



ECONOMETRIC ANALYSIS OF INFORMAL EMPLOYMENT IN THE LABOR MARKET OF THE REPUBLIC OF UZBEKISTAN

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Abstract: At the present stage of development of the world economy, the role of not only economic indicators that have become a priority in assessing the level of development of countries, but, above all, social indicators that reflect the level and quality of life of the population, is increasing. If we take into account that the main part of these indicators are indicators related to employment of the population, then the importance of employment and related relations becomes more obvious if we take into account that in developed countries today the emphasis is on "human capital" as the main factor of economic development. growth.

Keywords: economic indicators, human capital, socio-economic processes.

According to the forecasts of the International Labor Organization, by the end of 2023 there will be 3.7 billion working-age people in the world, of which 3.5 billion are employed and 0.2 billion are unemployed [1].

As a result of rapid reforms in Uzbekistan in recent years, a new system has emerged aimed at ensuring efficient employment in terms of quality and quantity. In the Development Strategy of Uzbekistan, "the creation of new jobs and employment of the population, first of all, graduates of secondary and higher educational institutions, ensuring the balance of the labor market and infrastructure development, reducing unemployment" are defined as one of the important areas of development [2].

In the field of studying socio-economic processes, the problem of informal employment and its application in the labor market began to be studied relatively recently. In different countries, it was recognized that informal employment does not exist in the labor market, but a regional study of this phenomenon shows that informal labor relations exist to some extent in all forms of management, with a gradual expansion of the problem under study. Today, the informal economy comprises about 90% of the world's microfirms and small businesses and employs more than 50% of the world's workforce. According to the results of the study, employment in the informal sector is characterized by four main characteristics common to all countries with a market economy [3].

The presence of these circumstances makes this problem one of the most urgent in the labor market today, namely the need to legalize the activities of workers in the informal economy, use the available opportunities along with workers in the official economy, and bring them to the status of being able to fulfill their obligations.

Topical issues of our time include econometric studies of employment in the national labor market of the Republic of Uzbekistan, improvement of models and mechanisms for regulating employment based on the management of multifactorial dependencies. Based on this, individual models are determined based on regression analysis using the factors selected above, based on a dependence in the form of a time series linking the level of informal employment with exogenous factors. First of all, due to the heterogeneous nature of endogenous and exogenous factors, it is

advisable to convert the obtained indicators of time series into a logarithmic form based on e, which in turn ensures the reliability and scientific justification of the results obtained (Table 1).

Table 1
Logarithmic values of the level of informal employment and socio-economic indicators influencing it

years	Number of informally employed	Real gross income per capita	inflation rate	Number of small businesses per 100,000 population, units	Unemployment rate	Average GDP per capita	Average investment per capita
T	ln Y	lnX1	lnX2	lnX3	lnX4	lnX5	lnX6
2011	8,341196	7,912032	2,028148	6,54276	1,609438	8,165818	6,499185
2012	8,406128	8,09187	1,94591	6,534951	1,589235	8,362923	6,71101
2013	8,455254	8,269419	1,916923	6,551937	1,589235	8,530958	6,915922
2014	8,295848	8,405592	1,808289	6,569201	1,629241	8,711806	7,109879
2015	8,344695	8,542376	1,722767	6,573261	1,648659	8,863927	7,266618
2016	8,353544	8,680657	1,740466	6,554218	1,648659	8,989706	7,38312
2017	8,339381	8,807078	2,667228	6,609619	1,757858	9,190352	7,70877
2018	8,590406	8,957643	2,66026	6,722148	2,230014	9,464029	8,234724
2019	8,588248	9,160057	2,721295	6,950719	2,197225	9,665541	8,671561
2020	8,633873	9,281477	2,406945	7,142432	2,351375	9,775762	8,722629
2021	8,677508	9,497458	2,332144	7,303237	2,261763	9,954145	8,833608

It should be noted that a non-linear dependence model was used to create an econometric model that reflects the impact of the above factor indicators on the number of informally employed population.

The coefficients of the multivariate regression equation and the significance of the regression equation, as well as the coefficients in the non-linear relationship using the Eviews program, show that this relationship is within the limits based on the established criteria (Table 2).

Table 2
The results of determining the coefficients of the regression equation and checking the equation according to the criteria

Dependent Variable: LnY				
Method: Least Squares				
Date: 29/11/22 Time: 9:26				
Sample: 2011 2021				
Included observations: 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LnX_1	-0.026902	0.673010	-0.039972	0.0497
LnX_2	-0.019638	0.098277	-0.199818	0.0395

LnX_4	0.534942	0.282921	1.890783	0.0072
LnX_5	-0.059085	0.786559	-0.083636	0.0366
C	8.318126	0.999694	8.320671	0.0004
R-squared	0.836839	Mean dependent var		8.434000
Adjusted R-squared	0.706310	S.D. dependent var		0.125892
S.E. of regression	0.068225	Akaike info criterion		-2.225155
Sum squared resid	0.023273	Schwarz criterion		-2.073863
Log likelihood	16.12578	Hannan-Quinn criter.		-2.391123

Source: Developed by the author using the Eviews 10 software package.

