ANALYSIS OF POPULATION EMPLOYMENT IN ROMANIA

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Abstract

This article addresses the unemployment problem, generated by the health crisis and then sustained during the economic and financial crisis. It is necessary that the labor force available on the labor markets recruited into important areas of the national economy and to avoid as much as possible the export of labor, thus requiring a series of retraining courses. Given that the population is compensated during the period of unemployment for a limited period of time, it is important to avoid as much as possible long-term unemployment, with the risk that some of those in this situation will experience a possible trend of disengaging the active search for a job. At the same time, it is important to limit unemployment, given the negative effects transferred to the economic indicator, Gross Domestic Product, the reduction of the employed population has the consequence of reducing the budget revenues and implicitly reducing the amounts that could be used in investments.

Keywords: unemployment, labor market, indicators, crises, economy.
JEL classification: J21, J24

Introduction

With the advent of data on the employment of the population in 2021, the decrease in psychosis created by the health crisis and the gradual return of the population to the old way of life, the HoReCa industry, severely affected by the health crisis and the movement restrictions, was required to be analyzed.

This article tries to present the existing situation in the field of employment and unemployment in 2021, a brief overview of the trends of recent years and an analysis of how employment has evolved in the field of tourism.

In 2021, the active population aged between 20 and 64 years in Romania numbered approximately 8.214 million people out of which about 459 thousand were unemployed. This upsets us that the employment rate in 2021 has in 2021, of the active population aged between 20 and 64 years was 67.1%, up by 1.9 percentage points compared to 2020.

Literature review

Anghelache, Cioacă and Grigorescu (2020) conducted a study that highlighted the negative effects of rising unemployment in the Covid 19 crisis. Cai and Stoyanov (2016) address demographic differences between states, while Chéron, Hairault and Langot (2013) looked at the life cycle of an employer in terms of available jobs. Klein and Ventura (2009) have made correlations between productivity and labor mobility. On the other hand, Maestas, Mullen and Powell (2016) address the topic of an ageing population and the effects on productivity and the labor market. Oster, Shoulson and Dorsey (2013) focus on the relationship between investing in health, life expectancy and human capital. Rossi-Hansberh, E. and Wright, M.L.J. (2007) studies economic growth in terms of labor force and population structure. Moscarini and Postei Vinay (2012) were interested in observing the behavior of employers in times of unemployment and what is the contribution to the creation of new jobs depending on the size of the companies. Hili, Lahmandi-Ayed and Lasram (2016) studied the effects of the globe of alizarin on the workforce, while Mortensen and Pissarides (2011) emphasized the theory of unemployment. Barbu, Popescu and Radu (2022) identified the main trends of unemployment and inflation in the health and economic and financial crises. Anghel, Iacob and Radu (2021) analyzed the aspects of employment, and the study on the evolution of unemployment in 2021 was published by Anghelache and Anghel (2022).

Methodological specifications, data, results and discussions

The useful data have been extracted from the public sources of the National Institute of Statistics and are based on statistical research on the labor force in households (AMIGO), in compliance with *Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019* establishing a common framework for European statistics on persons and households, based on data at individual level collected from samples, and *Commission Implementing Regulation (EU) 2019/2240 of 16 December 2019* specifying the technical aspects of the data set, laying down the technical formats for the submission of information and specifying the detailed modalities and content of quality reports on the organization of a labor force sample survey.

The working population is defined as the sum of all persons who can provide labor during the reference period, it includes the population occupied with the production of goods and services, including the unemployed.

Activity rates by age group are the ratio of active and total populations of a certain age.

Persons who are aged between 15 and 89 years, who have worked for at least one hour for a profit or employees of family enterprises, persons who have a job but have been temporarily absent due to holidays, medical leave, paternity or maternity leave, those undergoing vocational training courses and others, persons who produce agricultural goods for sale for the most part, represent the employed population.

Depending on the professional status, we find employees, employers, unpaid family workers and self-employed workers. The employer is the one who carries out activities in the economic unit owned by him. The employee is the person who performs activities on the basis of a work contract in economic companies or social companies or with private individuals in exchange for a payment in the form of money, in kind or commission.

