JOB VACANCY ANALYSIS IN THE FOURTH QUARTER OF 2021

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Abstract

Vacancies are those that are created by some decisions of the managerial factors at the level of companies, but also due to some measures that were imposed by going through the crisis, the health and the economic-financial.

The vacancy rate has been rising in the context in which many companies have closed down, others have gone into technical unemployment and from here to unemployment and from here, when activity resumed by reducing some restrictions, have been created. jobs.

Paradoxically, these vacancies, which had to be filled through the regularly held fairs, were not filled due to the lack of correlation between the supply of labor and the need for available and fillable jobs.

In this situation, the number of people from other Asian countries (Thailand, Sri Lanka, etc.) who come and work mainly in the field of services and construction has increased.

The aim of this article was to establish the duplicitous nature of the increase in the number of jobs compared to their employment by those who do not have jobs in the national economy and, paradoxically, the need to bring in employees in some areas. (construction, services) from the outside, this reflecting a lack of manpower.

In browsing and using the data provided by the National Institute of Statistics, we used the indicators we had; we proceeded to their graphical presentation to substantially highlight how these jobs have evolved and, especially, how these jobs were not filled.

Keywords: jobs, employment, unemployment, methods, models, indicators.

JEL classification: C10, E20.

Introduction

In this article, which refers only to the analysis of the situation in the fourth quarter of 2021, we started from the fact that in this quarter the number of vacancies decreased by 1.6 thousand people compared to the previous quarter.

The employment rate was 0.92%, down 0.03 percentage points from the previous quarter.

Compared to the same quarter of 2020 the vacancy rate increased by 0.19 percentage points and the number of vacancies increased by 10,000 people in absolute terms.

We used a comparative study of the fourth quarter of 2021 with the similar quarter of 2020, with the previous quarter, so as to highlight as substantially as possible the way in which the vacancies evolved, how they were filled and, especially, how they need to be analyzed in the future.

In this article I have made full use of the graphical representations that suggestively suggest how the number of vacancies has increased and in the analysis I took into account that these vacancies are not filled because there is no correlation between the supply of power employment among the active population and the requirements of employers in terms of training structures, seniority, type of specialization and much more.

The growing vacancies seem to be in contradiction with the fact that labor is needed, it is true, less qualified, especially in the field of services and constructions.

We can appreciate that Romania has become for some states, especially in Asia, a kind of dream, as the states of the European Union, in the west of the continent, represent a dream for Romanian citizens who do not have a job in Romania and migrate for economic reasons to get a job in these countries.

We analyzed, one by one, the number of vacancies by occupation groups, by age groups, by regional areas in Romania and, especially, on the occupations among the specialists in the fields of activity of the manufacturing industry where, to Romania's regret, we do not meet people interested in taking up these jobs.

Literature review

Anghelache, Anghel and Marinescu (2018) analyze the evolution of employment and how the cost of labor evolves. Agrawala and Matsab (2013) present evidence that firms choose conservative policies to mitigate the transfer of unemployed employees. Silva and Toledo (2009) defined a model that analyzes the cyclical behavior of unemployment, the link between training costs and job cyclicality. Iacob and Radu (2021) analyzed the consequences

of the pandemic and financial-economic crisis and the capacity of the national economy to develop new jobs. Anghelache, Anghel and Iacob (2020) carry out a study by age groups which aims to show that people affected by the health and financial-economic crisis affect the extremes of age but especially young people. Anghel, Anghelache, Avram, Burea and Marinescu (2018) studied the unemployed population and the labor force.

Methodological clarifications, data, results and discussions
The data used are extracted from a sample of 22,500 economic and social units, the budget system is exhaustive except for the local authorities, which are collected from 820 territorial units. An error limit of ± 3% and a probability of 95% were taken into account for the sample size. Territorial units are defined as those territorial units which operate in a location other than the head office. Budget sector data include 3.5% private education and 11% health and social assistance in the private sector. The National System of Public Order Defense and National Security is not represented in the data on the budget sector. With the support of the Ministry of Public Finance, economic entities are grouped by form of financing.

The number of vacancies includes newly created, vacant or post-vacancies for which the employer has started the process of identifying jobseekers. It must also be known exactly when the employer intends to fill the vacancies, not be blocked by a regulatory act (see budget system) and not intended exclusively for internal promotion.

Vacancies for maternity, childcare, medical or unpaid leave do not constitute vacancies unless the employer intends to hire for a specified period.

The number of positions occupied is obtained on the basis of the number of employees at the end of the second month of each quarter.

