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Einflussfaktoren auf die Beschäftigung im ländlichen Raum

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Zusammenfassung: Die Beschäftigung im ländlichen Raum hat in den letzten Jahren an Bedeutung gewonnen. Dies ist auf verschiedene Faktoren wie Arbeitskräftepotenzial, demografische Probleme, Saisonbeschäftigung der ländlichen Bevölkerung, niedrige Einkommen zurückzuführen. Daher ist es in diesem wissenschaftlichen Artikel wichtig, dass die Faktoren, die die Beschäftigung der ländlichen Bevölkerung beeinflussen, auf der Analyse eines ökonometrischen Modells basieren.

Schlüsselwörter: Beschäftigung, Arbeitskräftepotential, ländlicher Raum, Einkommen, Arbeit, Beschäftigung, Lebensqualität, ländliche Bevölkerung, Inflation, Löhne.

Factors influencing employment in rural areas

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Abstract: Employment in rural areas has become increasingly important in recent years. This is due to various factors such as labour potential, demographic problems, seasonal employment of the rural population, low incomes. Therefore, in this scientific article, it is important that the factors affecting the employment of the rural population are based on the analysis of an econometric model.

Keywords: employment, labour potential, rural areas, income, labour, employment, quality of life, rural population, inflation, wages.

Introduction In recent years, our country has been paying serious attention to employment. Employment of the population, first of all, leads to the employment of the population in rural areas with useful labour, its income, employment for the country in its products or services, improvement of living conditions and quality of life.

Let's take a look at the demographic situation in our country to fully understand the urgency of employment of the able-bodied population. Although our natural population growth has slowed somewhat in recent years, it remains the highest among the Commonwealth countries. In recent years, population growth in the country has averaged 1.5%. This leads to a proportional increase in labour resources.

Literature review

The state of the study under the influence of employment factors and its forecasting using various econometric models have been studied by foreign scientists S.G.Rezinkina [1], A.G.Korovkin, I.N.Dolgova [2], V.A.Gnevasheva [3] and others. Factors of sustainable growth of the economy, as well as in the econometric modelling of macroeconomic indicators of market equilibrium, have been studied from the scientific point of view by Uzbek researchers Yu.K.Muhamedov [4], H.T.Mukhitdinov [5].

In particular, in his scientific article B.B.Mardonov [6] studied the factors affecting employment and scientifically substantiated the impact of the service sector on employment through econometric modelling.

Research methodologiy

In this article, we have developed indicators to determine labour potential. Through the econometric analysis of these factors, we constructed an econometric model using linear correlation and regression methods effectively and used it extensively to determine the relationship between the factors.

Analysis and results

Ensuring employment and identifying the factors affecting it falls into very complex categories. In our view, it is expedient to determine the intellectual labour potential in rural areas. This is because individuals with high labour potential receive higher wages and their employment rate in rural areas increases, which has a positive impact on rural growth. Therefore, in our opinion, it is advisable to determine the capacity of labour in the following order:

The average number of employees is determined during the reporting period under analysis. To calculate this, the number of labour potentials at the beginning of the period (Мс.дб) and at the end (Мс.до) is added and divided by two:

$$\text{Мс} = \frac{\text{Мс.дб} + \text{Мс.до}}{2}.$$

If the information on labour potential for the reporting period is expressed in several periods, then all indicators are added and divided by its number:

$$\text{Мс} = \frac{1n}{n\ i = 1} = \text{Мci}.$$

When analyzing the composition of the workforce, it is necessary to identify employees by specific categories. For example, indicators such as the share of employees with higher education (Омх) in the total labour potential or the share of employees with secondary special education (Умх) can be determined.

$$\text{Мс.т} = \frac{\text{Умх}}{\text{Мс}}\text{x}100$$

$$\text{Мс.т} = \frac{\text{Омх}}{\text{Мс}}$$

In addition, it is possible to determine such indicators as the share of management staff, the share of engineering and technical staff in the total labour potential.

$$\text{Мс.т} = \frac{\text{Мci}}{\text{Мс}}$$

here:

Мci- separate groups of labour

The analysis of labour potential turnover is also of great importance in the present period. to determine this figure, we divide the total labour potential by the total number of hired employees (Мс.к) plus the number of laid-off employees (Мс.б).