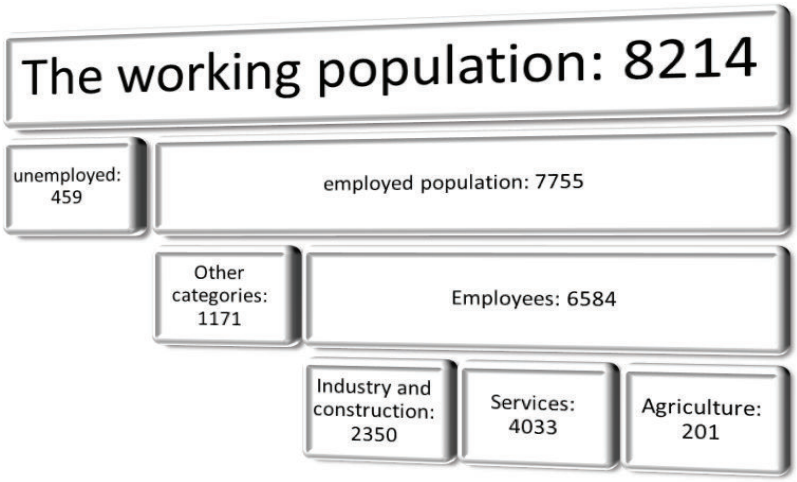
The employment rate is, like the activity rate, a ratio, this time the count is the share of the employed population in a certain age group, the denominator remaining unchanged, the total population in the same age group.

The unemployed are included in the age range 15-74 years, they are not employed persons and were available to work, they were actively looking for a paid job or they have identified a job but they are going to start the activity within 3 months from the end of the reference period.

The unemployment rate is the ratio between the total number of unemployed and the working population.

Categories of population in 2021 – thousands of people

Chart no. 1



Source: https://insse.ro/

From the previous chart we see the structure of the active population in Romania in 2021, other categories representing employers, own-account workers and unpaid family workers.

The employment rate among the population entitled to work (15-64 years) is 61.7% by 1.7 percentage points. It continues to be higher among men (71.1%) compared to women (52.5%). The residential environment plays a less important role than sex, so the occupancy rate was higher in your average (67.2%) compared to rural areas (55.5%).

The employment rate among young people (15-24 years) in 2021 was 21.2%, at the opposite pole that of the elderly (55-64 years) reached 43.8%.

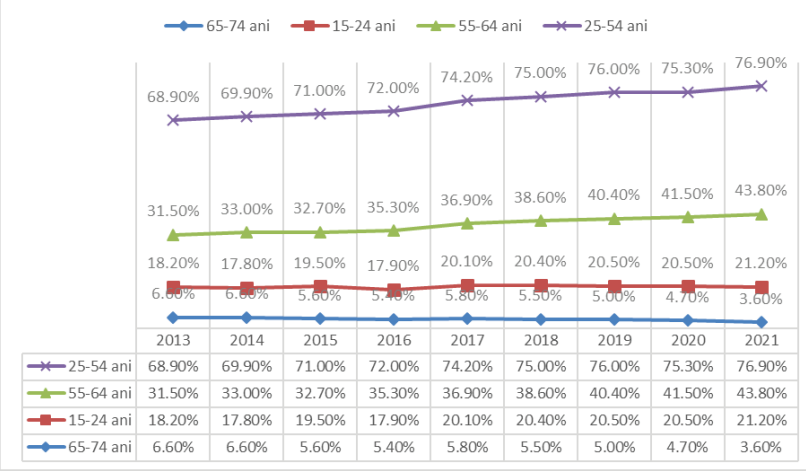
The high level of education attracts a better employment, so the graduates of higher education were employed at a rate of 80,1%, those with secondary education 54,1%, and those with a low level of education in a proportion of 20,9%.

