Econometric Assessment of the Prospects for the Development of Small Business and Private Entrepreneurship in the Republic of Uzbekistan

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Abstract. The article discusses various perspectives about the concept of small business development, with the primary emphasis on assisting small business entities with economic potential. It highlights the importance of encouraging economic structures that align with the social and economic policies of the republic, as well as establishing tax incentives for small enterprises producing regionally significant products. Additionally, the article addresses opinions and suggestions aimed at expanding leasing services, enhancing the investment risk insurance system, and creating conditions that facilitate the use of bank loans by small businesses with limited financial resources. To conduct an in-depth analysis of the current growth and development of small businesses and private-sector entrepreneurship, an econometric analysis approach was employed, incorporating key socio-economic indicators. These indicators encompass the production of goods and services by small businesses and private ventures, their contribution to GDP, the proportion of employment they provide, the total number of small and private business entities, and the level of investment in their capital. A multi-factor regression equation was formulated to examine the relationships among these selected variables in the econometric assessment. The significance of the regression equation parameters was evaluated using t-Statistic criteria, alongside retrospective quality metrics such as MAPE (Mean Absolute Percentage Error) and TIC (Taylor Inequality Coefficient). Based on these econometric models, projections for the volume of gross goods and services produced by small businesses and private entrepreneurship were estimated for the period 2023–2026.

INTRODUCTION

Entrepreneurship, particularly small business activities, is a critical driver of sustainable development globally, as well as at national and regional levels, serving as a key force in addressing economic and social challenges. According to the International Monetary Fund, "Small and medium-sized enterprises (SMEs) currently represent 90.0 percent of businesses worldwide and employ 63.0 percent of the global workforce. In the European Union, SMEs make up 99.8 percent of all businesses and provide jobs for two-thirds of the population." [1, p. 18].

In the system of market relations, the small business appears as a form of entrepreneurship characterized by the following special features: production volume, number of employees, and which industry branch it belongs to. Small business includes firms that have an independent property and economic independence and are not considered highly dominant in their field of activity [2], [3]. The current phase of economic reforms in Uzbekistan is marked by one of the key priorities in this process—the development of small businesses and private entrepreneurship, which is being supported by granting extensive economic freedoms. Granting independence to this category of entities will increase their sense of responsibility for the final results of their activities, and will lead to a constant increase in their share in the country's economy.

Currently, this sector is not only driving economic growth but also addressing key issues such as increasing employment and raising the population's income, which are crucial for Uzbekistan. This success is largely due to the significant focus on strengthening the legal framework and establishing a system of stable benefits, conveniences, and credits for this economic sector. Small business entities, which are increasingly important in the economy of our republic, rely on the principles of personal interest, initiative, and property responsibility, and are based on the development of different forms of ownership based on equal rights and healthy competition. The sense of ownership of one's property, cultivated products, independent disposal of property, and financial and material resources at one's disposal, fully corresponds to the principles of the market economy. Its potential for solving the employment problem in the country, ensuring abundance, and Improving the economic competitiveness is huge.

The analysis of the literature on the topic shows that many foreign [4], [5], [6] and local specialists [3], [7], [8] have worked on the topic, and they have conducted their research on different approaches to the concept of "Entrepreneurship". In particular, concepts such as "Entrepreneur" and "businessman" are not considered synonyms when considering their areas of economic activity. The concept of "business" is considered to have a lesser meaning than "entrepreneur". In the literature on the market economy of Western countries, it is explained that "business" is a production system aimed at satisfying the needs and desires of society. Economist Y.Schumpeter distinguished entrepreneurial activity from the ownership category and connected it with innovation activity [4]. His concept became the most effective direction in researching the economic essence and historical mission of entrepreneurship.

A new stage in the implementation of entrepreneurship is associated with J.Galbraith's work "The New Industrial State". It is characterized by the fact that economic development grows to a certain level, that is, by the transition of production from individual growth to gross standardized form [5]. In this situation, it is necessary to gradually study the market, anticipate the demand, to create new technologies and materials. In the new paradigm, management is understood as a transition from rationalization to organizational behavioral entrepreneurship. It consists of constantly changing the achieved level, anticipating future opportunities and risks, and looking for global alternative ways of action.