The pandemic led to the exceptional introduction of the beneficiaries of days off for the supervision of children or those who were technically unemployed even if at the end of the second month of each quarter they did not carry out service activities. The necessity of the exception is based on the determined period of suspension of employment, by the fact that they were paid (even if by an intervention of the state authorities), by the bans on dismissal of these employees and by the impossibility of vacancies, because employers they could not declare the vacancies or did not have the opportunity to start the recruitment process.

The vacancy rate is calculated as the ratio of the number of vacancies to the sum of vacancies or vacancies, multiplied by 100.

The Classification of Activities of the National Economy (CANE Rev.2) is as follows: agriculture, forestry and fishing (A), extractive industry

(B), manufacturing (C), production and supply of electricity and heat, gas, hot water and air conditioning (D) water distribution, sanitation, waste management, decontamination activities (E), construction (F), wholesale and retail trade and repair of motor vehicles and motorcycles (G), transport and storage (H), hotels and restaurants (I), information and communications (J), financial intermediation and insurance (K), real estate transactions (L), professional, scientific and technical activities (M), administrative and support service activities (N), general government and defense, namely social security in the public system (O), education (P), health and social work (Q), entertainment, cultural and recreational activities (R) and other service activities (S).

The Classification of Occupations in Romania (COR 2008) includes nine major groups, namely: members of the legislature, the executive, senior leaders of public administration, leaders and senior officials (GM1), specialists in various fields of activity (GM2), technicians and others technical specialists (GM3), administrative officials (GM4), service workers (GM5), skilled workers in agriculture, forestry and fishing (GM6), skilled and similar workers (GM7), plant and machine operators; machine and equipment assemblers (GM8) and elementary occupations (GM9).

The situation communicated by the National Institute of Statistics shows a decrease by 1,600 of the number of vacancies, in the fourth quarter of 2021, compared to the third quarter of 2021, being identified 45,600 job offers. The vacancy rate decreased by 0.03 percentage points reaching 0.92% in the fourth quarter of 2021 compared to the third quarter of 2021. If we analyze the fourth quarter of 2021 and the fourth quarter of 2020 we see an increase of 0.19 percentage points, respectively an increase of 10,000 vacancies.

Evolution of the number of vacancies and the rate of vacancies in the fourth quarter of 2018 - the fourth quarter of 2021

Chart no. 1
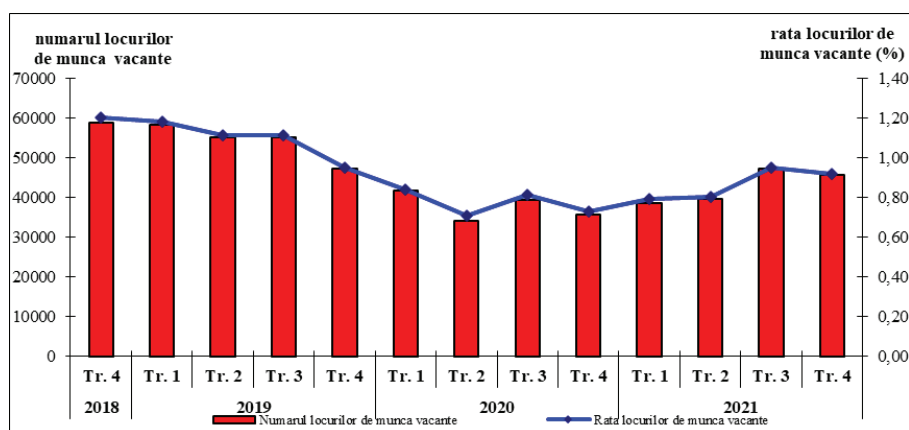
We note that in the first part of the analyzed period we have a downward trend in the number of vacancies and the rate of vacancies until the onset of the Covid-19 pandemic, and after the second quarter of 2020 we will notice a slight change in trend.

Evolution of the number of vacancies by major occupational groups

Table no. 1

Major Occupation Groups (COR)	Number of vacancies		
	quarter IV 2021	Previous periods	
		quarter III 2021	quarter IV 2020
Total economy	**45647**	**47251**	**35589**
GM1: Members of the Legislature, Executive, Senior Officials, Leaders and Senior Officials	1836	1897	1584
GM2: Specialists in various fields of activity	13661	14020	9286
GM3: Technicians and other technical experts	4227	4178	3219
GM4: Administrative officials	3710	3566	2970
GM5: Service workers	6747	6785	5885
GM6: Skilled workers in agriculture, forestry and fishing	98	109	68
GM7: Skilled and assimilated workers	4947	6264	4183
GM8: Plant and machine operators; machine and equipment assemblers	4156	4040	3618
GM9: Elementary occupations	6265	6392	4776

From the previous table we see a need of over 10,000 specialists in various fields of activity, the major group of occupations 2, in the last two quarters of 2021. The need for specialists in various fields of activity, the major group of occupations 2, shared with the fourth quarter 2020, increased in the fourth quarter of 2021 by 47.11% from one year to another.