The total number of employees increased by 89,000 people and represents 84.9% of the employed population. The distribution of the population according to the form of ownership shows a concentration of the public sector of 17.4% compared to 81.7% in the private sector.

Most of the employees worked in services (55.3%), industry (32.9%) and agriculture (11.8%) and the most common professions were of skilled worker (18.3%), specialists in various fields of activity (17.5%), respectively workers in the field of services (17.4%).

Occupancy rate by age group

Chart no. 2



	2013	2014	2015	2016	2017	2018	2019	2020	2021
25-54 ani	68.90%	69.90%	71.00%	72.00%	74.20%	75.00%	76.00%	75.30%	76.90%
55-64 ani	31.50%	33.00%	32.70%	35.30%	36.90%	38.60%	40.40%	41.50%	43.80%
15-24 ani	18.20%	17.80%	19.50%	17.90%	20.10%	20.40%	20.50%	20.50%	21.20%
65-74 ani	6.60%	6.60%	5.60%	5.40%	5.80%	5.50%	5.00%	4.70%	3.60%

Source: https://insse.ro/

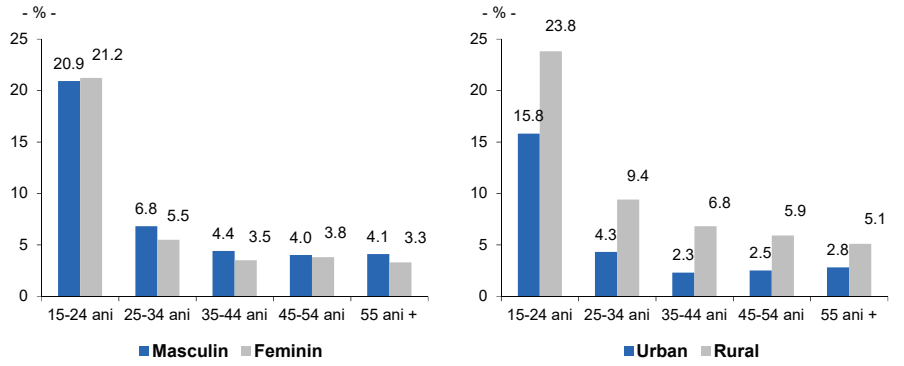
We see from the previous chart a trend of increasing age ranges to 64 years and leaving the labor market by seniors over 65 years of age, a possible explanation for recent years could also be their vulnerability to the SARS-CoV-2 virus.

The employment rate among 25-year-oldsup to 54 years of age is at the greatest distance from the next range and is rather related to the level of education, with young people completing their studies around the age of 23-25.

The unemployment rate in 2021 was 5.6%, down 0.5 percentage points. By gender, the difference between male and female unemployment rates was one percentage point (6% for men and 5% for women). The unemployment rate in rural areas reached 8.6% and in urban areas 3.4%.

Unemployment rate by age groups, sexes and backgrounds – 2021

Chart no. 3



Source: https://insse.ro/

The unemployment rate among low and medium education graduates recorded values of 13.6% and 5.1%, respectively. At the opposite pole were the graduates of higher education with an unemployment rate of 2.1%. The long-term unemployment rate was 2% and represents 36.6% of the total unemployed.

The incidence of youth unemployment up to the age of 24 remains at a high level of 11% and more than half (52.3%) represents long-term unemployment.

Statistical data used in determining the regression equation

Table No. 1

year	Total number of employees in tourism	Number of men engaged in tourism	Unemployment rate Z_i
2000	82210	27778	10,50%
2001	64996	23202	8,80%
2002	73754	26236	8,40%
2003	81001	30322	7,40%
2004	87322	31992	6,30%
2005	91835	33662	5,90%
2006	97985	36639	5,20%
2007	115240	44502	4,00%
2008	122234	46046	4,40%
2009	121610	45768	7,80%
2010	111585	40784	7,00%
2011	119334	46382	5,20%
2012	131163	52692	5,40%
2013	138041	54135	5,70%
2014	145059	56066	5,40%
2015	158321	62116	5,00%
2016	176024	69336	4,80%
2017	189582	73592	4,00%
2018	195249	77875	3,30%
2019	202456	79028	2,90%
2020	184283	71134	3,40%

