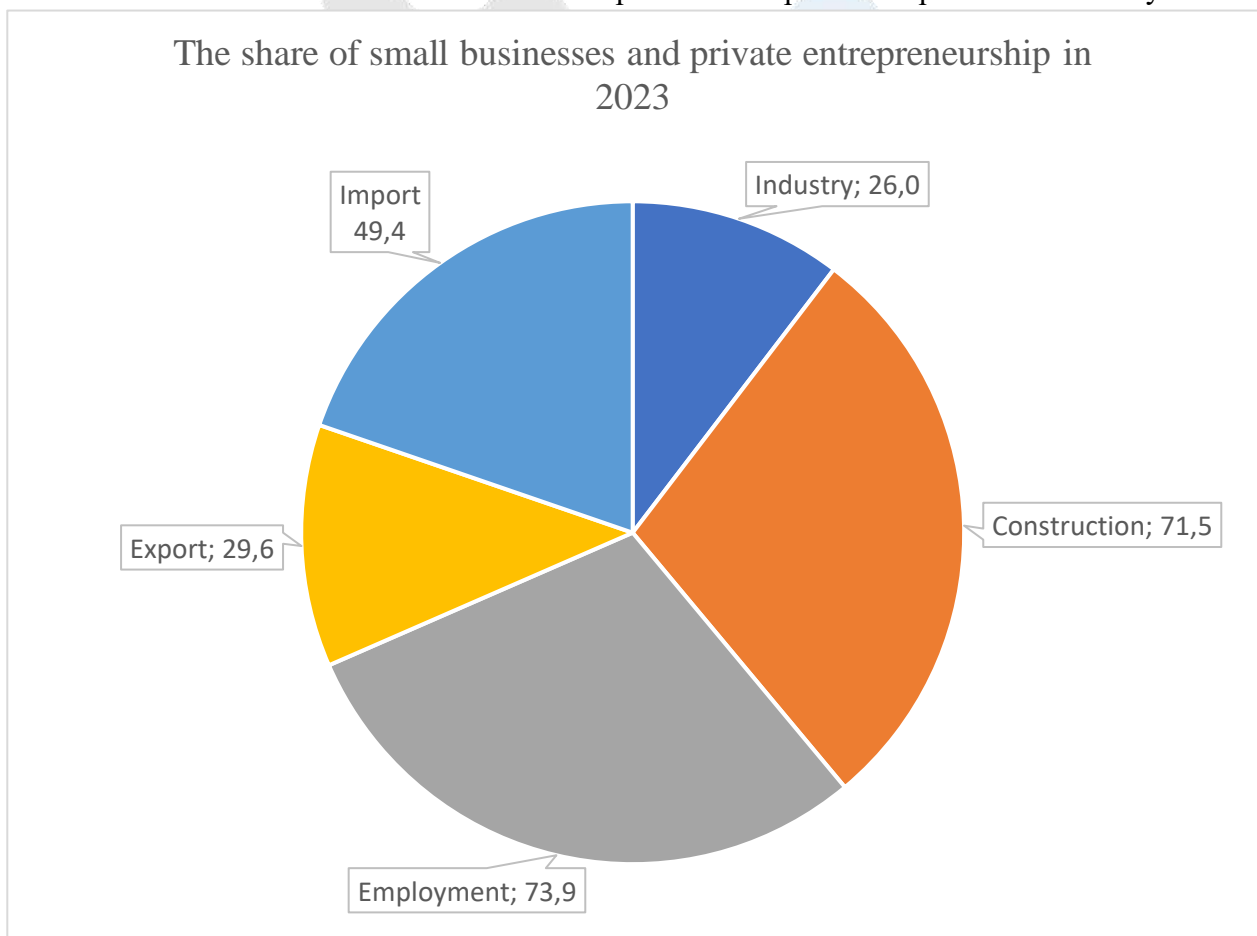
$$E_x(Y) = \frac{dy}{dx} \cdot \frac{x}{y}$$

**ANALYSIS AND RESULTS.**

The analysis and results section of our study highlights a number of factors that contribute to the development of small businesses and private entrepreneurship. These factors include policy, law, infrastructure, education, finance, and other elements. Factors such as support for small businesses, job creation, support for innovative technologies, the creation of entrepreneurship and business finance programs, and the development of exports and cooperation with international markets should be given great attention.

Table 2. Share of small businesses and private entrepreneurship <sup>2</sup>.

