

**PhD M.Рустамов**  
*Tashkent Institute of Finance*

## **ECONOMETRIC ANALYSIS OF SMALL BUSINESS LENDING**

Uzbekistan set an ambitious goal to achieve the status of an upper-middle-income country by 2030, with the focus on growing a large and solid middle-class social stratum. The current reforms in Uzbekistan largely target the development of small businesses and private entrepreneurship (SME) as SMEs have the greatest potential for becoming a real basis for forming a middle class. Therefore, business policymaking is getting more focused on supporting SMEs in tackling their key issues, especially access to funding. This paper studies the existing problems in ensuring lending instruments for SMEs and examines the effect of bank lending in SME sector growth in Uzbekistan. The OLS analysis showed that bank lending to SMEs stimulates the growth of SMEs' share in economy to significant extent.

**Keywords:** SMEs, entrepreneurship, lending, employment, Ordinary Least Squares (OLS).

## **КИЧИК БИЗНЕСНИ КРЕДИТЛАШНИНГ ЭКОНОМЕТРИК ТАҲЛИЛИ**

2030 йилга келиб Ўзбекистон катта даромадли ва ўртача даромадли мамлакат мақомига эришишни ўз олдига мақсад қилиб қўйди. Бунга эришиш учун, ўрта синф ижтимоий қатламини ўстиришга асосий эътиборни қаратди. Ўзбекистонда амалга оширилаётган ислохотлар асосан кичик бизнес ва хусусий тадбиркорликни ривожланишига қаратилган, чунки кичик ва ўрта бизнес ўрта синфни шакллантириш учун ҳақиқий асосга эга ҳисобланади. Шу сабабли, бизнес сиёсатини юритиш кичик ва ўрта бизнес субъектларининг асосий муаммоларини ҳал қилишда, айниқса молиялаштириш имкониятларидан фойдаланишда кўпроқ эътибор талаб этадиган жараёндир. Ушбу мақолада кичик ва ўрта бизнес субъектларини кредитлаш воситаларини таъминлашдаги мавжуд муаммоларни ўрганиш ва Ўзбекистонда кичик ва ўрта бизнесни ривожланишига банклар томонидан берилган кредитларнинг таъсирини OLS таҳлили орқали баҳоладик. OLS таҳлили шуни кўрсатдики, банкнинг кичик ва ўрта бизнес субъектларини кредитлашни кенгайтириши иқтисодиётда кичик ва ўрта бизнеснинг улушини кўпайишини рағбатлантиради.

**Таянч сўз ва иборалар:** кичик бизнес субъектлари, тадбиркорлик, кредитлаш, иш билан таъминлаш, OLS таҳлили.

### **Introduction**

Uzbekistan is the most densely populated country in the Central Asian region, with one third of the population under the age of 29 and half residing in rural areas. As 800,000 people under the age of 29 join the labor market every year, job generation is an urgent and challenging priority [1].

The development of private micro and small enterprises (MSEs) and entrepreneurship has often been declared as a priority by the Uzbek president currently. It is recognized now that small business is a driving force for economic growth, an increase in GDP and the primary solution to acute social problems such as unemployment, poverty especially among women and youth and poor quality of life.

Financial support of small business and private entrepreneurship by banks on the basis of loans has been identified as one of the main directions of the ongoing reforms in the country. The Action Strategy for the five priority areas of further development of the Republic of Uzbekistan for 2017-2021 sets the task of "further expansion of lending to small business and private entrepreneurship" [2].

There is a limited choice for SMEs in terms of variety of sources of finance. Sources of SMEs' finance in Uzbekistan are classified as informal and formal. Informal sources of financing include personal savings, friends, relatives, business partners and unregistered moneylenders. Primary sources of finance are self-financing, such as the profit of the enterprise, reserve financing and capital increase by the founders' contributions.

Evidence from enterprise-level surveys suggests there is more room for growth to extend financial services to smaller enterprises. According to a World Bank/International Finance Corporation Survey conducted in Uzbekistan in 2018, 64% of surveyed firms in Uzbekistan reported using bank financing and 8% – having family and friends' support. Nevertheless, a large proportion of Uzbek SMEs finance their growth internally – 64% report self-financing [3].

Among micro and small businesses there are low levels of financial leveraging: Almost two thirds of businesses do not attract financing. Banks constitute almost exclusively the only formal source of financing in Uzbekistan. The majority of respondents who participated in the in-depth interview claimed that they would register their informal business in order to take a bank loan, which provides the opportunity to develop this segment.

