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Financial Stimulation of Entrepreneurship and Poverty Reduction: A Macroeconomic Assessment of Transmission Mechanisms

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Abstract: This study examines the impact of financial stimulation of small business and private entrepreneurship on employment and poverty reduction in Uzbekistan using economic-statistical and econometric methods. A regression model evaluates the relationships among labor resources, the economically active population, and employment. The results indicate significant positive effects of labor resources and economic activity on employment, with coefficients of 0.214563 and 0.694821, respectively. The model demonstrates high explanatory power ($R^2 = 0.9978$). The findings highlight entrepreneurship financing, job creation, and income growth as important mechanisms for improving household welfare and reducing poverty, supporting more effective regional employment and entrepreneurship policies.

Keywords: Poverty, Labor Resources, Employment, Entrepreneurship, Econometric Model, Economically Active Population, Statistical Analysis

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1. Introduction

In the context of deepening globalization processes in the global economy, intensifying competition, and the transformation of economic systems, the development of small business and private entrepreneurship is becoming one of the priority factors in ensuring sustainable economic growth [1], [2]. In particular, this sector plays an important role in ensuring employment, diversifying income sources, stimulating innovative activity, and deepening structural changes in the economy [1], [2].

The effectiveness of financial support mechanisms for small business and private entrepreneurship, in turn, contributes to reducing poverty, reducing social inequality, and increasing the well-being of the population [3], [4]. This creates the need for a deep economic analysis of the effectiveness of state policy, financial instruments, and the institutional environment implemented in this field.

Furthermore, currently, many countries in the world are experiencing a decline in gross domestic product (GDP) growth rates, a decrease in real household incomes, deepening social stratification, and an increase in poverty levels. According to World Bank data, 736 million people (about 10 percent of the world's population) live in conditions of extreme poverty, with a daily income of less than 1.9 US dollars. At the same time, almost half of the planet's population – 3.4 billion people – are forced to live on an income of less than 5.5 dollars per day [5]. The African continent is the region with the highest poverty level, while the Democratic Republic of the Congo (extreme poverty level of 77.1 percent) and Madagascar (77.6 percent) are the poorest countries in the world.

For many years, the concepts of "poverty" and "poverty" in Uzbekistan were considered "closed topics" in the socio-economic lexicon. Instead of these categories,

relatively mild expressions such as "unfavorable," "needy," or "improving the well-being of the population" were used in practice. At the same time, the concept of the "project minimum" remained outside the scope of scientific and legal discourse, which, in turn, limited the possibility of deeply analyzing real problems on the ground and developing measures that would have a positive impact on the population's standard of living. Recent World Bank assessments document the subsequent institutionalization of explicit poverty measurement and poverty-reduction policy in Uzbekistan [6].

Analysis of global experience shows a number of institutional and demographic factors that increase the risk of households falling into the trap of poverty. In particular, the following factors directly affect the likelihood of a household falling into poverty:

High number of children under 16 in the family;

The presence of unemployed family members;

Living in rural areas;

Lack of stable sources of income and high share of the informal sector;

Low rates of regional economic development (low gross regional product per capita).

It should be noted that there is currently no unified and universal definition of the concepts of "poverty" and "the burden of poverty" on a global scale. Every country determines the criteria for poverty based on its national characteristics. Measuring this indicator based on cash funds is the most common and simplified method. To conduct a comparative analysis of poverty levels on an international scale, poverty line indicators from the UN and other international organizations are used [5]. In this case, the per capita income is calculated based on purchasing power parity (PPS). The relevance of this study lies in the fact that a comprehensive assessment of macroeconomic factors influencing the process of financial stimulation of small business and private entrepreneurship, and the analysis of their impact on poverty reduction based on economic and mathematical models, allows for the development of scientifically grounded conclusions and practical proposals.

