



ANALYSIS OF LABOR MARKET FORMATION IN UZBEKISTAN AND THEIR CURRENT STATUS

Jumaeva Dilafruz Xamroevna,

Ph.D student of Bukhara Institute of Engineering and Technology, Bukhara, Uzbekistan

Article history:	Abstract:
<p>Received: 10th April 2022 Accepted: 11th May 2022 Published: 22th June 2022</p>	<p>In addition to highlighting the socio-economic nature of the labor market, the article discusses scientific methods in studying the formation of the labor market and the specifics of unemployment. The analysis of the state of the labor market in the Republic of Uzbekistan uses the method of correlation-regression analysis and draws conclusions on the study of the formation and current state of the labor market of the Republic of Uzbekistan.</p>

Keywords: labor market, economics, Republic of Uzbekistan, employment, unemployment registration and social support, encourage the creation of new jobs, encouraging self-employment.

INTRODUCTION

The labor market plays an active role in regulating employment. The development of market relations also requires the development of social labor relations accordingly. This requires increasing employment and improving its structure.

It is known that the situation in the world labor market, like all other markets, is determined on the basis of supply and demand and is determined by a number of factors. These factors are conditionally divided into economic, demographic, political factors and they are interrelated. Among them, economic factors are the most important because all the remaining factors will eventually turn into economic problems or lead to economic consequences. For example, the rapid growth of the population relative to the number of jobs in the country is an example of this.

Table 1

The general structure of employment and unemployment protection policy in the example of

Table T [1]

General structure of employment and protection of the population from unemployment according to the purposes of regulation	
Passive policy	Active policy
Unemployment registration and social support; Encourage the creation of new jobs; Encouraging self-employment.	Employment and employment policy; Employment promotion policy; Encourage labor supply.

According to the Bureau of Labor Statistics, the global unemployment rate in 2020 was 6.7%. If the world economy manages to avoid a major crisis, unemployment in many countries is projected to fall further. Although global unemployment is stabilizing, the lack of decent work is growing. The world economy is still not creating enough jobs. If we look at the reports of the International Labor Organization, almost half of the total working age population in the world is in the Asia-Pacific region. Informality is still prevalent in Central and West Asia (43 percent). Being poor while working, poor quality of work and constant inequality in the labor market remain a problem. Given that our country is also located in this region, it creates a number of problems in the territory of our country, such as the regulation of the labor market, reducing unemployment, creating jobs. Therefore, it can be said that the formation of the labor market of the Republic of Uzbekistan and the study of the specifics of unemployment is an urgent scientific problem.

According to the objectives of the regulation, the general structure of the policy of employment and protection of the population from unemployment is given. The overall structure of employment and unemployment protection policies is discussed in Table 1 (Table 1).

Unemployment is natural at a time when the market economy is stabilizing. This is because the conformity of the demand for labor to the supply creates reasonable employment and the unemployment rate, which is natural for society. Training of unemployed people in new professions, professional development, financial assistance and job offers are the most important social activities carried out by the labor exchange.



LITERATURE REVIEW

There are different approaches to studying the working mechanism of the labor market. Typically, the economic literature distinguishes four conceptual approaches: classical, neo-classical, Keynesian, and monetarist approaches. At the heart of the classical theory of the labor market are the classic postulates of political economy. Proponents of this theory, co-founders J. Mill [2] and A. Marshall [3], argue that full employment is the norm of a market economy, while the integral policy of the state is the best economic policy. Proponents of the new classical theory of the labor market (M. Feldstein [4], R. Hall [5] and others) believe that the labor market, like all other markets, operates on the basis of price equilibrium, and labor prices are the main regulator of the labor market. Proponents of Keynesian theory (J. Keynes [6], R. Gordon [7], etc.) argue that the market is in a state of constant and deep imbalance. Proponents of the monetarist theory of the labor market prioritize monetary methods in order to ensure employment and stabilize the economy. M. Friedman [8], K. Brunner [9] and others are proponents of these theories.