Bank lending is the most common source of external finance for many SMEs and entrepreneurs, which are often heavily reliant on traditional debt to fulfill their start-up, cash flow and investment needs [4]. External funding is crucial for the smooth functioning and future expansion of SMEs in mid and long term perspectives.

Uzbekistan is a progressively growing developing economy in Central Asia with the highest level of economic diversification and largest share of SME's in country's total output. Being the backbone of private sector, SMEs play central role in employment, value creation and income generation. Since two decades, the government has focused on SME comprehensive support schemes, which embraces SME support tools ranging from creation of business plan and registration of entity to privileged bank lending and investment and trade. Nowadays SMEs represent corporate relations in national business environment and is accepted as an etalon means for rural development through entrepreneurial activity. Some sectors related to the SME support policy offer tailored services for SMEs, e.g. preferred bank loans, trade finance tools, one-stop shop in firm registration, simplified and soft tax regimes.

In this paper, effectiveness of Uzbekistan’s SME lending system is investigated with wider coverage of impact channels, which directly influence on their growth.

After global financial crisis, world credit market structure totally changed its face by introducing more secured, less accessible and limited lending instruments and packages for business sector. Although global financial downturn originated from mortgages and large investment lending schemes, credit institutions still carefully approach to corporate lending operations. Consequently, due to the inconsistencies in demand and available lending volumes in global credit market, obtaining bank lending has already become costly and unaffordable for businesses. Shortfalls in financing and costly lending packages call for chain effect in domestic economy through employment, value creation, fiscal stability and business environment channels. The existing gap in SMEs influence on expansion of SMEs and lead to systemic degradation of overall socio-economic condition in countries with SME-dominant business atmosphere.

### **REVIEW OF THE LITERATURE ON THE SUBJECT**

When studying the experience of developed countries, it became clear that financial provision, which is the basis for financing small and medium-sized businesses, is not the only factor for a business, but the most vital and key element for any business to start and continue it.

Of course, we will need capital, ie money, to implement all our business projects. What is remarkable is that it does not matter where or how the sources of money are formed, it has a legal basis, it is cheap and quick to find.

Foreign and Uzbek economists have studied the issue of lending to small business and private entrepreneurship on a scientific basis and formed relevant conclusions, developed scientific proposals and practical recommendations.

According to Adam Smith, a well-known economist, "Money says in this article that if you have less money, it will be easier to get more ... The big challenge is to find that little" [5]. This idea teaches one thing, which is that it is hard work to make money and earn your own income by spending it where you need it. Small businesses take a loan from a bank to implement a business plan at their own risk and set up their own business. This leads to the development of the economy.

According to American economist Giles (Giles), “politicians and financial institutions in the country should have a common goal, because small and medium-sized businesses are an important part of the economy, and small and medium-sized businesses are good and promising businesses [6]. Applying this idea will lead to rapid and sustainable growth of small business and private entrepreneurship in Uzbekistan.

M.Yunus, a well-known economist and Nobel Laureate and founder of Bangladesh's Grameen Bank, has made a unique revolutionary change in the field of lending to small businesses. In particular, at his initiative and proposal, a form of group lending to small businesses, a type of unsecured lending was introduced in the practice of Grameen Bank.

According to M.Yunus, the main focus in lending to small businesses that are just starting out should be the social effect of lending. As the financial capacity of business entities expands, they will lead to an increase in demand for loans at market rates [7].

The results of a comparative and critical analysis of the scientific views of economists on lending to small businesses show that, first, small business is the basis of the economy and fuel for growth and innovation in the country, not only plays an important role in expanding employment opportunities, but also socio-economic development also contributes greatly; secondly, when lending to small businesses that are just starting out, the main focus should be on the “social effect” of lending, which will increase the demand for loans at market rates once the financial capacity of businesses expands; third, when lending to small business and private entrepreneurship, it is necessary to provide a separate credit service for each segment of the market [7]. In the course of scientific research, it became clear that many opinions on the term small business lending have been expressed in the relevant literature, scientific works and other relevant sources. Some of them are compatible in terms of content, while others show their different aspects.