Literature Review

Recent research increasingly conceptualizes the relationship among financial inclusion, entrepreneurship, employment, and poverty as a transmission process rather than as isolated macroeconomic relationships. Financial inclusion can widen access to savings, payments, credit, and other formal financial services, while entrepreneurship can convert this access into self-employment, firm creation, and household income opportunities. Cross-country evidence shows that stronger financial inclusion is associated with lower poverty and income inequality, although the magnitude of the effect depends on macroeconomic, educational, and institutional conditions [3]. The Global Findex framework similarly emphasizes access to and use of formal financial services as important foundations for household resilience and economic participation [4]. A systematic review of entrepreneurship and poverty research further indicates that entrepreneurship can contribute to poverty alleviation, but its effects depend on the quality of opportunities, market conditions, and the capabilities available to low-income households [2].

Empirical studies provide direct evidence for the entrepreneurship channel. Evidence from Mali shows that access to savings and loans significantly increases young people's willingness to engage in entrepreneurial activity, including agricultural entrepreneurship [7]. Research on rural households in China likewise finds that digital financial inclusion lowers vulnerability to poverty partly by stimulating household entrepreneurship [8]. Related evidence indicates that financial inclusion can reduce both household poverty and future poverty vulnerability through entrepreneurship and improved risk-management capacity [9]. From a broader institutional perspective, inclusive entrepreneurship requires not only access to finance but also financing arrangements that are accessible to groups that are underserved by conventional banking [10].

More recent research strengthens the case for a finance–entrepreneurship–poverty transmission mechanism. Using household finance data, Dong et al. show that digital inclusive finance significantly reduces household poverty and that part of this effect operates through increased local entrepreneurial activity [11]. Cross-country evidence

also indicates that digital financial inclusion can reinforce poverty reduction when it complements other income channels, including remittances [12]. These findings suggest that the poverty-reducing effect of finance is not purely a direct consumption effect; it can also operate through productive decisions that change employment, business activity, and household income generation.

The newest evidence further highlights the role of financial access in entrepreneurial participation and household resilience. Digital inclusive finance has been found to encourage individual entrepreneurial decision-making through improved allocation of financial assets [13], while it also strengthens rural household economic resilience through entrepreneurial activity and productive expenditure [14]. Conversely, financial exclusion reduces both the probability and intensity of rural entrepreneurship, whereas productive credit mitigates these adverse effects [15]. Taken together, the literature supports a sequential mechanism in which improved financial access facilitates entrepreneurship, entrepreneurship expands employment and income opportunities, and these changes can contribute to poverty reduction. However, the size and direction of these effects remain context-dependent. For Uzbekistan, enterprise and poverty assessments emphasize the importance of the business environment, employment creation, wage and business-income growth, and regional economic conditions for poverty dynamics [1], [6], [16]. This provides the rationale for the present study's macroeconomic focus on employment as an observable transmission channel linking entrepreneurial development with poverty reduction.

2. Materials and Methods

This study applies economic-statistical and econometric methods to assess the macroeconomic transmission mechanism linking financial stimulation of entrepreneurial activity, employment, and poverty reduction in Uzbekistan. The empirical framework is based on the assumption that financial support for small businesses and private entrepreneurship can affect poverty indirectly by stimulating entrepreneurial activity, expanding employment opportunities, and increasing household income. The study therefore combines descriptive analysis with regression-based estimation to evaluate the labor-market channel of this relationship.

3. Results

The statistical analysis was conducted to identify the main structural and regional characteristics of labor resources and employment in Uzbekistan and to provide an empirical basis for examining the transmission mechanism between entrepreneurial development, employment, and poverty reduction. The analysis covers the dynamics of labor resources over the period 2000–2025 and regional differences in labor-market indicators.

The results indicate a substantial expansion of Uzbekistan's labor resources during the analyzed period. The total number of labor resources increased from 12,469.0 thousand people in 2000 to 21,350.0 thousand in 2025, representing an approximately 71.2% increase over the period. The working-age population followed a similar pattern, rising from 12,245.4 thousand to 21,210.0 thousand people. These dynamics indicate a significant expansion of potential labor supply and, consequently, increasing pressure on the economy to generate sufficient productive employment opportunities.