The contribution of small business and private entrepreneurship to the economy of the



Republic of Uzbekistan in 2022 was very significant, that is, its share in the gross domestic product was 51.8%. Other areas of the country also showed good indicators, for example, employment was 73.9%, which includes businesses such as shops, hotels and restaurants, or the construction sector,

<sup>2</sup> Compiled by the author, using the official statistics website of the Republic of Uzbekistan

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which accounts for a large part of small business and entrepreneurship, was 71.5%, which includes the construction of new houses and office buildings.

The industrial sector was 26.0%, which represents the part of entrepreneurship related to industry. This indicates a high level of support for small business and entrepreneurship in the industrial sector. Export and Import indicators provide information about trade relations between buyer and seller businesses. With exports of 29.6% and imports of 49.4%, it may indicate that the country's demand for imported goods is higher than its exports.

There are many variables to consider in the field of small business and private entrepreneurship, such as economic and political conditions, competitive forces in various sectors, and new businesses, but we hypothesized that the following six variables determine the role of small business and private entrepreneurship in the development of the sector and are very strongly correlated (Table 1), and now we will consider how they will be achieved based on econometric analysis.

Variable	Obs	Mean	Std. Dev.	Min	Max
y	14	230413.9	158660.4	47993.46	546083.3
x1	14	292343.6	212248.5	62631.6	728826.1
x2	14	87230.11	87898.99	16216.9	297375.9
x3	14	130937.8	135236.9	18180.6	418034.2
x4	14	120640.8	111884.4	16463.7	356071.4
x5	14	28899.4	32973.82	2643.7	107290.6

Figure 1. Result of the Summarize command.

After entering the variables into the STATA program, we can check the following using the summarize command. If we look at the results of the summary analysis, we can check the mean, standard deviation, minimum, and maximum values of all 14 variables (Figure 1).

Figure 2. Result of correlation analysis. From Figure 2, we can see that the results of the correlation analysis are interpreted as follows: the correlation between the main fixed factor, the volume of small businesses and private entrepreneurship (y), and the variable factor affecting it, the total income of the population (x1), is 99.58%, with the volume of exports of goods and services of

	y	x1	x2	x3	x4	x5
y	1.0000					
x1	0.9958	1.0000				
x2	0.9622	0.9779	1.0000			
x3	0.9719	0.9838	0.9933	1.0000		
x4	0.9843	0.9864	0.9814	0.9913	1.0000	
x5	0.9665	0.9836	0.9923	0.9846	0.9749	1.0000

the Republic of Uzbekistan (x2) it is 96.22%, with the volume of imports of goods and services of the Republic of Uzbekistan (x3) it is 97.19%, with the volume of investments in fixed capital (x4) it

is 98.43%, with the volume of financial services (x5) it is 96.65%. From this we can conclude that the correlation between all variables has a correct relationship and the presence of a very strong relationship between the fixed factor (y) and all variables (x1, x2, x3, x4, x5, x6) was confirmed.

Figure 3. Regression analysis result.

Based on the above result (Figure 3), we can see from the regression analysis that the reliability coefficients of the parameters have achieved a positive result in all influencing factors. If we analyze based on this result, if x1 (total income of the population) increases by 1 unit, y (volume of small business and private entrepreneurship) increases by 0.95 units, while other factors are equal to 0, or if x5 (volume of financial services) changes by 1 unit, y (volume of small business and private entrepreneurship) will change by 1.93 units.

$$Y = (-249577.8) + 1.55 * x_2 - 0.17 * x_3 - 0.62 * x_4 - 1.31 * x_5 + 24.78 * x_6 + 0.27 + \epsilon$$

Also, the coefficient of determination (R2) is a statistical measure that represents the proportion of variance in the dependent variable that is explained (or can be predicted) by the independent variables in the model. The value of R2 varies from 0 to 1, with 1 indicating that the model explains all the variability. Typically, the closer the value of R2 is to 1, the better the model explains the data. In our model, the coefficient of determination was 0.9990, which means that 99.9% of the variance in the resulting variable was explained by the regression equation, which indicates a very high level of variance and a very good fit of the data to the regression model or other analysis methods used to examine the relationship between the independent and dependent variables. This high coefficient of determination is usually considered very important and allows us to make accurate predictions or conclusions about the variable based on the model used (Figure 3).