Professor V.Shepelev defined the concept of "Entrepreneur" as follows: "An entrepreneur is the main subject of economic management in the market economy. An entrepreneur can appear both as an individual and as a group of people, these people combine the factors of production they have at their disposal with labor power by means of purchasing this labor power and using it in economic activities" [6].

According to academic S. Gulomov, "In the context of the deepening market economy in our republic, special attention is given to enterprises involved in small business and private entrepreneurship. This process demands new innovations, initiative, and it is only through these—by saving resources and producing quality products—that economic development can be achieved. For this, managers in small businesses and private enterprises should focus on incorporating the latest scientific and technological innovations into production." [7, p. 3]. This highlights that the development of small businesses is one of the most important aspects of the economic reforms being carried out in the economy of the Republic of Uzbekistan.

Economist J. Tukhtabaev described the concept of "business" as follows: "an attitude toward an activity, more specifically, it is the economic mindset of entrepreneurs. In its broadest sense, it refers to activities aimed at generating income through legal means" [8]. After comparing and analyzing these definitions, it was concluded that they include various approaches that uncover the fundamental nature of entrepreneurship, which also aligns with the demands of a market economy.

According to the Law "On Entrepreneurship" of the Republic of Uzbekistan [9], entrepreneurship is an independent, initiative-driven activity undertaken by citizens to earn profit or personal income. This activity is carried out by the individual in their own name, at their own risk, and based on the property responsibility of their own or a legal entity's (enterprise's) assets. While these principles provide the foundation for the growth of small businesses in the context of globalization, the fact that emergencies (such as pandemics or natural disasters) are not taken into account makes it essential to conduct more detailed research on this issue.

MATERIALS AND METHODS

In this research, we begin by conducting economic, comparative, and logical analyses of the topic. Subsequently, socio-economic indicators are examined using econometric methods, focusing on the production of goods and services by small businesses, their contribution to GDP, employment distribution, the number of small business entities, and investments in fixed assets. For the econometric evaluation, a multivariate regression equation is constructed by

analyzing the relationships between the selected factors. The significance of the regression equation parameters is assessed using t-statistical tests, along with retrospective quality measures such as MAPE and TIC.

RESULTS

In world practice, a single criterion that separates large and small enterprises has not yet been established. Currently, the identification of distinguishing marks is carried out by creating a catalog of general markings for important areas of enterprises. In this regard, medium-sized enterprises can also be listed as collective, company, family, private enterprises, firms, and other legal status enterprises.

In the last quarter of the 20th century, small business entities developed at a high rate and became important factors in ensuring economic growth. Currently, it is impossible to imagine a modern economy without a widely developed small business. On the one hand, it competes with large enterprises to some extent, and from this point of view, it allows the structural restructuring of the economy to changes in the market situation, to frequent changes in reality [10].

On the other hand, many small enterprises collaborate with large businesses, helping to overcome their inherent technical conservatism. The growth of small businesses positively impacts market supply with consumer goods, reduces territorial monopolies, fosters a competitive environment, promotes the integration of scientific and technical advancements into production, and enhances export potential [11].

Another feature of small businesses is that they can create new jobs at relatively low costs and thereby contribute to the solution of the employment problem. At the same time, the small business contributes to reducing the differences between the incomes of different social groups, directing material, labor, and financial resources to areas with a high level of investment, raising the population's income, and improving economic relations between different sectors of the economy.

In recent years, several initiatives have been implemented in Uzbekistan to promote small entrepreneurship, including:

- the wholesale and retail trade system has undergone reforms, and an effective service provision system for small business enterprises is being established through infrastructure units [12];

- a system of protecting the legal rights and interests of small business entities and guaranteeing the freedom of entrepreneurship is being formed [23], [24];

- a simplified process for state registration and entrepreneur registration was implemented, and favorable conditions were established for entrepreneurs to easily acquire materials and technical resources through stock exchanges;

- the procedure for mandatory standardization and certification of products from manufacturing enterprises was made easier, and actions were taken to reduce and simplify the tax burden [25], [26];

- the external economic activity of small business entities was liberalized and a new system of financial support was introduced for the formation of initial capital and other forms for entrepreneurs starting a new business.