Evaluation of textile and clothing industry clustering capabilities in Uzbekistan were researched by Ergashodjaeva, S. J. [20], Kyvyakin, K. S., Tursunov, B. O. [12,13,16,17], evaluation of competitiveness of brands of local sewing and knitting enterprises were studied by Hakimov, Z. [15], innovative and export potential of the agro-industrial complex of Uzbekistan were investigated by Yuldashev, N. K., [14], Umarchodjaeva, M. [18], Saidova, M., [19] and others.

Also, some foreign researchers as well as Kaya M. [21], Abdylidaev, M. [22], Polat, C. [23], ÖZDEN K. [24], Maksudunov A. [25,27], ELEREN A. [26] researched of some marketing issues of durable consumer goods.

Which of the theories discussed has solved advanced and modern problems, and which of them has advantages and disadvantages. The tendency towards Keynesianism or monetarism can be observed in the practice now accepted in most countries. For example, Uzbekistan pursues its economic policy mainly on the basis of monetarist theory. But the theories under consideration stem mainly from fiscal policy in regulating the labor market.

RESEARCH METHODOLOGY

One of the most widely used methods in the study of labor market interactions is correlation-regression analysis. According to economists, in order

to apply correlation-regression analysis, the following requirements must be met: the set under study should be as large as possible; the amount of averaged character should be objective; the distribution lines must obey the law of normal distribution and be as close to it as possible. It is also known that on the basis of correlation-regression analysis the following tasks are solved: to determine the relationship between the factor character and the resulting character and to determine the type of relationship; determine the regression equation representing the relationship between the characters and calculate its parameters; measuring bond density and strength. Correlation analysis begins with the selection of the characters being studied. Here it is more important to choose the resultant sign than the factor sign. Because the choice of the form of the regression equation depends on the resultant sign.

In correlation analysis, the choice of link form is crucial. Even the most meticulous, carefully calculated calculations can be unnecessary if the connection form is chosen incorrectly. Therefore, in doing so, it is necessary to carefully analyze the content of the studied phenomenon in terms of quality. The dependence of the Y sign on X can be both direct and inverse, as we noted above. If Y increases with increasing X, or Y increases with increasing X, then the correct correlation between them is called positive. If Y decreases with increasing X or Y increases with decreasing X, then the correlation between them is called negative and the correlation is negative. In addition, there may be a linear and a curvilinear relationship between the change in X and the change in Y, depending on the nature.

ANALYSIS AND RESULTS

In the analysis of the labor market in the Republic of Uzbekistan, we used correlation-regression analysis. At the same time, we studied the impact of the number of unemployed in the Republic of Uzbekistan on the population and GDP growth rates per capita.

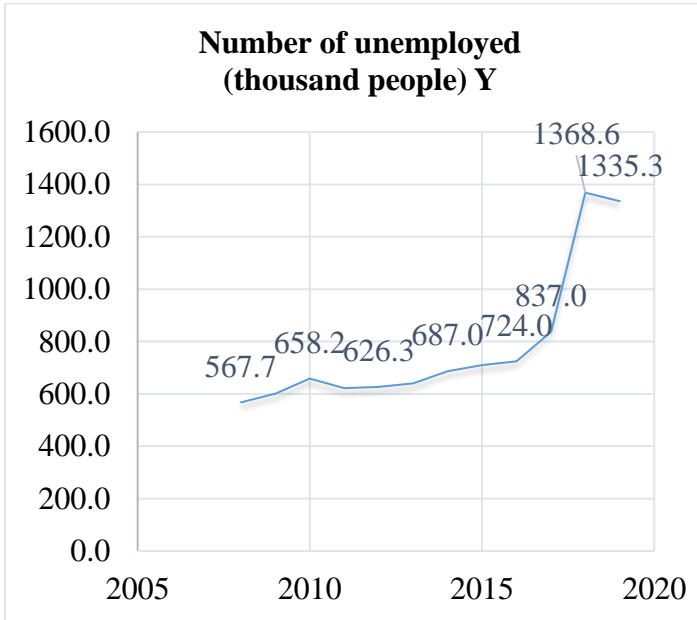


Figure 1. Number of unemployed in the Republic of Uzbekistan in 2008-2020, in a thousand people

Source: Compiled by the author on the basis of the official website of the State Statistics Committee of the Republic of Uzbekistan www.stat.uz.