. margins, eyex(x1 x2 x3 x4 x5 ) atmeans

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Conditional marginal effects          Number of obs   =          14
Model VCE      : OLS

Expression   : Linear prediction, predict()
ey/ex w.r.t. : x1 x2 x3 x4 x5
at           : x1          = 292343.6 (mean)
              x2          = 87230.11 (mean)
              x3          = 130937.8 (mean)
              x4          = 120640.8 (mean)
              x5          = 28899.4 (mean)
    
```

	Delta-method					[95% Conf. Interval]
	ey/ex	Std. Err.	t	P> t		
x1	1.210788	.0920115	13.16	0.000	.9986091	1.422967
x2	.1578094	.1096074	1.44	0.188	-.0949459	.4105646
x3	-.3469861	.1012054	-3.43	0.009	-.5803662	-.1136059
x4	.3021873	.0773264	3.91	0.004	.1238723	.4805023
x5	-.243031	.0748467	-3.25	0.012	-.4156279	-.0704341

Figure 4. The result of the elasticity coefficient.

The given elasticity coefficient of our study was x1=1.21, x2=0.15, x3=-0.34, x4= 0.30 and x5=-0.24, which indicates how sensitive the demand for this product or service is to changes in the demand of

the specified customers. The elasticity coefficient shows that, with the price unchanged, if the variable  $x_1$  (gross domestic product) changes by 1%,  $y$  (small business and entrepreneurship volume) changes by 1.21%. Or, if  $x_4$  (population income) increases by 1%,  $y$  (small business and entrepreneurship volume) increases by 0.30%. If the elasticity coefficient is equal to -0.34, this indicates how responsive the demand is to similar changes in the use of the product or service. If a 1% change in demand, while keeping the price constant, results in a 0.34% change in profit. This indicates how effectively a given product or service can meet customer demand.

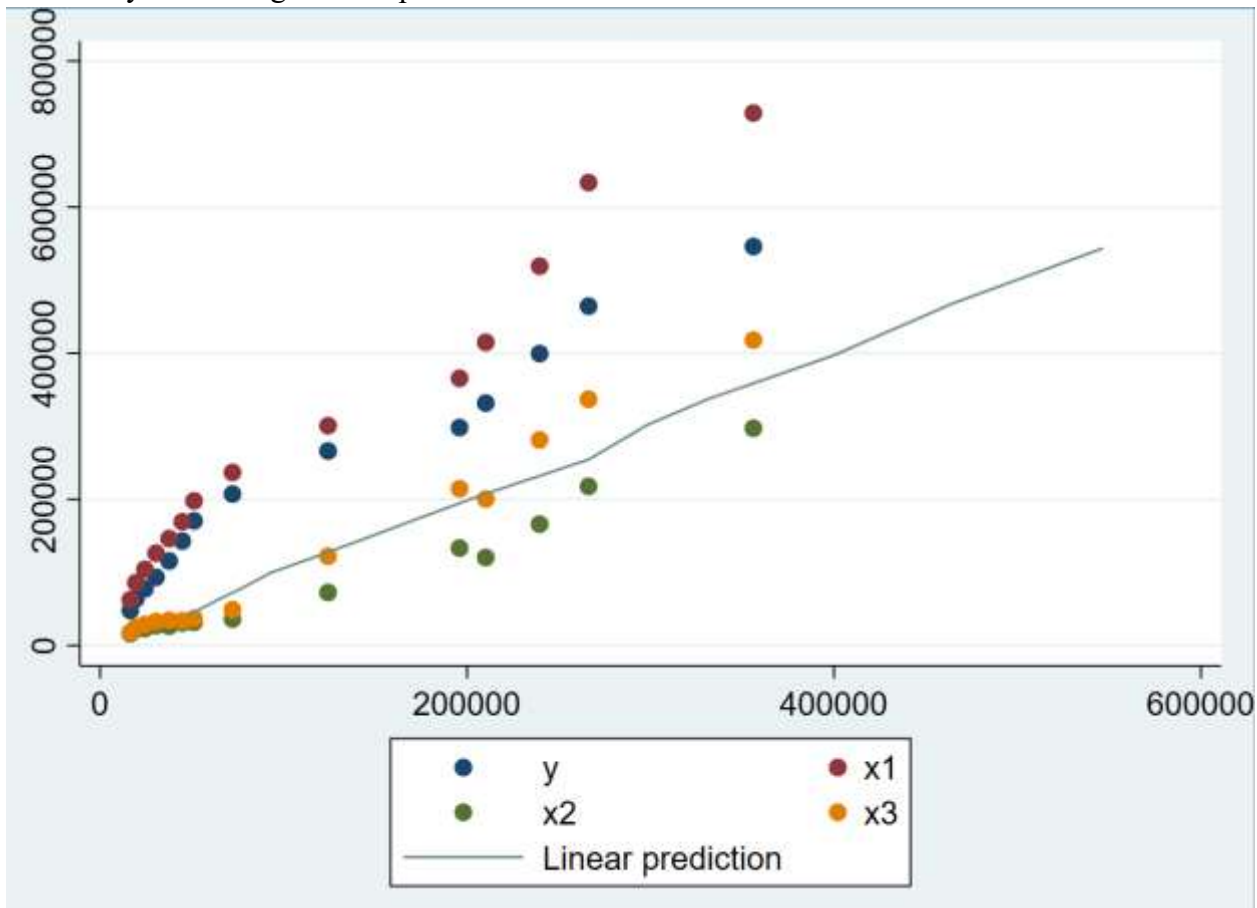


Figure 5. Line graph result.

We compare the graphical values of our model with the actual values (Figure 4). As can be seen from the graph, we can see that some points where our model values are similar to the actual values coincide. We will conduct additional tests to further improve our model.