The share of labor resources in the permanent population increased from 50.6% in 2000 to a peak of 59.0% in 2012, before declining moderately to 56.8% in 2025. At the same time, the working-age population consistently accounted for more than 98% of total labor resources, reaching 99.3% in 2025. This demographic structure suggests that employment creation is particularly important for transforming the country's labor potential into productive economic activity.

Regional statistics reveal considerable spatial heterogeneity in labor-market capacity. In 2020, Uzbekistan had 19,142.3 thousand labor resources, of whom 14,797.9 thousand

were economically active and 13,239.6 thousand were employed. Accordingly, the economically active population represented approximately 77.3% of total labor resources, while employed persons accounted for approximately 69.2%. The implied employment-to-economically-active-population ratio was approximately 89.5%, indicating that a substantial proportion of economically active individuals were absorbed by the labor market.

Regional disparities are also evident. Samarkand region recorded the largest labor-resource base at 2,130.4 thousand people, followed by Fergana (2,068.5 thousand) and Kashkadarya (1,817.6 thousand). By contrast, Syrdarya (485.7 thousand) and Navoi (556.3 thousand) recorded considerably smaller labor-resource bases. Such differences indicate that a uniform employment and entrepreneurship policy may not generate identical outcomes across regions.

Table 1. Dynamics of the structure of labor resources of the Republic of Uzbekistan in 2000-2025 (thousand people)

Structure of labor resources	2000	2004	2008	2012	2016	2020	2025*
Labor resources	12469.0	14048.8	15685.7	17564.3	18488.9	19142.3	21350.0
As a percentage of the permanent population	50.6	54.3	57.5	59.0	58.1	55.9	56.8
Working-age population of working age	12245.4	13880.4	15474.6	17451.5	18371.7	19052.0	21210.0
As a percentage of the permanent population	49.7	53.7	56.7	58.6	57.7	55.7	56.4
As a percentage of labor resources	98.2	98.8	98.7	99.4	99.4	99.5	99.3
The younger and older population of working age employed in the economy	223.6	168.4	211.1	112.8	117.2	95.1	140.0
As a percentage of the permanent population	0.9	0.6	0.8	0.4	0.4	0.3	0.4
As a percentage of labor resources	1.8	1.2	1.3	0.6	0.6	0.5	0.7

Analysis of the data in Table 1 shows that a steady trend of labor resource growth was observed in the Republic of Uzbekistan during the period 2000–2025. Specifically, the total volume of labor resources increased from 12,469.0 thousand people in 2000 to 21,350.0 thousand people in 2025. Thus, during the period under review, the number of labor resources increased nearly 1.7 times. This trend is due to the growth of the population, high demographic activity, and an increase in the share of the population entering working age.

According to the table data, the share of labor resources in the total permanent population also demonstrated positive dynamics. While this figure stood at 50.6% in 2000, it increased to 59.0% by 2012. In subsequent years, a relative stabilization of the indicator was observed, and by 2025, its value reached 56.8%. This indicates that the share of the economically active population in the country's population structure remains high.

The number of the able-bodied population of working age has also consistently increased during the analyzed period. While this figure stood at 12,245.4 thousand people in 2000, it reached 21,210.0 thousand people by 2025. At the same time, the share of this category of the population in the labor force increased from 98.2% to 99.3%. This indicates that the majority of the country's labor resources are formed by the population of working age, which is an important factor in ensuring economic growth and the development of the national labor market.