In the area of elementary occupations, the major group of elementary occupations we also notice a significant increase when we analyze the fourth quarters of the last two years, but when we look at the fourth quarter of 2021 compared to the third quarter of 2021, we see a slight reduction of the number of vacancies.

At the level of the major group of occupations working in the field of services, we find an increase of 15% in the fourth quarter of 2021, compared to the fourth quarter of 2020. As in the case of basic occupations in the fourth quarter of 2021, there is a decrease 57%.

In the area of administrative officials we notice that the number of vacancies increased in the fourth quarter of 2021 compared to the third quarter of 2021 by 4% and increased compared to the fourth quarter of 2020 by 24.9%.

Overall, the economy shows that in the fourth quarter of 2021 we have a decrease compared to the third quarter of 2021 by 3.4% of the number of vacancies, but compared to the fourth quarter of 2020 there is an increase of 28.3%.

Evolution of the number of job vacancies by activities of the national economy

Table no. 2

Economic activities (CANE Rev.2 section)	Number of vacancies		
	quarter IV 2021	Previous periods	
		quarter III 2021	quarter IV 2020
Total economy	**45647**	**47251**	**35589**
A: Agriculture, forestry and fishing	531	575	487
Total industry	12374	11945	8636
B: Extractive industry	128	72	193
C: Manufacturing industry	10603	10242	7464
D: Production and supply of electricity and heat, gas, hot water and air conditioning	466	519	184
E: Water distribution; sanitation, waste management, decontamination activities	1177	1112	795
F: Construction	1134	2274	1137
G: Wholesale and retail trade; repair of motor vehicles and motorcycles	5174	5421	4167
H: Transport and storage	3653	3569	2938
I: Hotels and restaurants	740	1017	30
J: Information and communications	3415	2115	1885
K: Financial intermediation and insurance	715	694	346
L: Real estate transactions	44	28	58
M: Professional, scientific and technical activities	917	1086	887
N: Administrative and support service activities	2954	2560	2055
O: Public administration and defense; social security in the public system	5492	5691	5122
P: Education	1355	2753	917
Q: Health and social work	5820	6214	5303
A: Entertainment, cultural and recreational activities	1157	1213	725
S: Other service activities	172	96	896

Source: https://insse.ro/

When we look at the number of vacancies in the activities of the national economy, we notice that the manufacturing industry has the desire to hire more and more people in the field. Thus, in the fourth quarter of 2021 we have an increase compared to the third quarter of 2021 of the number of vacancies by 1%. As we look at the increase in the number of vacancies in the fourth quarter of 2021, there is an increase of 42% compared to the fourth quarter of 2020.

In the construction sector we see a reduction in the number of vacancies in the fourth quarter of 2021 by 49.8% compared to the third quarter of 2021, which can be attributed to the approach of the cold season. If we look at the comparison between the fourth quarter of 2021 and the fourth quarter of 2020, we see that the number of vacancies is decreasing by only 0.3%.

Differences in job vacancy rates by activities of the national economy

Chart no. 2
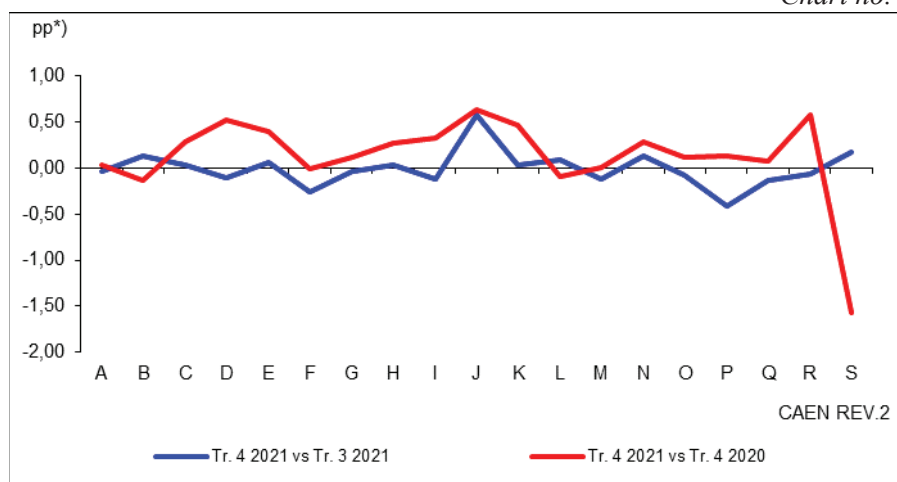
The previous graph shows the analysis of vacancy rates by activities of the national economy, blue is the analysis between the fourth quarter of 2021 and the third quarter of 2021, and red is the analysis between the fourth quarter of 2021 and the fourth quarter of 2020. Probably what attracts us immediately attention is the section on other service activities, which when we look at the nominal values we find only 76 vacancies with 724 less than in the fourth quarter of 2020.