As a result, by 2021, small businesses made up 54.9 percent of GDP. The contribution of small businesses in the production of products by economic sectors was 30.1 percent in industry and 72.4 percent in construction [13]. Furthermore, the foreign economic activity of small businesses has been expanding, with their share of total exports reaching 22.3 percent in 2021 [14]. The primary export products of small businesses include agricultural goods, textiles, processed items, electrotechnical products, and folk art products [15], [16].

To analyze the development of small businesses and private entrepreneurship in Uzbekistan, the following socio-economic indicators were selected for econometric analysis: the volume of goods and services (Y), share in GDP (X1), share of jobs (X2), number of businesses (X3), and investment in capital (X4). The correlation coefficients of these factors were then determined (Table 1).

The correlation analysis shows that the share of small business and private entrepreneurship in GDP (rY,X1=0,675159) and the number of jobs (rY,X2=0,61741) have a medium to strong relationship with the resultant factor. The number of businesses (rY,X3=0.965721) and investment in fixed capital (rY,X4=0.941736) have a strong connection. If multicollinearity is absent ($rx_{1,x2} < 0,8$), the regression equation can be determined using EViews software.

TABLE 1. The correlation coefficient of factors affecting the volume of goods and services created in small business and private entrepreneurship

	Y	X1	X2	X3	X4
Y	1				
X1	0,675159	1			
X2	0,61741	0,725582	1		
X3	0,965721	0,685374	0,693818	1	
X4	0,941736	0,455288	0,481236	0,750868	1

Analysis of trends in small business development over the past 28 years indicates that the linear function is the most accurate representation of the real data [17], [18], [19], [20], [21], [27]. For this reason, since the selected factors have different measurement units, logarithms of the factor indicators are used to form a non-linear equation, and it is checked based on quality criteria (Table 2).

TABLE 2 A multivariate regression equation was developed to model the volume of goods and services produced by small businesses and private entrepreneurship

Dependent Variable: LnY				
Method: Least Squares				
Date: 02/25/21 Time: 08:20				
Sample: 2000 2020				
Included observations: 21				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LnX1	5.043956	0.932438	5.409427758	0.0001
LnX2	-1.12100358	1.394239	-0.804025407	0.0324
LnX3	1.13150750	0.933943	1.21153807	0.0424
LnX4	0.488818	0.282784	1.728591434	0.0509
C	-19.200039	11.81623	-1.624887041	0.0245
			t_{tab}=2.119905299	
R-squared	0.991239	Mean dependent var		16.98680
Adjusted R-squared	0.989049	S.D. (standard deviation) dependent var		2.506779
S.E. (Standard Error) of regression	0.262326	Akaike info criterion		0.365800
Sum squared resid	1.101040	Schwarz criterion		0.614496
Log likelihood	1.159095	Hannan-Quinn criter.		0.419774
F-statistic	452.5822	Durbin-Watson (DW) stat		1.895196
Prob (F-statistic)	0.000000	F_{tab}=0.171112236		

Based on the values of the coefficients given in the table, the following equation is created:

$$LnY = 5.1LnX1 - 1.1207501LnX2 + 1.1315LnX3 + 0.5LnX4 - 19.200038719 \qquad (1)$$

If we pay attention to the significance of the parameters of the 1st regression equation according to the t-Statistic criterion, with $\alpha=0.05$ and df=16, only the share of small business and private entrepreneurship in GDP is equal to ttab (ttable)=2.119905299 (tX1=5.441604> ttab=2.119905299) is significant. The remaining parameters' significance should be checked using retrospective quality criteria: MAPE (Mean Absolute Percentage Error) and TIC (Taylor Inequality Coefficient, an alternative measure of forecast accuracy).

The obtained data shows that MAPE=1.144, which in turn means that MAPE=1.144<10% has a high forecast accuracy and TIC=0.0067<1, the higher the forecast accuracy, the more the coefficient tends to zero, the significance of all the parameters of regression equation-1:

$$Y = X15.1 * X31.1315 * X40.5 / X21.1207501 * C19.200038719 \qquad (2)$$

The 2-regression equation is statistically significant at α =0.05 and k1=4; when k2=16, taking into account the value of F_{table}=0.171112236, the Fisher value Fscore=452.6 indicates the significance of the 2-regression equation under the condition F_{table} < Fscore and DW=1.895, and the absence of autocorrelation means that the equation is reliable and adequate comes out.