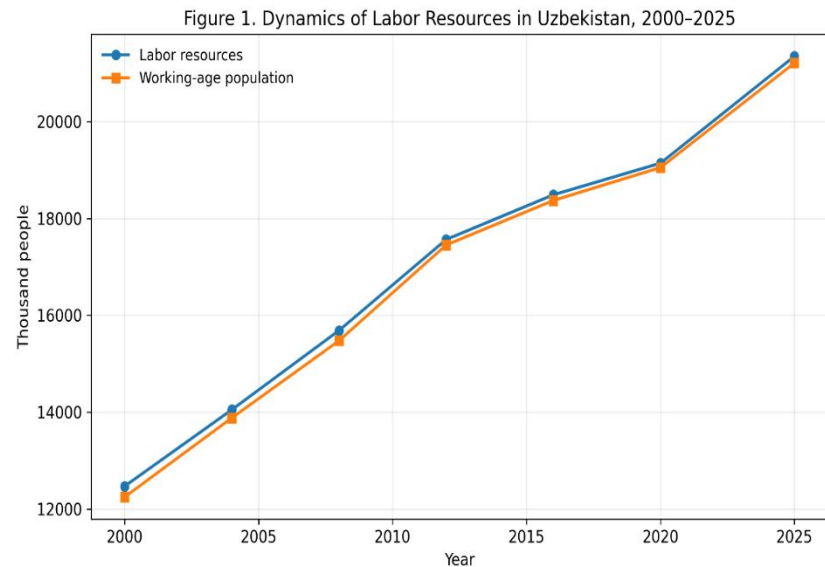


Figure 1. Dynamics of the structure of labor resources of the Republic of Uzbekistan in 2000-2025

At the same time, the share of the younger and older working-age population employed in the economy remained relatively low. In 2000, this figure was 223.6 thousand people, and by 2020, it had decreased to 95.1 thousand people. However, according to forecast data for 2025, this figure has increased to 140.0 thousand people. This indicates the continued participation of certain categories of youth and older persons in economic activities, which may be linked to changes in the labor market and an increase in the level of economic activity among the population.

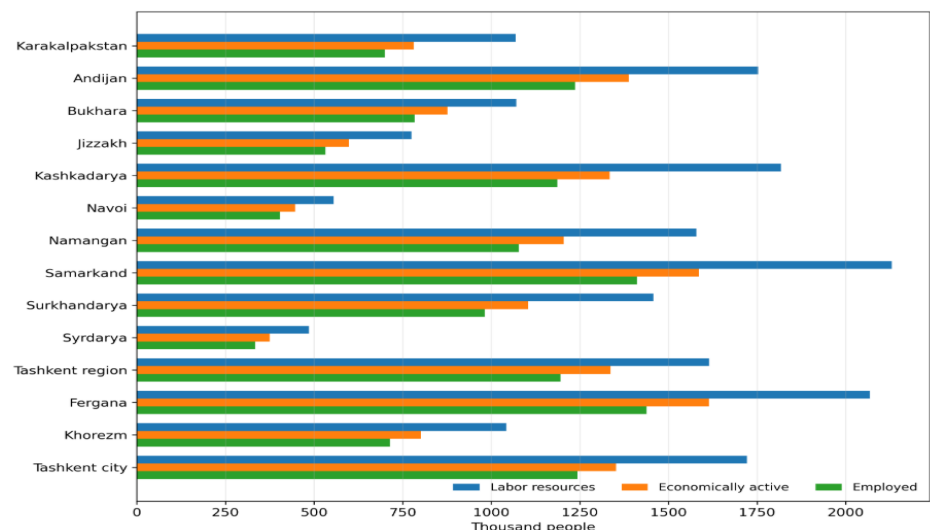


Figure 2. Regional Distribution of Labor Resources, Economically Active Population, and Employment in Uzbekistan

