# THE STUDY OF THE EVOLUTION OF THE DEMAND AND SUPPLY OF VACANCIES IN THE LABOR MARKET IN ROMANIA

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## Abstract

The labor market in Romania followed a smooth and well-defined trend until the end of 2019. There were a number of tendencies regarding the increase or decrease of the number of jobs offered to be occupied during the activities of the specialized institutions. Of course, a first analysis would be to establish in relation to the job offer by activities of the national economy, so that comparing the situation in the fourth quarter of 2019, with the same situation in 2018, there are some evolutions, but which are not enough convincing, in the sense that most of them were occupied or not. From this point of view, an analysis is required in relation to the job offer and vacancies, based on registered vacancies compared to the job application. From this point of view, carrying out a four-year analysis, from 2016 to 2019, we find a somewhat constant evolution. Starting with January 1, although we do not have concrete data confirmed by the profile institutions, we can advance the idea that, the employment situation can become important, in the sense that by increasing the anticipated unemployment due to the return to the country of a significant number of people. who have worked temporarily in European spaces (Spain, Italy, Germany, Great Britain, France and others), to create a series of possibilities for its occupation. Until the end of 2019, the jobs offered were not usually filled as a result of some mismatches between the qualifications structure of the job offers offered and the qualifications structure of the desired ones, of the job offers. As a result, at each job fair, a large number of applicants were usually registered, except that, since their qualifications were not matched, most of the jobs were not filled. In the next period we can anticipate that the jobs will correlate and not in an organized way, but coincidentally with the offer of those who come. In this context, the analysis is based on reliable data until December 2019 and the possibility of future evolution, considering here some consequences that may arise as a result of the effects of the pandemic corona virus.

**Keywords***: labor market, unemployment, demand, supply, unemployed population.*

**JEL classification:** *E10, J10, J20*

## Introduction

The situation on the labor market in Romania has become interesting and sensitive enough. First, the unemployment rate is high enough, and the prospect of job offers is becoming more restrictive.

Analyzing on the basis of the data from 2019, we find that the evolution was somewhat positive, in the sense that the unemployment remained below a controllable limit, the job offer was sufficiently generous although the discrepancy between the supply structure was evident of jobs and the structure of job seekers by professions and trades. Thus, we performed an analysis of the situation from the fourth quarter of 2019, compared to the same situation from the previous year, a quarterly analysis of the evolution of the job offers from 2016 to 2019 was made, some conclusions were drawn in which was highlighted by the fact that, in principle, the jobs showed an increase, but their employment was stopped by those who are looking for jobs, who wanted other levels of pay and so on, but also from the point from the viewpoint of job offers, who wanted to personally hire with certain qualifications, with some experience and expertise in these fields.

We conducted an analysis regarding the job offers that were vacant on the activity of the national economy, on major occupational groups, on age groups or on the basis of professions that are harder to identify in the labor market.

The analysis was carried out gradually, revealing that there were relatively high rates of vacancies in activities that did not find a correspondent in those who submitted for employment.

Compared to previous periods, in 2018 a somewhat similar trend was maintained, identifying the same impediments in filling the vacancies offered, starting from the fact that the applicants did not find a match between the offer and the conditions of the work places from the point of view of the salaries offered, the conditions and so on.

In this article we make a presentation of the perspective of the labor market in Romania, starting from this job offer, which is likely to increase, but we must not omit the fact that technical unemployment will have negative effects on growth. Looking at the situation in 2020, in perspective in relation to the labor market in our country, it is possible to anticipate from now on the evolution of some rather difficult social-economic phenomena. Thus, economic activity in a number of areas such as public food, tourism, research, restaurants, hotel activity, activity that requires raw materials, difficult to import due to the restrictions that each state will impose whether or not it is a member of the European Union. , will create a reduction in results, just as the Gross Domestic Product will almost certainly have a decreasing trend.