From the regression equation, it was found that a 1% increase in the share of small business and private entrepreneurship in GDP leads to a 61.3 billion sum increase in the volume of goods and services produced. This also results in a rise of 1 to 1.7 billion sums in the number of small businesses and private enterprises and an increase in investments in fixed capital from 1 to 3.03 billion sums. Additionally, a 1% increase in job share within small businesses and private entrepreneurship would raise the gross volume of goods and services by 8.9 billion sums [11].

Now using the 2-regression equation determined, the remaining factors by time (t=22) according to the following equations:

the share of small business and private entrepreneurship in GDP - X1=22.4+1.5*t;

the share in the number of jobs in small business and private entrepreneurship - X2=46.7+1.5*t;

the number of small business and private business entities - X3=49688+17215*t;

the volume of investments in the capital of small business and private enterprise - X4=-14217543.5+5457756.1*t.

a multifactor forecast indicator of the volume of gross goods and services created in small business and private entrepreneurship is determined (Table 3).

TABLE 3. A multifactor forecast for gross goods and services in small businesses and private entrepreneurship

Year	Output of goods and services in small businesses, mln. sum	Contribution of small businesses to GDP, percent	The share of jobs in small businesses within the total economy, percentage	Number of small business entities, unit	Investments allocated to small business, mln. soum
2021	641474523,8	55,4	79,7	428418	105853090,7
2022	771886042	56,9	81,2	445633	111310846,8
2023	923202012,7	58,4	82,7	462848	116768602,9
2024	1097952614	59,9	84,2	480063	122226359
2025	1298882477	61,4	85,7	497278	127684115,1
2026	1528961599	62,9	87,2	514493	133141871,2

DISCUSSION

According to the forecast results presented in the table, by 2026, the volume of gross goods and services produced by small businesses and private entrepreneurship will increase 2.4 times compared to 2020, reaching 1528.9 trillion sums. The share of small businesses and private entrepreneurship in GDP will be 7.5%, with the same share in the number of jobs. The number of small businesses and private enterprises is expected to grow by 20.1%, driven by a 25.8% increase in private enterprise investment.

The development of small businesses and private entrepreneurship is crucial not only for the progress of the state and society but also for meeting the growing needs of individuals. This sector plays a key role in areas such as service provision, retail trade, and food production.

For example, by developing small businesses and private entrepreneurship in Uzbekistan:

- a middle-class owner is formed;

- economic problems such as macroeconomic instability, unemployment, and the deficit will disappear [22];

- promote GDP growth in both quantity and quality by creating a healthy competitive environment;

- ultimately, the population's living standards will increase.

CONCLUSION

In conclusion, the research emphasized the vital role of fostering small businesses and private entrepreneurship in Uzbekistan. Key factors such as the production volume of goods and services, the contribution of these sectors to GDP, the share of employment within them, the number of small businesses, and investment in fixed capital were

examined using econometric techniques. The study also provided forecasts for the years 2023 to 2026. By 2023, production is expected to reach 923.2 billion sums, marking a 143.9% increase from the base period. Growth is predicted to be 171.1% in 2024, double in 2025, and 2.4 times higher in 2026. By 2026, the share of small businesses and private entrepreneurship in GDP is expected to rise by 107.5%, with employment in these sectors also increasing by 107.5%. Moreover, the number of small businesses and private enterprises is anticipated to grow by 120.1%, and capital investment in these areas is forecast to increase by 107.5%. The investment volume is expected to grow by 125.8%.

In Uzbekistan, the development of small businesses primarily focuses on supporting enterprises with economic potential and creating favorable conditions for the growth of industries and sectors vital to the region. However, in line with the nation's social and economic policy, efforts should also be directed towards stimulating operational economic structures. This includes establishing tax incentives for small businesses producing regionally significant products, expanding leasing services and investment risk insurance systems, and creating conditions that facilitate access to bank loans for small enterprises with limited financial capacity.

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