$$\text{Мс. об} = \frac{(\text{Мс. к} + \text{Мс. б})}{\text{Мс}}$$

This indicator can also be determined for employees hired and fired separately:

$$\text{Мс. обк} = \frac{\text{Мс. к}}{\text{Мс}}$$

Or:

$$\text{Мс. об. б} = \frac{\text{Мс. б}}{\text{Мс}}$$

Labour potential dissatisfaction represents the proportion of employees laid off as a result of negative consequences in total labour potential. Those who resign for negative reasons also include those who resign on their own application. The following formula can be used to determine this indicator:

$$\text{Мс. кун} = \frac{\text{Мс. салб}}{\text{Мс}}$$

The stagnation of labour potential is also one of the important indicators of its condition. This can be determined by dividing the number of employees (Мс3й) who have worked in the same enterprise (firm, company) for more than three years by the total amount of labour potential:

$$\text{Мс. тур} = \frac{\text{Мс } \mathbf{3} \text{ й}}{\text{Мс}}$$

A number of calculations can be made to determine whether a staffing table is provided (Мс.шж.там) with work potential. First of all, it is necessary to determine the overall performance. To do this, the actual amount of labour potential (Мс.х) is divided by its amount in the staffing table (Мс.шж):

$$\text{Мс. шж. там} = \frac{\text{Мс. х}}{\text{Мс. шж.}}$$

*The capacity of work capacity **(Мс.сг)** is also one of the important indicators included in this group. To determine it, the amount of labour potential **(Мс)** is divided by the amount (Q) of the volume of product (work, service) created (sold):*

$$\text{Мс. сг} = \frac{\text{Мс}}{\text{Q}}$$

It is important to identify and analyze an indicator that indicates that the labour force is armed or that the active part of the fixed assets is provided with labour potential. Because at a time of rapid scientific and technological progress in the world, Uzbekistan should not lag behind and strive for this success. This requires that labour be armed with the most advanced techniques and technologies. Therefore, this indicator should be identified and analyzed in each enterprise. To determine this, the active part of fixed assets (Ав.ф) is divided by the amount of labour potential (Мс) or vice versa:

$$\text{МС. к} = \frac{\text{Ав. ф}}{\text{Мс}}$$

Or

$$\text{Мс. т} = \frac{\text{Мс}}{\text{Ав. ф.}}$$

Working capital adequacy (Айм.Мс) is also used in the analysis of labour capacity and in determining the impact of related factors on changes in other indicators. To determine this, the amount of labour potential (Мс) should be divided by the amount of working capital (Айм):

$$\text{Айм.Мс} = \frac{\text{Мс}}{\text{Айм.}}$$

The above criteria and their indicators can be used in the development and implementation of mechanisms for regulating the formation of rational employment of the able-bodied population, the relevant target complex program and econometric models, as well as the methodological basis for complex analysis and forecasting.

The employment of the population is an important social aspect of a multi-sectoral economy, in which people generate income, find their place in social life, and develop their abilities and talents. The multi-sectoral structure, on the other hand, updates the method and composition of employment, creating new forms of it.

The nature of employment depends on the property status of the people. When capital owners are engaged in entrepreneurship, labourers are hired. The level of employment is determined by the demand in the labour market, but it will be possible to choose the form of employment within the framework of market demand. Employment is a global problem. Therefore, the factors affecting employment are becoming more complex. In our opinion, employment in rural areas is influenced by the number of people employed in rural areas, GDP, income, inflation rate, wages, the number of existing businesses in rural areas and the number of population (Table 1).

Factors influencing employment have been studied by various researchers, and in general, the factors influencing employment can be divided into 2 groups - external and internal.

In creating the econometric model, we based on the following hypothesis:

$\boldsymbol{H_0}$ – At least one of the six factors affects the involuntary variable (the number of people employed in rural areas).

$\boldsymbol{H_1}$ – None of the six factors affects the involuntary variable (the number of people employed in rural areas).

In order to test the above zero hypotheses, we construct the following theoretical model:

$$\boldsymbol{y = a + \beta X_1 X_2 X_3 X_4 X_5 X_6 + u}$$

Here: Y - number of jobs in rural areas, $\boldsymbol{X_1}$ GDP in billion soums, $\boldsymbol{X_2}$ population in rural areas, $\boldsymbol{X_3}$ total per capita income in thousands of soums, $\boldsymbol{X_4}$ wages in thousand soums, $\boldsymbol{X_5}$ percentage of inflation, $\boldsymbol{X_6}$ operating enterprises and the number of organizations, **u** – error, **β** – coefficient, **a** – free limit.