Prices will explode, as inflation will increase, we are sure that the government will take measures to avoid speculation, but it cannot avoid the fundamental law of the market, that is the ratio between supply and demand, the supply is decreasing, and the demand especially on this background of psychological inhibition of the population will be greater and not covered. This will give rise to rising prices, the unemployment rate will reach some limits that are hard to imagine now, such as as a result of layoffs and the transition to technical unemployment or unemployment, the return to the country of the maybe two million Romanians who worked. abroad and no longer have the guarantee of employment and real living conditions and many more. These statements made in the extension of the concrete analysis until December 31, 2019, do nothing but synthesize a difficult time of social-economic evolution in a number of countries, including Romania.

**Literature review**

Anghel, Anghelache, Avram, Burea and Marinescu (2018) highlighted that the professions and the level of training of those looking for a job in Romania are not in accordance with the demands of the labor market. Anghel and Anghelache, C. (2017) analyzed the EU strategy in the field of labor which foresees the active involvement of all the Member States that have to allocate funds for investments, creators of new jobs, improvement of qualifications at a higher quality level and growth. population incomes. Anghelache, Anghel, Dumbravă and Ene (2018) showed that measures must be taken to increase the number of jobs in the economy to ensure better employment of the population. Anghelache, Avram, Burea and Petre (Olteanu) (2018) studied the influence of the natural movement of the population on the evolution of the labor force. Ardilly and Osier (2007), as well as Davis, Faberman and Haltiwanger (2006) conducted studies on the labor market. Hili, Lahmandi-Ayed and Lasram (2016) analyzed the labor market in the context of globalization. Klein and Ventura (2009) investigated the correlation between productivity differences and labor movements. Kroft, Lange and Notowidigdo (2013) conducted a study on labor market conditions. Maestas, Mullen and Powell (2016) analyzed the correlation between population aging, labor force and economic growth. Mortensen and Pissarides (2011) studied aspects of unemployment theory.

**Methodology, data, results and discussions**

The labor market is an important element of the production, based on the production function conceived by Cobb-Douglas, who based the necessity of the existence and correlation of the three factors: capital, labor and financial-

material resources. Of course, within this concept, in any period of time, one can estimate the real perspective of the production, of the concrete results that give the essence of the economic growth.

From the labor factor's point of view, the study should be oriented towards the job sphere and the real demand according to the situation on the labor market. In normal periods, the correlation of the demand with the job offer, should not have difficulties. The labor market should correspond to the need for job applications, in total, major groups of occupations, activities of the national economy, professions and specializations. At the level of the national economy the job offer is established by the structure, based on the above criteria, of the registered unemployed, but also of the availability of jobs. Such a situation exists at any time and can be used to fill existing vacancies. Market demand consists of summing up the needs of all economic and social agents. These vacancies can be filled by the individual interest of the big capital (economic agents), but also by filling the jobs with the occasion of organizing job fairs. Most of the time, there is a big discrepancy in filling the vacancies, although there is a demand that, however, is not correlated with the offer in terms of training, profession or, most often, due to the financial conditions offered by the interested economic agents. . This is the paradox that there are job vacancies, but the actual employment is not realized. Under these conditions, by January 2020, over the supply of vacant jobs came to the use of imported labor. The study is based on the concrete data provided by the National Institute of Statistics, resulting in definite trends that can be estimated using statistical-econometric models.

After the outbreak of the pandemic, of the crisis corona virus, we specify that the estimation regarding the labor market has become difficult and uncertain. This is because, the level of registered unemployment and the number of the unemployed population, will have a difficult evolution to anticipate. Thus, as a result of the cessation of the tourism activity and, as a consequence of the hotel activity, of the cessation of the HORECA activity, the inclusion of the difficulties of the economic agents, who pass the employees in technical unemployment, the uncertainty of maintaining the jobs when reopening the companies, during a period of six months according to the legislation in force, the increase by almost 2 million of the number of unemployed persons (the data are estimated and take into account, especially, those who were abroad without precise legal commitments - on their own). Also, the period of the pandemic will have the effect of including a significant number of SMEs, which will lay off and pass the existing employees into unemployment, which will lead to an increase in the unemployment figure.