Fisher's exact test is usually used to assess the statistical significance of differences between several groups in an analysis of variance. The F-statistic value indicates that there is a statistically significant difference between the means of the variable being studied across the groups or conditions considered in the analysis. To determine the statistical significance of the results, this F-statistic value is compared to the critical F-value of the distribution. If the F-statistic is significantly greater than the critical value, this indicates that the differences between the groups are statistically significant. Looking at the regression results, the F-statistic was 1568.99, indicating that there is a statistically significant difference between the means of the variable across groups or conditions. Therefore, we reject the null hypothesis and accept the alternative hypothesis that the variable means differ across groups or conditions. The conclusion is that there are significant differences

between the variable and non-variable groups, and these differences are statistically significant (Figure 3).

. di tc  
1.7530504

Figure 6. T-student table value.

Now we can use the t-student values to test this hypothesis. If the t-student value exceeds the critical value, we reject the null hypothesis and conclude that there is a statistically significant difference between the sample mean and the null reference. If it does not exceed it, then there is no reason to reject the null hypothesis. T-student values help determine their statistical significance when analyzing data. The t-student value of the model parameters constructed according to Figure 3, namely  $t_a=13.22$ ,  $t_b=1.44$ ,  $t_c=-3.43$ ,  $t_d=3.91$ ,  $t_e=3.25$ , the table value for our model is 1.753 (Figure 6). Based on the t-student model, the values given  $t_a=13.22$ ,  $t_c=-3.43$ ,  $t_d=3.91$ ,  $t_e=3.25$  are satisfactory for the analysis purposes, as they are larger than the table values, which emphasizes the analysis of their effect on the data. On the other hand, the values  $t_b=1.44$  are lower than the table values, which means that these parameters are not statistically significant and the null hypothesis should be accepted (Figure 3).

	lb	Y2	ub
14.	527493.3	543227.8	558962.3

Figure 7. The predicted value of Y.

To determine the confidence interval, we use the following formula:  $(ub-lb)/2$ . Our answer: 15734.35. So, the theoretical predicted value of Y is 543227.8 and its confidence interval is  $\pm 15734.35$ . This means that, based on a 97% confidence level, the true value will be within this interval.