### **Analysis & Results**

The analytical part of this article is focused on the empirical analysis of trends in key indicators of macroeconomic, corporate and firm-level indicators in 2006-2017. Considering the mathematical and economic attributes and properties of the selected indicators, econometric modelling is decided to built on OLS method with comprehensive auxiliary tests. In selecting the indicators, influencing on the SME development in domestic economy, all impact channels are included. The econometric model is specified as follows:

$$SSME_t = \alpha_0 + \beta_1 LSME_t + \beta_2 NSME_t + \beta_3 BENV_t + \beta_4 MEST_t + \varepsilon_t \quad (1)$$

*SSME* – share of SMEs in GDP in t period. Importance of SMEs in the economy is estimated through their share in the gross domestic output. Therefore, share of SMEs in GDP formation is selected as the key measure in econometric model.

*LSME* – lending to SMEs in t period. As mentioned in problem statement, SME finance holds the central position in establishing SMEs and moving them forward due to the usually faced need in funding. Bank lending makes up the largest contribution in SME support schemes, as most enterprises lean on bank funding even in pre-establishment, establishment and recovery periods. Bank offers and lending volumes to SMEs directly influence on the overall SME development trends in economy.

*NSME* – number of SMEs. Change in the number of operating SMEs in economy illustrates their expansion and its growth shows supportive environment, decrease is the sign of negative condition for SME expansion.

*BENV* – business environment in domestic economy. General business environment in a particular economy depicts the entire picture of private sector, which presents an operational space for large, medium and small businesses. Share of private sector enterprises indicates the wellbeing in business environment. Dominance of state owned/ governmental enterprises tightens the smooth functioning of

*MEST* – macroeconomic stability. Macroeconomic stability lays the solid foundation for overall socio-economic development in the economy. It ensures effective functioning of all economic tools, including income, labor, resources, markets, corporate relations etc. Macroeconomic stability is measured with economic growth indicators, namely, GDP growth. Following generally accepted theory, in this econometric model, macroeconomic stability is measured through dynamics of GDP volume in national currency.

Deriving from the essence and attributes of the data, the econometric model is estimated in ordinary least squares (OLS) method. In initial stage of the analysis, we decided to obtain basic characteristics of collected data sets, which enables us to make decision over model selection. (Table 1).

**Table 1. Descriptive statistics**

	<b>SSME</b>	<b>LSME</b>	<b>NSME</b>	<b>BENV</b>	<b>MEST</b>
<b>Mean</b>	52.15000	6685.187	183.7304	370.8177	104508.7
<b>Median</b>	53.65000	4693.500	188.5800	440.6343	87170.20
<b>Maximum</b>	56.90000	19600.00	229.6660	491.7986	249136.4
<b>Minimum</b>	42.10000	546.8380	100.8000	226.7064	21124.90
<b>Std. Dev.</b>	4.706765	6310.014	32.99208	115.2752	73457.21
<b>Skewness</b>	-0.939127	0.873934	-1.139547	-0.299592	0.631016
<b>Kurtosis</b>	2.734221	2.522623	4.502227	1.178102	2.242019
<b>Jarque-Bera</b>	1.799240	1.641465	3.725480	1.839166	1.083631
<b>Probability</b>	0.406724	0.440109	0.155247	0.398685	0.581691
<b>Sum</b>	625.8000	80222.24	2204.765	4449.812	1254104.
<b>Sum Sq. Dev.</b>	243.6900	4.38E+08	11973.25	146172.1	5.94E+10

The descriptive statistics illustrates that the data points are close to the mean in share of SMEs and number of SMEs, while those in lending to SMEs and macroeconomic stability is are spread out over a wider range of values. Share of SMEs, number of SMEs and business environments data are negatively skewed, since lending to SMEs and macroeconomic stability data sets are positively skewed: asymmetric data does not exist. Selected data sets have positive (leptokurtic) kurtosis, which indicates that data is heavily distributed.

After obtaining a positive descriptive statistics coefficients, the econometric model (1) is run in OLS method (Table 2).