We also specify that the unemployment benefit is granted for a fixed period, at the end of which those in this situation will aggravate the number of unemployed persons. There are other aspects worth noting, but we only stop at these, since the study based on reliable data can be considered irrelevant to the labor market perspective. Of course, the analysis procedure remains valid, the conclusions regarding the correlation of supply and demand for jobs, are certain for the considered and applicable period, based on new data that will be registered.

The quarterly analysis of the number of vacancies, until December 2019, with comparisons over a period of time (2016-2019) will be presented below.

In the fourth quarter of 2019, the number of vacancies was 47.1 thousand, with almost 8.0 thousand vacancies less than in the third quarter of 2019.

The vacancy rate was 0.95% and decreased by 0.16% compared to the third quarter of 2019. The vacancy rate is given by the ratio between the number of vacancies and the total number of jobs, expressed as a percentage .

Compared to the fourth quarter of 2018, the vacancy rate decreased by 0.25%, respectively 11.7 thousand.

In graph number 1 we summarized the data regarding the number and rate of vacancies for the mentioned time interval. The data presented express an oscillatory tendency, constant decreases in the quarters of 2019.

**Rate and number of vacancies, IV quarter 2016 - IV quarter 2019**

*Graph 1*
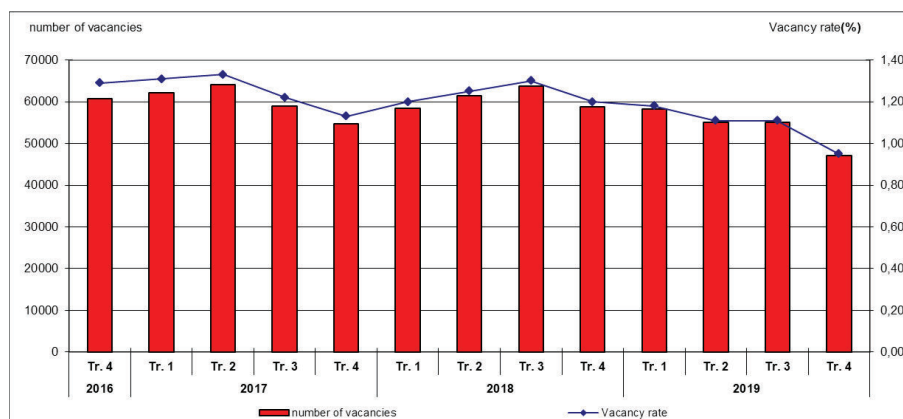


In the fourth quarter of 2019, higher rates of job vacancies were registered in entertainment, cultural and recreational activities (1.73%), health and social assistance (1.69%) and public administration (1.68% ). The data are structured in table number 1.

**The rate of job vacancies by activities of the national economy**

*Table 1*

| Economic activities (section CANE Rev.2) | Vacancy rate - % - | | |
|---|---|---|---|
| | quarter IV 2019 | Previous periods | |
| | | quarter III 2019 | quarter IV 2018 |
| Total economy | 0,95 | 1,11 | 1,20 |
| A: Agriculture, forestry and fisheries | 0,77 | 0,56 | 0,48 |
| Total industry | 0,92 | 1,15 | 1,20 |
| B: The extractive industry | 0,33 | 0,31 | 0,15 |
| C: Manufacturing industry | 0,95 | 1,17 | 1,26 |
| D: Production and supply of electricity and heat, gas, hot water and air conditioning | 0,31 | 0,51 | 0,59 |
| E: Water distribution; sanitation, waste management, decontamination activities | 1,20 | 1,65 | 1,38 |
| F: Construction | 0,46 | 0,62 | 0,55 |
| G: Wholesale and retail trade; repair of motor vehicles and motorcycles | 0,82 | 0,84 | 0,71 |
| H: Transport and storage | 1,29 | 1,41 | 1,86 |
| I: Hotels and restaurants | 0,69 | 0,42 | 0,51 |
| J: Information and communication | 1,25 | 1,42 | 1,76 |
| K: Financial intermediation and insurance | 0,79 | 1,17 | 0,96 |
| L: Real estate transactions | 0,53 | 0,81 | 0,54 |
| M: Professional, scientific and technical activities | 0,78 | 0,88 | 1,15 |
| N: Administrative service activities and support service activities | 0,88 | 1,02 | 0,83 |
| O: Public administration and defense; social insurance from the public system *) | 1,68 | 2,22 | 2,86 |
| P: Education | 0,27 | 0,58 | 0,72 |
| Q: Health and social assistance | 1,69 | 1,90 | 2,00 |
| A: Performances, cultural and recreational activities | 1,73 | 1,95 | 1,92 |
| S: Other service activities **) | 2,39 | 2,30 | 3,35 |