Next we followed the construction of a regression equation with a dependent variable and an independent variable we chose for this the quarterly rate of vacancies in the manufacturing industry (denoted by W_i) and the quarterly Gross Domestic Product denoted by Y_i. We have extracted 28 values since the first quarter of 2015.

Statistical data used in determining the regression equation, percentages

Table no. 3

Year / quarter	Gross domestic product (Y_i)	Quarterly rate of job vacancies in the manufacturing industry (W_i)
2015Q1	103,2	1,1
2015Q2	102,7	1,27
2015Q3	103,2	1,29
2015Q4	103,3	1,26
2016Q1	103,6	1,31
2016Q2	104,9	1,39
2016Q3	104,2	1,54
2016Q4	105,5	1,25
2017Q1	106,8	1,34
2017Q2	106,2	1,31
2017Q3	108	1,43
2017Q4	107	1,23
2018Q1	105,3	1,26
2018Q2	105,7	1,46
2018Q3	104,3	1,53
2018Q4	104	1,26
2019Q1	104,8	1,29
2019Q2	104	1,13
2019Q3	103,7	1,17
2019Q4	103,7	0,95
2020Q1	102,6	0,81
2020Q2	91,3	0,47
2020Q3	94,9	0,73
2020Q4	97,8	0,69
2021Q1	99,5	0,76
2021Q2	112,7	0,73
2021Q3	108	0,94
2021Q4	103,9	0,97

Source: https://insse.ro/

We defined the equation of the unifactorial model, according to the relation:

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

The data were processed using the Eviews program, which helped me to form the regression equation with the dependent variable Y_i and the independent variable W_i.

Eviews Results

Dependent Variable: Y_i
Method: Least Squares
Sample: 2015Q1 2021Q4
Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
b_0	95.07039	2.816584	33.75379	0.0000
W_i	7.619367	2.404882	3.168292	0.0039

R-squared	0.278541	Mean dependent var		103.7429
Adjusted R-squared	0.250792	S.D. dependent var		4.057406
S.E. of regression	3.511960	Akaike info criterion		5.418975
Sum squared resid	320.6804	Schwarz criterion		5.514132
Log likelihood	-73.86565	Hannan-Quinn criter.		5.448065
F-statistic	10.03807	Durbin-Watson stat		1.139985
Prob(F-statistic)	0.003897			

Source: Eviews program processing

The regression equation of the simple linear regression model looks like this:

$$Y_i = 95.07039 + 7.619367 \times W_i$$

Given the low values of the R^2 and R^2-adjusted tests, respectively, I believe that the introduction of other independent variables could raise the level of representativeness above the 30% threshold, which is not reached in the built model. The equation suggests a link between the dependent variable Yi and the independent variable Wi, the link is a positive one, it suggests that an increase in jobs available in the manufacturing industry would translate into an increase in gross value added in the industry and implicitly in an increase in Gross Domestic Product. The F-statistic and Prob (F-statistic) test indicates that the econometric model using the dependent variable Gross Domestic

Product and the factorial variable vacancy rate in the manufacturing industry is correct.

Conclusions

This article, based on the study conducted by the authors, is an opportunity to understand how employment in Romania is evolving or, rather, the employment of the active population.

We know that a number of approximately 4 million people in Romania work abroad, either seasonally or on the basis of longer-term contracts. And this is because the Romanian labor market as well as the Romanian economy, do not offer jobs for these categories of people.

From this point of view, it can be concluded that there is no professional conversion, not enough investment to create jobs and, in particular, in addition to the function of registering the unemployed and the vacancies, the employment agencies in the territory do not carry out other activities in support of professional retraining.

This is the paradoxical element, with two references. One would be that we have unemployed jobs and we have an unemployed population or an active unemployed population, who whenever they go to job fairs or other such activities, cannot fill the vacancies due to the discrepancy between the supply of jobs and the characteristics of the staff who wish to take up such employment.

Secondly, with a large number of vacancies, we find that they are not being filled and that is why we are using labor from other specific countries, especially Asia.

Another conclusion is that in the next period the pandemic and economic-financial crisis will have increasing effects on the way in which the unemployed or unemployed population can find a suitable job, specific to its training.

This must be correlated with the fact that university training is not closely correlated with the structure of the labor market and that is why we meet, since graduation, the unemployed among those who have completed high school or university.

The bottom line is that these job vacancies must be a concern for employment agencies, in order to ensure retraining of the unemployed, which is specific to the structure of vacancies.

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