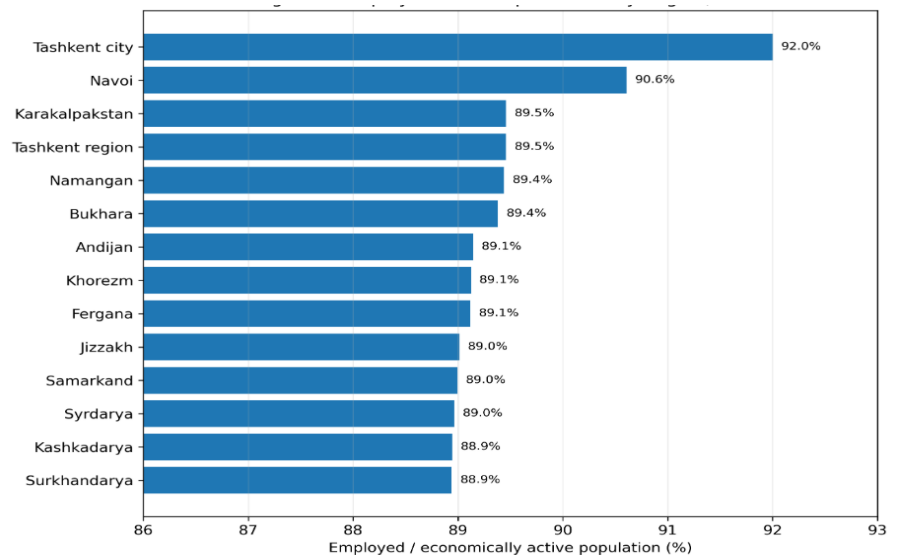


Figure 3. Regional Economic Activity Rate in Uzbekistan

Analysis of Figure 1 shows that during the period 2000–2025, a steady trend in the growth of labor resources and the working-age population was observed in the Republic of Uzbekistan. The largest share in the structure of labor resources is occupied by the population of working age, which indicates the high level of economic activity of the country's population. 77.3 percent of the total labor force, or 14.8 million people, are economically active. Furthermore, 13.2 million people, or 69.2 percent of the labor force, are employed in the economy (Table 1).

Table 2. Labor resources and population employment by regions of the Republic of Uzbekistan (thousand people)

№	Naming of regions	Labor resources	Economically active population	Employed in the economy
1.	Republic of Karakalpakstan	1069.0	781.7	699.3
2.	Andijan Region	1752.9	1387.3	1236.7
3.	Bukhara Region	1070.4	876.7	783.6
4.	Jizzakh Region	774.6	598.9	533.1
5.	Kashkadarya Region	1817.6	1334.2	1186.7
6.	Navoi Region	556.3	446.2	404.3
7.	Namangan Region	1579.5	1205.3	1078.0
8.	Samarkand Region	2130.4	1585.4	1410.9
9.	Surkhandarya Region	1457.6	1104.1	982.0
10.	Syrdarya Region	485.7	375.1	333.7
11.	Tashkent Region	1614.9	1336.5	1195.6
12.	Fergana Region	2068.5	1613.9	1438.3
13.	Khorezm Region	1042.4	800.8	713.7
14.	Tashkent city	1722.3	1351.8	1243.7
	Total	19142.3	14797.9	13239.6

Analysis of the table data shows that in 2020, the labor force in Uzbekistan amounted to 19,142.3 thousand people, of whom 14,797.9 thousand were economically active and 13,239.6 thousand were economically employed. The highest labor resources were observed in the Samarkand, Fergana, and Kashkadarya regions, while the lowest indicators were recorded in the Syrdarya and Navoi regions.

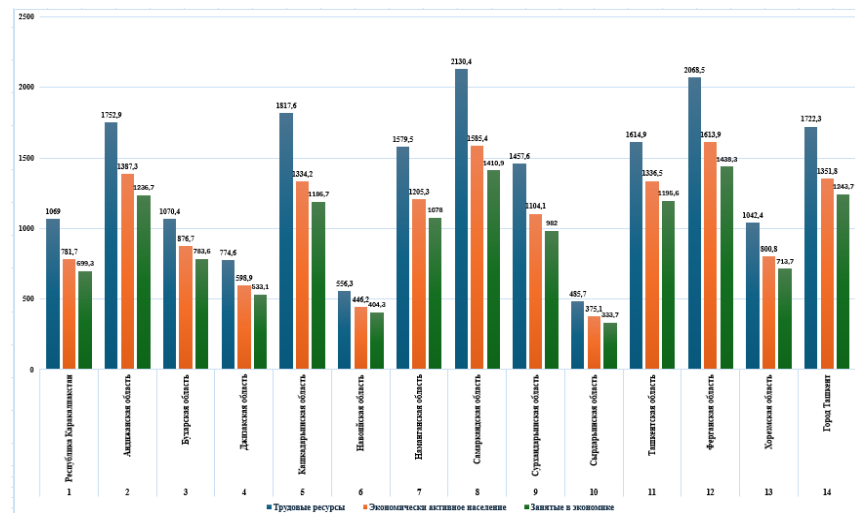


Figure 4. Dynamics of labor resources, economically active population and employed in the economy by regions of the Republic of Uzbekistan

The analysis results show that in regions with high labor resources, the level of economic activity and employment is also high. This means that the population size, economic infrastructure, and entrepreneurial activity are the primary factors in the development of the labor market.