Source: INS release no. 48 / 19.02.2020

A high rate of vacancies was registered in other service activities (2.39%).

In the processing industry the rate decreased by 23.4%, respectively 11.0 thousand vacancies. The rate was 0.95%.

These vacancies were registered as follows: 5.8 thousand in health and social assistance, 4.6 thousand in public administration and 0.9 thousand in education. The lowest rate was registered in education (0.27%).

Compared to the third quarter, the largest drop in the vacancy rate was in the public administration (-0.54%). The number of vacancies decreased in the manufacturing industry (-2.6 thousand vacancies). These data were structured in table number 2.

**Number of job vacancies by activities of the national economy**

*Table 2*

| Economic activities (section CANE Rev.2) | Number of vacancies | | |
|---|---|---|---|
| | quarter IV 2019 | Previous periods | |
| | | quarter III 2019 | quarter IV 2018 |
| Total economy | 47090 | 55045 | 58810 |
| A: Agriculture, forestry and fisheries | 874 | 640 | 544 |
| Total industry | 12459 | 15613 | 16561 |
| B: The extractive industry | 154 | 147 | 73 |
| C: Manufacturing industry | 11013 | 13638 | 14867 |
| D: Production and supply of electricity and heat, gas, hot water and air conditioning | 174 | 286 | 323 |
| E: Water distribution; sanitation, waste management, decontamination activities | 1118 | 1542 | 1298 |
| F: Construction | 1833 | 2471 | 2137 |
| G: Wholesale and retail trade; repair of motor vehicles and motorcycles | 6481 | 6536 | 5517 |
| H: Transport and storage | 3484 | 3791 | 5005 |
| I: Hotels and restaurants | 1501 | 927 | 1046 |
| J: Information and communication | 2275 | 2586 | 3103 |
| K: Financial intermediation and insurance | 644 | 951 | 804 |
| L: Real estate transactions | 95 | 146 | 96 |
| M: Professional, scientific and technical activities | 1143 | 1265 | 1626 |
| N: Administrative service activities and support service activities | 2625 | 3033 | 2405 |
| O: Public administration and defense; social insurance from the public system *) | 4638 | 6154 | 7888 |
| P: Education | 939 | 2016 | 2566 |
| Q: Health and social assistance | 5811 | 6522 | 6758 |
| A: Performances, cultural and recreational activities | 1154 | 1296 | 1216 |
| S: Other service activities **) | 1134 | 1098 | 1538 |

Source: INS release no. 48 / 19.02.2020

Significant increases in the rate and number of vacancies were in hotels and restaurants (+ 0.27%, respectively + 0.6 thousand vacancies). In agriculture, forestry and fisheries there were increases (+ 0.21%, respectively + 0.2 thousand vacancies). These developments are shown in the graph number 2.