The result of the correlation-regression analysis used in the analysis of the labor market in the Republic of Uzbekistan is the number of unemployed.

The number of unemployed in Uzbekistan has been growing steadily for the period 2008-2020, and by 2020 this figure will reach 1561.0 thousand.

The first factor chosen is that if we look at the population, we can see that the population of the country is growing from year to year.

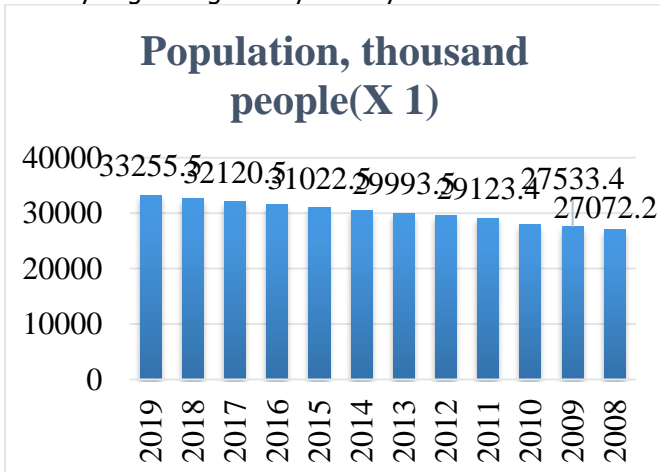


Figure 2. Population of the Republic of Uzbekistan in 2008-2020, in a thousand people

The second factor chosen is that we can see the opposite dynamics of GDP growth per capita. We now perform a correlation-regression analysis to study the relationship between the population and the number of economically active population and the number of unemployed (Table 2). Here, if the resultant indicator is Y - the number of unemployed, the factor influencing it is x1 - population and x2 - GDP growth rate per capita.

Table 2
Number of unemployed, population and per capita in 2008-2020
GDP growth rate

Years	Number of unemployed, thousand people (Y)	Population, thousand people, (x1)	GDP growth rate per capita, in% (x2)
2008	567,7	27 072,2	107,3
2009	601,4	27 533,4	106,2
2010	658,2	28 001,4	104,3
2011	622,4	29 123,4	104,9
2012	626,3	29 555,4	105,8
2013	639,7	29 993,5	105,9
2014	687,0	30 492,8	105,4
2015	709,4	31 022,5	105,6
2016	724,0	31 575,3	104,3
2017	837,0	32 120,5	102,7
2018	1 368,6	32 656,7	103,6
2019	1 335,3	33 255,5	103,6
2020	1 561,0	33 905,2	99,8

In order to carry out correlation-regression analysis, it is necessary to enter the above table data in Microsoft Excel, based on the official website of the State Statistics Committee of the Republic of Uzbekistan, the population growth rate, GDP growth rate and unemployment rate in the Republic of Uzbekistan in 2008-2020.



While one of the factors and outcome indicators is given in thousands, another has a percentage. This has an effect on the reliability of the regression equation. Therefore, we can bring them into the same unit using the logarithmic method.

To create the regression equation $Y = a_0 + a_1x_1 + a_2x_2$, we use Excel to create the desired results using the functions "Data" => "Analysis of data" => "Regression".

Table 3
Regression analysis

	Coefficients
Number of unemployed (Y-peresechenie)	12,27690038
Population, thousand people (Ln X1)	2,104410576
GDP growth rate per capita, in% (Ln X2)	-5,886138816

By placing the desired results in the regression equation $Y = a_0 + a_1x_1 + a_2x_2$, we create a regression equation that shows the relationship between the number of unemployed and the population growth rate and GDP growth rate per capita:

$$Y = 12.28 + 2.10x_1 - 5.89x_2$$

If we analyze this equation, according to it, when no factor is affected, the result is: the number of unemployed is equal to 12.28 units. When the population changes by one unit, the number of unemployed increases by 2.10 units. x_2 factor - the number of unemployed decreases by -5.89 units when the GDP growth rate per capita changes by one unit.