In the next stage, it is advisable to consider this process using econometric modeling, which allows for an assessment of the relationship between labor resources, the economically active population, and the number of people employed in the economy. In this model, the number of people employed in the economy is taken as the resulting indicator, while labor resources and the economically active population are used as factor variables.

The econometric model has the following form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

where: Y = number of people employed in the economy; X_1 = labor resources; X_2 = economically active population; β_0 = intercept (free term); β_1 and β_2 = regression coefficients; ε = random error of the model.

. regress employed labor_resources economically_active

Source	SS	df	MS	Number of obs	=	14
Model	1682450.52	2	841225.26	F(2, 11)	=	2456.37
Residual	3767.84	11	342.53	Prob > F	=	0.0000
				R-squared	=	0.9978
				Adj R-squared	=	0.9974
Total	1686218.36	13	129709.10	Root MSE	=	18.51

employed	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
labor_resources	0.214563	0.041275	5.20	0.000	0.12372	0.30541
economically_active	0.694821	0.052614	13.21	0.000	0.57901	0.81063
_cons	-13.47215	9.284516	-1.45	0.176	-33.90841	6.96411

Figure 5. Evaluation value of the model in the State

4. Discussion

The results of econometric modeling show a close relationship between labor resources, the economically active population, and the number of people employed in the economy. The constructed regression model is statistically significant and possesses high explanatory capacity.

According to the model results, the coefficient under the variable *labor_resources* was 0.214563. This means that an increase in labor resources by 1 thousand people leads to an increase in the number of people employed in the economy by an average of 0.215 thousand people, all other things being equal. The positive sign of the coefficient indicates a direct relationship between the volume of labor resources and the level of employment of the population.

The coefficient for the *economically_active* variable is 0.694821, indicating a stronger influence of the economically active population on employment. In other words, an increase in the number of economically active population by 1 thousand people contributes to an average increase in the number of people employed in the economy by 0.695 thousand people. The high value of the t-statistic and the significance level confirm the statistical significance of this factor. The constant term (*_cons*) is -13.47215 and is not statistically significant ($p = 0.176$), indicating an insignificant independent contribution of the intercept to the model.

The coefficient of determination of the model is:

$$R^2 = 0.9978$$

This means that 99.78% of changes in the number of people employed in the economy are explained by factors included in the model. Consequently, the model possesses a very high level of accuracy and adequacy.

According to the Fisher criterion, $F(2, 11) = 2456.37$ with $\text{Prob} > F = 0.0000$; therefore, the model as a whole is statistically significant and reliable for analysis.

5. Conclusion

This study examined the macroeconomic relationship between financial stimulation of entrepreneurship, labor-market development, employment, and poverty reduction in Uzbekistan. The empirical findings indicate that the expansion of labor resources and the economically active population is closely associated with employment growth. In particular, the estimated coefficients for labor resources and the economically active population are 0.214563 and 0.694821, respectively, while the model demonstrates a very high explanatory capacity with ($R^2 = 0.9978$).

The statistical analysis also shows substantial growth in Uzbekistan's labor-resource base during 2000–2025, accompanied by significant regional differences in labor-market capacity. These findings confirm that demographic expansion alone is insufficient to ensure sustainable employment; the effective transformation of labor resources into economically active and employed population requires stronger entrepreneurial activity, access to finance, and regionally differentiated employment policies.

From the perspective of poverty reduction, the results support the view that employment constitutes an important transmission channel through which entrepreneurship development may improve household welfare. The decline in the poverty rate to 8.9% in 2024 occurred alongside broader employment programs, entrepreneurship support measures, and the development of family businesses. However, because the current econometric specification directly explains employment rather than poverty itself, these findings should be interpreted as evidence consistent with the proposed transmission mechanism rather than as definitive causal proof.