## Evolution of the rate and number of vacancies

*Graph 2*
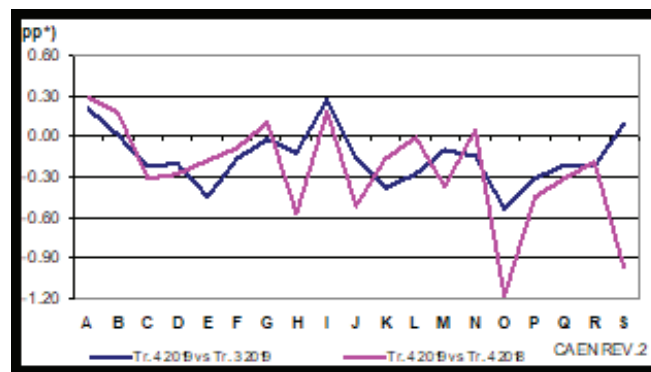


Compared to the fourth quarter of 2018, the largest decreases in the vacancy rate were in the public administration (-1.18%) and in other service activities (-0.96%). Higher growth was noted in agriculture, forestry and fisheries (+ 0.29%).

The most important decreases in job vacancies were in the manufacturing industry (-3.9 thousand vacancies) and in the public administration (-3.3 thousand vacancies), while growth was found in trade (+1.0 thousands of vacancies).

In the fourth quarter of 2019, the highest demand for paid workforce expressed by employers was for the occupations of specialists in various fields of activity (10.4 thousand vacancies). The data were structured in table number 3.

## Differences from previous periods by major occupational groups

*Table 3*

| Name of major occupational groups | Cod COR 2008 Major group level | TRIM 4 2018 | TRIM 3 2019 | TRIM 4 2019 | TRIM 4 2018 | TRIM 3 2019 | TRIM 4 2019 | Tr. 4 2019 vs Tr. 3 2019 | Tr. 4 2019 vs Tr. 4 2018 | Tr. 4 2019 vs Tr. 3 2019 | Tr. 4 2019 vs Tr. 4 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Members of the legislative body, the executive, senior officials of the public administration, senior managers and civil servants | GM1 | 0,69 | 0,60 | 0,54 | 2387 | 2057 | 1866 | -0,06 | -0,15 | -191 | -521 |
| Specialists in various fields of activity | GM2 | 1,49 | 1,32 | 0,96 | 16020 | 14195 | 10416 | -0,36 | -0,53 | -3779 | -5604 |
| Technicians and other technical specialists | GM3 | 1,22 | 1,10 | 0,98 | 5734 | 5255 | 4743 | -0,12 | -0,24 | -512 | -991 |
| Administrative officials | GM4 | 1,37 | 1,31 | 1,20 | 4224 | 4120 | 3758 | -0,11 | -0,17 | -362 | -466 |
| Workers in the field of services | GM5 | 1,02 | 1,11 | 1,11 | 7905 | 8821 | 8784 | 0,00 | 0,09 | -37 | 879 |
| Skilled workers in agriculture, forestry and fishing | GM6 | 0,44 | 0,55 | 0,56 | 102 | 119 | 115 | 0,01 | 0,12 | -4 | 13 |
| Skilled and assimilated workers | GM7 | 1,05 | 0,95 | 0,81 | 7346 | 6546 | 5564 | -0,14 | -0,24 | -982 | -1782 |
| Operators at installations and machines; machine and equipment assemblers | GM8 | 1,17 | 1,09 | 0,93 | 6632 | 6065 | 5158 | -0,16 | -0,24 | -907 | -1474 |
| Elementary occupations | GM9 | 1,28 | 1,18 | 1,01 | 8460 | 7867 | 6686 | -0,17 | -0,27 | -1181 | -1774 |

Source: INS release no. 48 / 19.02.2020

The vacancy rate had the most relevant increase for the occupations of administrative officials (1.20%).

The two indicators registered low values in the occupations of skilled workers in agriculture, forestry and fisheries (0.56%, respectively 0.1 thousand vacancies) and in those of members of the legislative body, of the executive, senior leaders of the public administration, senior managers and officials (0.54%, respectively 1.9 thousand vacancies).