**Table 2. OLS test results**

<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>t-Statistic</b>	<b>Prob.</b>
-----------------	--------------------	-------------------	--------------------	--------------

C	32.53329	7.154166	4.547461	0.0026
LSME	0.003242	0.001048	1.093048	0.0175
NSME	0.041521	0.036039	1.152119	0.0871
BENV	0.002847	0.010294	0.276544	0.0901
MEST	0.000312	9.78E-05	3.190052	0.0153
R-squared	0.843149	Mean dependent var	52.15000	
Adjusted R-squared	0.753519	S.D. dependent var	4.706765	
S.E. of regression	2.336759	Akaike info criterion	4.829744	
Sum squared resid	38.22310	Schwarz criterion	5.031788	
Log likelihood	-23.97846	Hannan-Quinn criter.	4.754940	
F-statistic	9.407061	Durbin-Watson stat	2.172400	
Prob(F-statistic)	0.006038			

OLS test results showed that all selected factors have positive effect in the dynamics of the share of SMEs in GDP. Moreover, all four variables are significant, as probability is less than 10 per cent. Number of SMEs (0.041521) adds the largest contribution to the strengthening position of SME’s to economic growth in Uzbekistan. Bank lending to SMEs is the second major driving force, which stimulates the SME development in the domestic economy (0.003242). Business environment (0.002847) in Uzbekistan also supports SMEs’ solid role in economic development. Among all four factors, macroeconomic stability (0.000312) influenced comparatively less on SMEs’ share in GDP.

In consistent with OLS test results, we specify the mathematical expression of our econometric model as follows:

$$SSME_t = 32.53329 + 0.003242 LSME_t + 0.041521 NSME_t + 0.002847 BENV_t + 0.000312 MEST_t + \varepsilon_t \quad (2)$$

## CONCLUSIONS AND RECOMMENDATIONS

As discussed above, SME’s play critical role in ensuring balanced and progressive socio-economic development in both developing and advanced economies. Therefore, SME support schemes, especially ensuring financial stimulation has been on the top of economic policymaking agenda of nearly all countries in the world. Nowadays SMEs in advanced economies enjoy effectively and prudently introduced lending schemes, where developing economies fail in delivering the needed financial support owing to systemic and structural problems. Therefore, developing economies are actively introducing new tools and services from the advanced experience of developed counterparts. In accordance with research findings and international best practices, following recommendations are drawn and proposed in order to improve SME lending schemes in developing countries, which can be applied to Uzbekistan:

1. In many developing economies interest rates of loans for SMEs are not sufficiently flexible. Even they offer lending tools in preferential interest rates, they are solidly fixed at particular scale of interest rates, which changes depending on loan amount and maturity period. Introducing loyalty, credit history and portfolio bonuses.

2. Credit institutions mainly focus on timely and full payback of the issued loan to SME's. Considering the importance of SME's in the employment and value creation in the economy, it is recommended to consider the social contribution (investment, employment, output dynamics, gained through the bank loan) in presenting lending tools and to apply bank's own preferred interest rate or other form of stimulation for SME in future.

3. As a result of the analysis, in order for banks to succeed, they must first and foremost consider their most valuable "asset" as their customers, and qualitatively change the system of customer relations to form a new ideological way of working with customers. It became clear that a new technology-based way of working had to be established.

4. Small business and private entrepreneurship in Uzbekistan have a high share in GDP, but have a share of 7.9% in the loan portfolio compared to developing countries, lagging behind in financing small business and private entrepreneurship.

5. In the best foreign experience in lending to small businesses, it became clear that special surveys of small businesses and the application of the organization of future lending in Uzbekistan on the basis of the identified shortcomings are quite effective.

### **LIST OF REFERENCES**

1. ADB Sector Assessment <https://www.adb.org/sites/default/files/linked-documents/42007-014-ssa.pdf> (accessed 26 September 2018).

2. Decree of the President of the Republic of Uzbekistan dated February 7, 2017 No. PF-4947. On the Action Strategy for the further development of the Republic of Uzbekistan // Collection of Legislation of the Republic of Uzbekistan. - Tashkent, 2017. - № 6 (766). - 32-b.

3. 2018 IFC Demand study Micro and Small Business Finance & Digital Financial services in Uzbekistan.

4. OECD (2015). New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments. OECD Publications.

5. [www.elsevier.com](http://www.elsevier.com) Adam Smith, 1937: "An Inquiry into the Nature and Causes of the Wealth of Nations", Edwin Cannan (Ed.), The Modern Library/Random House Inc., New York)

6. [www.elsevier.com](http://www.elsevier.com) Giles "Economics of development", New York, 1987 y.

7. Мухаммад Юнус, Алан Жоли. Создавая мир без бедности: социальный бизнес и будущее капитализма. Пер. с англ. – М.: Альпина Паблишерз, 2010. – 307 с. Савинова Д. В. О формировании механизма привлечения кредитных ресурсов в малый бизнес // Деньги и кредит.- Москва, 2009. - № 5. – С. 60-61.