Taking into account the coefficients given in the table, the multivariate regression equation has the following form:

$$\ln Y = -0,0227 \ln X_1 - 0,02 \ln X_2 + 0,535 \ln X_4 - 0,0591 \ln X_5 + 8,318 \quad (1)$$

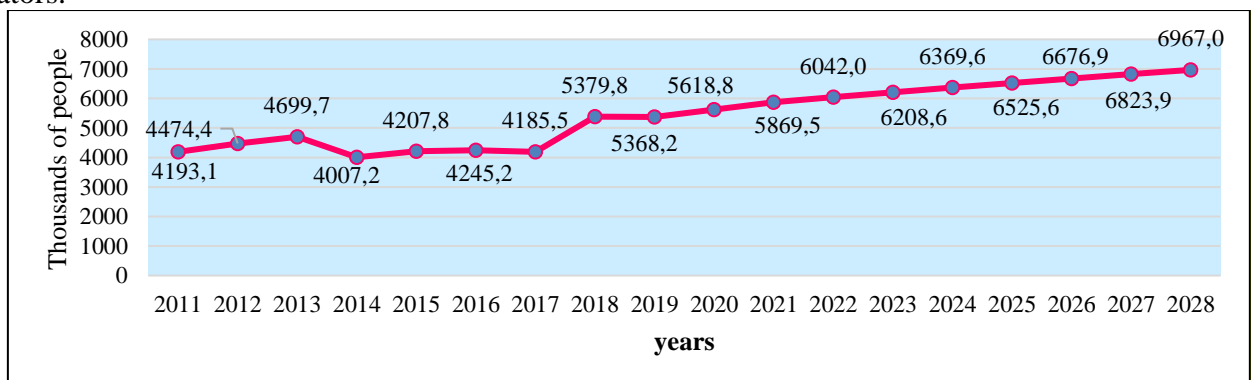
To simplify the mathematical rules and calculation processes, and to achieve the accuracy of the results, the 1st regression equation created above is potentiated and the following equation is created in accordance with it:

$$Y = \frac{X_4^{0,535} * e^{8,318}}{X_1^{0,0227} * X_2^{0,02} * X_5^{0,0591}} \quad (2)$$

The socio-economic character of this particular equation (2) can be explained as follows. With an increase in real total income per capita, inflation rate and average GDP per capita by 1%, the number of informal jobs in the economy additionally decreased by 1.4 thousand units, 11.2 thousand people. and 3.6 thousand people. respectively.

It follows that the low wages paid in formal jobs in the economy force the population to work informally. It was determined that if measures to reduce unemployment among the population in the country are carried out without deviations, then a decrease in unemployment by 1.0% will lead to a decrease in the number of informally employed among the population by an additional 32,000 people.

Forecast indicators based on trend models show that the level of informal employment and indicators of the factors influencing it will tend to increase in the near future (Fig. 1). These changes are due to qualitative changes observed in the main territorial and macro-level socio-economic indicators.



Rice. 1. Change in the number of informal jobs in the Republic of Uzbekistan

According to the Ministry of Employment and Poverty Reduction of the Republic of Uzbekistan, the total economically active population in 2022 amounted to 14.98 million people. A total of 13.7 million people are employed, of which 6.5 million (47%) are employed in the formal sector.

According to an analysis by the Institute for Macroeconomic and Regional Studies under the Cabinet of Ministers of the Republic of Uzbekistan, only in 2022 the state budget did not receive 32.9 trillion. soums in the form of taxes due to the fact that more than 9 million people were employed in the informal sector. This amount could be used to build 4,100 secondary schools for 500 students, the analysis says.

To legalize the situation of informal employment that has developed in the labor market of our country, the following measures are necessary:

1. Legalization of the status of informal employment by improving existing legal documents;

2. Strengthening economic and administrative sanctions applied to cases of informal employment of labor for enterprises with the status of a legal entity;

3. Application of a stratified and flexible approach to the implementation of state policy in the field of informal employment, taking into account differences between regions;

4. Ensuring the migration of informal workers to the formal labor market through the effective management of factors that directly and indirectly affect informal employment in the regions. As a result of activities in these areas, the legalization of informal employment in our country will be accelerated to a certain extent.

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