```
tsset time
    time variable: time, 1 to 15
    delta: 1 unit

dwstat

Durbin-Watson d-statistic( 6, 14) = 1.702267
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Figure 8. Durbin-Watson autocorrelation result.

The Durbin-Watson statistic is used to determine the strong relationship (autocorrelation) between the average mixture of variables in a regression analysis. Our tabular statistic should contain values between 0.505 and 2.296. If the Durbin-Watson statistic is close to 0.505, it is considered that there is no autocorrelation. If it is closer to 2.296, it means that the autocorrelation is strongly confirmed. If we look at our result, it was 1.702, which means that the presence of moderate autocorrelation was confirmed (Figure 6).

$$0.505 < 1.702 < 2.296$$

Mean estimation		Number of obs = 14		
	Mean	Std. Err.	[95% Conf. Interval]	
Aline	.0295843	.0099454	.0080986	.05107

Figure 8. Approximation test result.

The approximation test results show how reliable the results are, if this value is less than 10-12%, the test results are usually considered statistically significant. That is, the test results show statistically significant changes in reflecting the real situation in the sample. According to Figure 8 above, we can see that the approximation test results are 2.95%. This test result shows that the tested models are well compared.

### CONCLUSION AND RECCOMENDAIONS

The role of small business and private entrepreneurship in the development of the country's economy in Uzbekistan is very large. Small businesses and private entrepreneurship play an important role in establishing mass commerce, innovation and offering consumer goods and services. This sector is also of great importance in carrying out reforms in various sectors of the country's economy. Appropriate policies and laws to support small businesses in Uzbekistan are very important. The state should strengthen legal mechanisms to support small businesses and provide them with advantages. This is based on honest and rational decisions, as well as the introduction of necessary models and laws to attract small businesses, simplify contract forms, avoid tax and other financial problems, and the Resolution of the Government of the Republic of Uzbekistan “On measures to strengthen the activities of the small business and private entrepreneurship sector in the Republic of Uzbekistan and develop the economy with its help” of 2020 and other laws and regulations are aimed at ensuring the development of the small business and private entrepreneurship sector. Programs and experiences should be used to manage small businesses and develop financial programs. This can help develop businesses by improving financial services, simplifying credit and payment forms, and automating accounting and management processes. Empirical analysis confirms the role of small business and private entrepreneurship in creating jobs and increasing incomes. At the same time, these sectors help increase the country's gross domestic product. The state is implementing a wide range of economic policy measures to support small businesses and private entrepreneurship. These measures include tax incentives, investment incentives, and international cooperation. For the development of small businesses and entrepreneurship, attention should be paid to the following: Private enterprises; the creation of innovation centers and quality infrastructure. It is very important for the state to provide support for the development of small businesses in an innovative

environment. For example, infrastructure and technological developments create favorable conditions for small businesses and entrepreneurship, for example: Fast internet; electronic financial rights; technological innovations open up new opportunities for small businesses. For this, the state and special organizations should provide the following financial and practical assistance to small businesses to use new technologies:

1. Convenience and tax system: The tax system for small businesses should be simple and convenient. It is important to pay and calculate taxes appropriately, which is important for motivating entrepreneurs. It is necessary to simplify taxes and their implementation, and to simplify management.
2. Simplify the market entry and exit system: Given that small businesses face many problems in entering and exiting the market, it is important to offer programs and projects to help entrepreneurs enter the market, create opportunities for entering foreign markets, and increase exports.
3. Ensure entrepreneurs' access to information: Access to information is important for the development of any business. With the help of the state, it is necessary to provide entrepreneurs with information, provide information about new markets and opportunities, provide quality analysis and support in managing prospects.
4. Facilitate access to financial resources: It is important to provide entrepreneurs with loans and financial assistance in the form of banks, and make it easier to deal with financial problems. It is also necessary to provide investment opportunities for small businesses under favorable conditions.
5. Infrastructure and communications: Updating the infrastructure, facilitating the processes of transportation and sharing, improving information and communications, increasing Internet and telecommunication services, and creating opportunities for entrepreneurs will greatly help.
6. Staff and specialists: Small businesses need to have specialist staff to develop their projects, manage the system, sell their services, and achieve good results in marketing. Providing entrepreneurs with education and support programs through state projects will help achieve very large results.

With these proposals, the small business and private entrepreneurship sector in Uzbekistan will develop, opening up new opportunities for the country's economy and creating new jobs. We can see the importance of cooperation between the state and entrepreneurs in further developing this sector.

In their 2022 article, Gulnara Shodiyeva and Dilnoza Azamatovna Togayeva, cited in the literature review, say: "Currently, this sector is taking a leading position not only in accelerating the growth rates of the economy, but also in solving the extremely important issues of employment and increasing the income of the population for our country." At the same time, we emphasize that their ideas have been proven, and if we conclude from our analysis above, as they said, our country cannot be imagined without this sector, because 73.9% of the employed population belongs to small business and entrepreneurship.

During the implementation of this study, many difficulties arose in the process of collecting and analyzing data, one of which was the freedom of data sources in the process of obtaining statistical data and difficulties in obtaining data from them. The next one was the difficulties in processing and standardizing data, bringing exchange rates to a single standard, or converting quantities into units. And another one was the existence of differences between statistical data in the process of analyzing data, these differences were due to the differences between data from one data source and

data from other international sources, and checking and selecting which statistical data was reasonably structured.

In the next study, we intend to conduct our research on the topic of backward, leading, profitable and areas of small business and entrepreneurship that require attention. A number of questions remain open in this area, therefore, a deeper study of the small business and entrepreneurship sector was aimed.

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