We do this econometric operation by downloading the excel program.

By reducing the econometric operation to the excel program, we achieved the following results:

Table-1

Factors affecting employment in rural areas of the Republic of Uzbekistan [1]

№	Indicator	Years								
		2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
1	Number of busy people in rural areas **(*Y*)**	5517,2	5699,3	5611,8	5690,9	5821,8	6127,4	6269,1	6059,7	6359,6
2	GDP **(*X1*)** billion soums	96949,5	120242,0	144548,2	177153,9	210183,1	242495,5	302536,8	406648,5	511838,0
3	Population in rural areas **(*X2*)**	14226	14412,2	14623,4	14937,6	15274,5	15611,4	15869,7	16124	16448,8
4	Total per capita income **(*X3*)** thousand soums	1897,9	2565,3	3361,5	3832,8	5070,5	5810,0	6817,6	8580,0	10266,1
5	Salary **(*X4*)** thousand soums	403934	521708	643158	765834	909621	1009772	1169676	1544726	1611331
6	The inflation rate is in per cent **(*X5*)**	7,6	7,0	6,8	6,1	5,6	5,7	14,4	14,3	15,2
7	Number of operating enterprises and organizations **(*X6*)**	203063	208276	212989	221785	230543	245848	327778	346370	386787

[1] Compiled by the author on the basis of data of the State Statistics Committee of the Republic of Uzbekistan.

Table-2

Correlation matrix [2].

	GDP (*X1*) billion soums	Population in rural areas (*X2*)	Total per capita income (*X3*) thousand soums	Salary (*X4*) thousand soums	The inflation rate is in per cent (*X5*)	Number of operating enterprises and organizations (*X6*)	Number of busy people in rural areas (*Y*)
GDP (*X1*) billion soums	1						
Population in rural areas (*X2*)	0,956	1					
Total per capita income (*X3*) thousand soums	0,991	0,984	1				
Salary (*X4*) thousand soums	0,980	0,982	0,992	1			
The inflation rate is in per cent (*X5*)	0,831	0,747	0,797	0,793	1		
Number of operating enterprises and organizations (*X6*)	0,971	0,927	0,959	0,950	0,933	1	
Number of busy people in rural areas (*Y*)	0,876	0,940	0,907	0,883	0,730	0,883	1

As can be seen from Table 2 above, the correlation between the factors recorded a high result. (> 0.7) means we have a multicollinearity problem. Therefore, we examine the regression results by examining each factor separately using a regression equation of factors that are highly collegial, thereby identifying the factors that are highly influencing. Since Y is highly influenced by factors X_5 and X_6 , we construct a regression equation for them. The analysis resulted in the following regression equation.

Y=4580,5 +0,007*X6+-53,88*X5

[2] Based on the author's calculations

In Table 3 we can see that the value of $\boldsymbol{p}$ is less than 0.1 for factors $\boldsymbol{X_5}$ and $\boldsymbol{X_6}$. Hence, the coefficients in the table module $\boldsymbol{X_5}$ and $\boldsymbol{X_6}$ are statistically significant. The effect of the remaining factors was found to be not statistically significant. The following are the regression results:

Table-3

The result of the correlation model.

	P>F	*R squared*	*Coefficients*	*Standard error*	*t- statistics*	*P-Value*
Y- crossing	16.83	0.85	4580,509	262,37	17,45828246	0.000
The inflation rate is in per cent **(*X5*)**			-53,8824	32,597	-1,952999163	0,052311
Number of operating enterprises and organizations **(*X6*)**			0,006876	0,0019	3,539156251	0,012231