The reliability of the regression equation can be tested using the Fisher criterion. It can be determined by the following formula:

$$F_{his} = \frac{R^2}{1 - R^2} * \frac{n - k - 1}{k}$$

n - number of observations;

k - number of factors

If $F_{his} > F_{jad}$, then the regression equation is considered to be reliable. In our analysis, $F_{his} = \frac{0.62}{1 - 0.62} * \frac{11 - 2 - 1}{2} = 6.5263$. Given that $F_{jad} = 3.98$, $F_{his} > F_{jad}$. Hence, the regression equation is reliably constructed.

Another way to check the reliability of a regression equation is to find this approximation error. Approximation error is the average difference (mean error) between the given data and the data calculated by the constructed model. Approximation error is defined as follows:

$$A = \frac{1}{n} * \sum \left| \frac{Y - \hat{Y}}{Y} \right| * 100$$

If the regression equation is reliable, the approximation error will be in the form $A < 10\%$. Microsoft Excel can also be used to calculate the approximation error. In our equation, the approximation error of the regression equation was $A = 1.36\%$, i.e., $A < 10\%$. Hence, the regression equation was constructed reliably.

We examine by means of correlation analysis how strongly or weakly the factors x_1 and x_2 are related to the number of economically active population and the number of population, the resulting indicator - the number of unemployed. To do this, using Excel, create the desired results using the functions "Data" => "Analysis of data" => "Correlation".

Table 4
Correlation analysis

	Number of unemployed, thousand people (Ln Y)	Population, thousand people (Ln X1)	GDP growth rate per capita, in% (Ln X2)
Number of unemployed, thousand people (Ln Y)	1	-	-
Population, thousand people (Ln X1)	0,759623006	1	-
GDP growth rate per capita, in% (Ln X2)	-0,689030572	-0,71181103	1

According to him, the population is strongly and correctly linked to the result - the number of unemployed. Their correlation coefficient was $r_{(yx_2)} = 0.7596$. The GDP growth rate per capita was strongly and inversely related to the number of unemployed, their correlation coefficient was $r_{(yx_1)} = -0.6890$.



Factors x_1 and x_2 are strongly correlated and inversely related: $r_{(x_1 x_2)} = -0.7118$

The reliability of the correlation coefficient can be verified according to the t - Student criterion. It is calculated using the formula:

$$t_{his} = R * \sqrt{\frac{n - k - 1}{1 - R^2}}$$

If the calculated value is greater than its table value, the correlation coefficient is considered reliable. In our case, the t-account has the following value:

$$t_{his} = 0.79 * \sqrt{\frac{11-2-1}{1-0.62}} = 5.8802$$

t is the table value equal to 2.2010 when $\alpha = 0.05$. Hence, t is greater than the table value. This means that the correlation coefficient is also reliable.

The results of our correlation-regression analysis show that, according to the regression analysis, the result is when no factors are affected: the number of unemployed is 12.28 units. when the population changes by one unit, the number of unemployed increases by 2.10 units. x_2 factor - the number of unemployed decreases by -5.89 units when the GDP growth rate per capita changes by one unit. According to the correlation analysis, the population is strongly and correctly linked to the result - the number of unemployed. Their correlation coefficient was $r_{(yx_2)} = 0.7596$. The GDP growth rate per capita was strongly and inversely related to the number of unemployed, their correlation coefficient was $r_{(yx_1)} = -0.6890$. The factors x_1 and x_2 are strongly correlated and inversely related: $r_{(x_1 x_2)} = -0.7118$.

CONCLUSIONS

In the analysis of the labor market in the Republic of Uzbekistan, we used a correlation-regression analysis to study the impact of the number of unemployed in the Republic of Uzbekistan on the population and GDP growth rate per capita. The results of our correlation-regression analysis show that, according to the regression analysis, when no factors are affected, the result is: the number of unemployed is 12.28 units. when the population changes by one unit, the number of unemployed increases by 2.10 units. x_2 factor - the number of unemployed decreases by -5.89 units when the GDP growth rate per capita changes by one unit. According to the correlation analysis, the population is strongly and correctly linked to the resulting indicator - the number of unemployed.

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