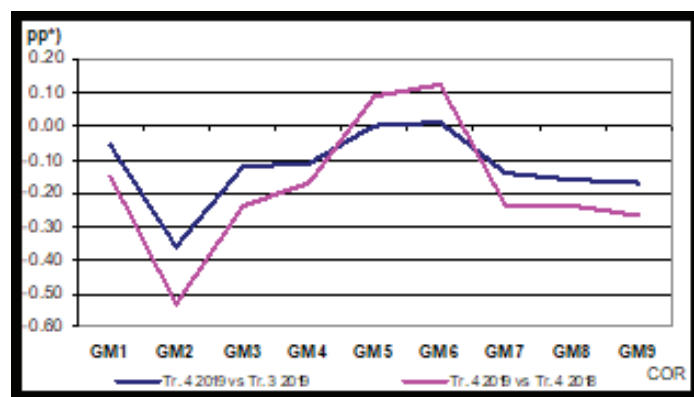**The vacancy rate by major occupational groups**

*Table 4*

| Major Occupation Groups (COR) | Vacancy rate - % - | | |
|---|---|---|---|
| | quarter IV 2019 | Previous periods | |
| | | quarter III 2019 | quarter IV 2018 |
| Total economy *) | 0,95 | 1,11 | 1,20 |
| GM1: Members of the legislative body, the executive, senior officials of the public administration, senior managers and civil servants | 0,54 | 0,60 | 0,69 |
| GM2: Specialists in various fields of activity | 0,96 | 1,32 | 1,49 |
| GM3: Technicians and other technical specialists | 0,98 | 1,10 | 1,22 |
| GM4: Administrative officials | 1,20 | 1,31 | 1,37 |
| GM5: Service workers | 1,11 | 1,11 | 1,02 |
| GM6: Skilled workers in agriculture, forestry and fishing | 0,56 | 0,55 | 0,44 |
| GM7: Skilled and assimilated workers | 0,81 | 0,95 | 1,05 |
| GM8: Operators at installations and machines; machine and equipment assemblers | 0,93 | 1,09 | 1,17 |
| GM9: Elementary occupations **) | 1,01 | 1,18 | 1,28 |

Source: INS release no. 48 / 19.02.2020

Compared to the third quarter of 2019, decreases in the rate and number of vacancies were registered in the occupations of specialists in various fields of activity, major group 2 (-0.36% and -3.8 thousand vacancies respectively), major group 9 (-0.17%, respectively -1.2 thousand vacancies). The data are presented in tables numbers 4 and 5, as well as in graph 2.

**Evolution of the rate and number of vacancies**

*Graph 3*



Compared to the third quarter of 2018, the most pronounced decrease in the rate and number of vacancies was in the occupations of specialists - major group 2 (-0.53%, respectively -5.6 thousand vacancies).

**Number of vacancies by major occupational groups**

*Table 5*

| Major Occupation Groups (COR) | Number of vacancies | | |
|---|---|---|---|
| | quarter IV 2019 | Previous periods | |
| | | quarter III 2019 | quarter IV 2018 |
| Total economy *) | 47090 | 55045 | 58810 |
| GM1: Members of the legislative body, the executive, senior officials of the public administration, senior managers and civil servants | 1866 | 2057 | 2387 |
| GM2: Specialists in various fields of activity | 10416 | 14195 | 16020 |
| GM3: Technicians and other technical specialists | 4743 | 5255 | 5734 |
| GM4: Administrative officials | 3758 | 4120 | 4224 |
| GM5: Service workers | 8784 | 8821 | 7905 |
| GM6: Skilled workers in agriculture, forestry and fishing | 115 | 119 | 102 |
| GM7: Skilled and assimilated workers | 5564 | 6546 | 7346 |
| GM8: Operators at installations and machines; machine and equipment assemblers | 5158 | 6065 | 6632 |
| GM9: Elementary occupations **) | 6686 | 7867 | 8460 |

Source: INS release no. 48 / 19.02.2020

Significant increase in the number of job vacancies was for occupations of workers in services - major group 5 (+0.9 thousand vacancies, respectively + 0.09%).

**Conclusions**

The article written by the authors on the basis of the study carried out in relation to the job offer, respectively vacancies and the demand on the Romanian labor market, offers a whole series of especially practical conclusions. The first conclusion is that 2019 has had a relatively relaxed course, the increases regarding the results obtained by Romania materialized in the Gross Domestic Product, the increase of the gross average, net average salary, as well as the offer of vacancies have not suffered and have followed an evolution specific to the Romanian market.