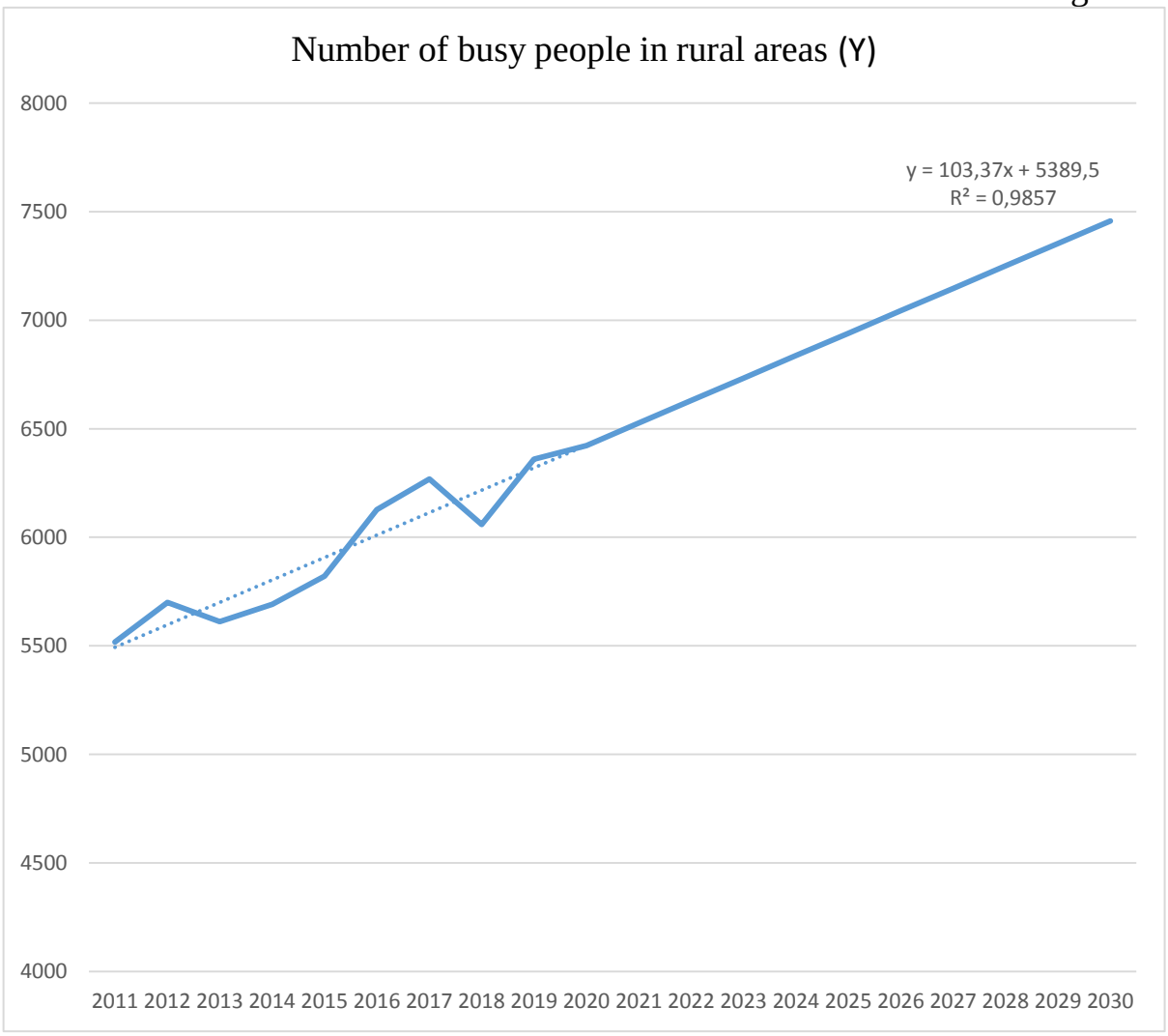
This means that in our model, the inflation rate and the number of enterprises and organizations explain 85% of the change in the number of employed people in rural areas. At the same time, both factors have a statistical significance at the level of 95 per cent reliability. The 1 per cent increase in the level of inflation reduces the number of employed people in rural areas to 54, an increase in the number of enterprises and organizations to 1 leads to an increase in the number of employed people in rural areas to 7.

Conclusion/recommendations

Through an econometric analysis of employment in rural areas, it made it possible to draw the following conclusions and suggestions:

1. The forecast of the number of employed in rural areas was carried out using linear trending and extrapolation methods.

Figure-1



As can be seen from Figure 1 data, the number of employed in rural areas in 2011 showed a high impact on the low employment rate of the population due to the lack of proportionality of demand and supply. But the establishment of new enterprises operating in the rural areas, the business environment will have an impact on the employment of the rural dwellers. In the following years, the level of employment in rural areas will continue to grow, as the economic environment will improve and favourable conditions for entrepreneurship will be created. The forecast of the busy population in rural areas was found by extrapolating the linear trend.

2. The decline in the level of inflation in the employment of the population leads to the employment of the population in rural areas. Given the fact that the employment rate of the population is significant, the country should properly influence the rate of inflation for this.

3. In rural areas, one of such locomotives is an entrepreneurial environment, which contributes to the creation of a new form of innovation and development, the provision of permanent employment to the population.

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