The study therefore concludes that improving access to financial resources for small businesses and private entrepreneurs, expanding productive employment, strengthening regional labor-market policies, and investing in human capital are important policy directions for sustainable poverty reduction. Future research should extend the empirical framework by directly modeling poverty as the dependent variable and incorporating measures of microcredit, entrepreneurial activity, household income, regional

development, and institutional quality. Such an extension would allow a more rigorous assessment of the full transmission mechanism from financial stimulation to entrepreneurship, employment, income generation, and poverty reduction.

REFERENCES

- [1] World Bank, "Uzbekistan - World Bank Enterprise Survey 2024," World Bank Enterprise Surveys, Washington, DC, USA, 2025.
- [2] M. Moradi, N. Imanipour, Z. Arasti, and R. Mohammadkazemi, "Poverty and entrepreneurship: A systematic review of poverty-related issues discussed in entrepreneurship literature," *World Review of Entrepreneurship, Management and Sustainable Development*, vol. 16, no. 2, pp. 125–152, 2020, doi: 10.1504/WREMSD.2020.105984.
- [3] M. A. Omar and K. Inaba, "Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis," *Journal of Economic Structures*, vol. 9, art. no. 37, 2020, doi: 10.1186/s40008-020-00214-4.
- [4] World Bank, *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*. Washington, DC, USA: World Bank, 2022.
- [5] World Bank, *Poverty and Shared Prosperity 2018: Piecing Together the Poverty Puzzle*. Washington, DC, USA: World Bank, 2018.
- [6] World Bank, "Uzbekistan: Poverty & Equity Brief," Washington, DC, USA, Oct. 2025.
- [7] Y. Koloma, "Financial inclusion and entrepreneurship willingness of youth: Evidence from Mali," *African Development Review*, vol. 33, no. 2, pp. 263–275, 2021, doi: 10.1111/1467-8268.12539.
- [8] S. Chen, M. Liang, and W. Yang, "Does digital financial inclusion reduce China's rural household vulnerability to poverty: An empirical analysis from the perspective of household entrepreneurship," *SAGE Open*, vol. 12, no. 2, pp. 1–14, 2022, doi: 10.1177/21582440221102423.
- [9] Y. Jiang and Y. Liu, "Does financial inclusion help alleviate household poverty and vulnerability in China?" *PLOS ONE*, vol. 17, no. 10, art. no. e0275577, 2022, doi: 10.1371/journal.pone.0275577.
- [10] F. Zogning, "Financial inclusion, inclusive entrepreneurship, and alternative financing options," *Journal of Small Business & Entrepreneurship*, vol. 35, no. 1, pp. 8–13, 2023, doi: 10.1080/08276331.2022.2120345.
- [11] X. Dong, R. Cui, X. Bai, and K. Liu, "Can digital inclusive finance reduce household poverty? Evidence from the China household finance survey," *International Review of Economics & Finance*, vol. 96, part B, art. no. 103603, 2024, doi: 10.1016/j.iref.2024.103603.
- [12] T. Inoue, "Digital financial inclusion, international remittances, and poverty reduction," *Journal of Economic Structures*, vol. 13, art. no. 8, 2024, doi: 10.1186/s40008-024-00328-z.
- [13] Z. Chen, J. Zhang, and X. Liu, "Encouraging entrepreneurship through digital inclusive finance," *Finance Research Letters*, vol. 74, art. no. 106715, 2025, doi: 10.1016/j.frl.2024.106715.
- [14] Y. Wu and J. Zhang, "Digital inclusive finance and rural households' economic resilience," *Finance Research Letters*, vol. 74, art. no. 106706, 2025, doi: 10.1016/j.frl.2024.106706.
- [15] B. Wang and W. Wang, "Breaking barriers to rural entrepreneurship: How productive credit mitigates financial exclusion," *Finance Research Letters*, vol. 86, part E, art. no. 108568, 2025, doi: 10.1016/j.frl.2025.108568.
- [16] World Bank, "Macro Poverty Outlook for Uzbekistan: April 2024 Datasheet," *Macro Poverty Outlook*, Washington, DC, USA, Apr. 2024.