Source: https://insse.ro/

Based on the number of employees, I determined the share of male employees in tourism (Denoted by) and then I defined the equation of the unifactorial model, and then I Y_i wrote it in its mathematical form and in the form of a matrix, as follows:

$$Y_i = f(Z,) + \varepsilon_i$$

$$Y_i = b_0 + b_1 \times Z_i + \varepsilon_i$$

$$\begin{pmatrix} Y_1 \\ Y_2 \\ \vdots \\ Y_n \end{pmatrix} = \begin{pmatrix} 1 & Z_1 \\ 1 & Z_2 \\ \vdots & \vdots \\ 1 & Z_n \end{pmatrix} \times \begin{pmatrix} b_0 \\ b_1 \\ \vdots \\ b_n \end{pmatrix} + \begin{pmatrix} \varepsilon_1 \\ \varepsilon_2 \\ \vdots \\ \varepsilon_n \end{pmatrix}$$

The data was processed using the Eviews program, which helped me formulate the regression equation with a dependent variable Y_i and an independent variable, namely Z_i

Results Eviews

Table No. 2

Dependent Variable: Y_i
Method: Least Squares
Sample: 2000 2020
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
b_0	0.417641	0.106899	-6.313338	0.0000
Z_i	-0.674892	0.006484	64.41516	0.0000

R-squared	0.677190	Mean dependent var	0.378819
Adjusted R-squared	0.660201	S.D. dependent var	0.016156
S.E. of regression	0.009418	Akaike info criterion	-6.402077
Sum squared resid	0.001685	Schwarz criterion	-6.302599
Log likelihood	69.22181	Hannan-Quinn criter.	-6.380488
F-statistic	39.85824	Durbin-Watson stat	1.212228
Prob(F-statistic)	0.000005		

Source: Eviews program processing

Based on the results, it's the regression crease was generated by the following form:

$$Y_i = 0.417641 - 0.674892 \times Z_i$$

Given the values of 67.71% and 66.02% respectively of the R^2 and R^2 tests respectively– adjusted, we could identify another variable e that raises the representativeness threshold a little higher, reached in the present model. The equation shows us a reverse link between the employment rate of male employees in tourism and the unemployment rate, so if over the course of time if unemployment has decreased, the number of male employees in tourism has increased, recovering even 5 percentage points compared to female employees. This suggests that male employees are starting to contribute an increasing proportion in the turnover of tourism.

The F-statistic and Prob (F-statistical) tests signal the correctness of the model using the dependent variable the employment rate of male employees in tourism and the factorial variable unemployment rate.

Conclusions

First of all, I would like to draw attention to the over-lack or low level of retraining, there are jobs that are not filled due to the lack of correlation between the supply of the labor market and the professional skills of the unemployed.

Against the backdrop of increases in the Harmonised Index of Consumer Prices, inflation in general, a number of people could leave the labor market and look for a better life in other countries. Along with long-term unemployment and the number of people who are no longer compensated, but who have not been able to identify a new job, according to their vocational training, we could see a growing degradation of the standard of living among these people, with the risk of disengagement from the search for a job.

Even if at the level of tourism the number of male employees is constantly increasing, it is not a consequence of investments in the field but rather an effect of the health crisis, which has made the field quite less attractive to old employees who have faced technical unemployment and who have not returned for fear of new restrictions.

It is very important that in the not too distant future, employment and retraining opportunities are provided at a high level, with the risk of a large-scale immigration processing view of the flow of refugees from Ukraine and the increasing import of labor from Asian countries.

If the health crisis starts not to concern us as in the case of previous years, the economic-financial crisis barely makes its effects felt, in addition to double-digit inflation we can also face a continuation of liquidations of commercial companies which will consequently generate unemployment and given the reduced fiscal space, let's not find ourselves with a difficulty in financing the unemployed on benefits.

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