Another conclusion to be drawn is that, until 2019, even for the fourth quarter of this year, the fact that the vacancies have been filled has been significantly negative due to the non-correlation of the vacancies offered and the requests of the institutions of the economic environment, regarding the structure. qualifications, professions and so on.

It is anticipated that the year 2020 will follow a course completely disrupted by the pandemic crisis of the virus or syndrome 19. In this way it is anticipated that the vacancies will be filled in the current year, the technical unemployment will increase, and then the unemployment in general, it will be an explosion to return to the country of the personnel who worked temporarily in the European countries mainly, we refer to Italy, Spain, France, Germany, the United Kingdom and others. We also anticipate the reduction of production, the suspension of activities that contributed to the achievement of the Gross Domestic Product, such as domestic and foreign tourism, then exports and imports, domestic production and many others that will have negative effects. It will certainly increase the internal and external public debt with future effects and it is not excluded that in the social environment, wages will be frozen, to a certain extent diminished and the problem cannot be raised otherwise with regard to the pension system, the evolution of pensions and many others.

Another conclusion is that only a well-articulated macroeconomic management based on in-depth studies can ensure the maintenance of a macro-stability that is currently in great danger.

The analysis performed at this time and based on the data recorded in 2019 compared to previous years may not be relevant in terms of a forecast regarding what would happen on the world market, the European market and the Romanian market. . Of course, studies can also be deepened by using

statistical-econometric models to provide a forecast based on quarterly data, especially after the end of the first quarter of 2020.

**References**
1. Anghel, M.G., Anghelache, C., Avram, D., Burea, D., Marinescu, I.A. (2018). Aspects on natural movement of population, labor force and vacancies in economy. *Romanian Statistical Review, Supplement,* 11, 60-70
2. Anghel, M.G., Anghelache, C. (2017). Analysis of the labor market in the Member States of the European Union. *Romanian Statistical Review, Supplement*, 11, 13-22
3. Anghelache, C., Anghel, M.G., Dumbravă, Ș.G., Ene, L. (2018). Analyzing the employment rate of the population, unemployment and vacancies in the economy. *Theoretical and Applied Economics, XXV,* 2(615),105-118
4. Anghelache, C., Avram, D., Burea, D., Petre (Olteanu), A. (2018). Analysis of the Natural Movement of Population and Labor Force Development. *Romanian Statistical Review, Supplement, 2*, 115-123
5. Ardilly, P., Osier, G. (2007). Cross-sectional variance estimation for the French "Labour Force Survey. *Survey Research Methods, 1* (2), 75-83, European Survey Research Association
6. Davis, S., Faberman, J., Haltiwanger, J. (2006). The flow approach to labor markets: New data sources and micro-macro links, *Journal of Economic Perspectives*, 20 (3), 3 – 26
7. Hili, A., Lahmandi-Ayed, R., Lasram, H. (2016). Differentiation, labor market and globalization. *The Journal of International Trade & Economic Development, 25 (*6), 809-833
8. Klein, P., Ventura, G. (2009). Productivity differences and the dynamic effects of labor movements. *Journal of Monetary Economics, 56* (8), 1059–1073
9. Kroft, K., Lange, F., Notowidigdo, M. (2013). Duration Dependence and Labor Market Conditions: Evidence from a Field Experiment. *Quarterly Journal of Economics*, *128* (3), 1123–1167
10. Maestas, N., Mullen, K., Powell, D. (2016). The effect of population aging on economic growth, the labor force and productivity. *National Bureau Of Economic Research*, Cambridge, Working Paper no. 22452
11. Mortensen, D., Pissarides, C. (2011). Job Creation and Job Destruction in the Theory of Unemployment. *Economic Policy*, 1, 1-19
12. Institutul Național de Statistică, Comunicat nr. 48 / 19.02.2020