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## The Impact of the COVID-19 Pandemic on the Situation of the Unemployed in the Podkarpackie Voivodeship

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**Abstract:**

**Purpose:** The aim of this article is to try to assess the impact of COVID-19 on the situation of unemployed people in Poland. Podkarpackie voivodeship, one of the regions in Poland which for many years has belonged to the group of Polish voivodeships with the highest level of unemployment, was used as a case study.

**Design/Methodology/Approach:** The study used a multiple correspondence analysis and Ward's method. Their application allowed for the identification of regularities regarding respondents' opinions on the labour market during the COVID-19 pandemic.

**Findings:** The methods used in the study turned out to be a helpful tool in presenting the impact of the pandemic on the situation of the unemployed. They indicated several discrepancies in the perception of the effects of the COVID-19 pandemic on the labour market by groups with different demographic and social characteristics. As the pandemic situation is still not stabilised, such analyses as in this article should be continued in the coming years. That will permit the observation of regularities or their absence, especially after the pandemic has ended.

**Practical Implications:** The results of this type of research can help both labour market institutions and working, employed and unemployed people to understand how the pandemic affects the labour market, especially the situation of the unemployed. Such information will be helpful, on the one hand, in making decisions by labour market institutions regarding their future activities and, on the other hand, in shaping the individual's career path in times of crisis. Thus, the study fills the research gap in this area.

**Originality/value:** The article contributes to the current scientific discussion on the impact of the COVID-19 pandemic on the situation of the unemployed in Europe.

**Keywords:** COVID-19, pandemic, the unemployed, surveys, correspondence analysis.

**JEL classification:** C38, I15, J64.

**Paper Type:** Research study.

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## **1. Introduction**

The COVID-19 pandemic and the related economic crisis have become a huge challenge for all countries and societies in the world, having a significant impact on most areas of social and economic life, including the labour market. The beginning of the pandemic dates back to December 2019, when an atypical form of severe pneumonia appeared in the city of Wuhan in the Chinese province of Hubei, which became a huge test for the whole world. The disease was named COVID-19, and the pathogen causing it SARS-CoV-2 virus. It was not the first virus in the coronavirus family that was pathogenic for humans (Yang and Ma, 2020; Zhu, Zhang, Wang, and Li, 2020), but it certainly caused a great crisis that quickly hit the entire world. In March 2020, the World Health Organization (WHO) declared a state of a pandemic. Cases of COVID-19 have emerged in all countries of the world. The first case of coronavirus infection in Europe was reported in France. In the following days, infections also appeared in Germany, Great Britain and Italy. In Poland, the first case of this disease was reported on March 4, 2020 (Duszynski *et al.*, 2020).

At the beginning of 2020, scientific publishers, institutions and the world's mass media published information about the spread of the coronavirus pandemic among people. Following this, the governments of individual countries and regions announced restrictions related to the spread of the SARS COV-2 epidemic. In Poland, the Act on preventing, counteracting and combating COVID-19 was adopted on March 2, 2020, and entered into force on March 15, 2020.

The scale of the coronavirus and the accompanying losses and problems have meant that the current collapse is not only a health crisis but also a profound social and economic crisis. The pandemic is the first global event in the twenty-first century, which caused that most countries in the world were forced to explicitly subordinate the functioning of the economy to the need to maintain the health security of society. This phenomenon has been described as the "freezing of the economy". Governments of individual countries introduced several restrictions under the so-called sanitary regime, including total or partial lockdown, which led economic activity to almost complete stagnation. The introduction of these measures, which largely affect the course of social and economic processes, had immediate negative economic effects on a global, national and regional scale. Among these consequences, one of the most negative is the rise in unemployment, soaring in an economic recession.

The depth of the recession was influenced by the economic importance of those industries that were subjected to the most significant restrictions during the pandemic. Based on the typology of the vulnerability of economic sectors to the economic crisis caused by the pandemic, which was created by ILO analysts, it can be estimated that 37.46% of the world's employees (1 245 581 000 employees) work in the sectors of the world economy most vulnerable to the crisis (International Labour Organization, 2020). In order to maintain employment and protect jobs, governments in many countries have launched so-called support programmes.

The increase in unemployment caused by the pandemic has been uneven, both by country/region and by socio-demographic criteria of the population in the country/region. It proceeded differently, among others depending on age groups or gender, and particularly strongly affected working young people and women. The position of the long-term unemployed has also deteriorated, as, in the recovery phase, entrepreneurs will first re-accept redundant workers and only then hire new ones. The economic recovery is not synonymous with a simultaneous improvement in the situation in the labour market. That is due to main changes in the structure of employment that have occurred during the pandemic (including the reduction of low-skilled workers, an increase in the demand for specialists in the ITC sector), and which may deepen the risk of poverty and social exclusion, also in the group of long-term unemployed.

The aim of this article is to present the impact of the COVID-19 pandemic on the situation of the unemployed on the example of the Podkarpackie Voivodeship, one of the regions in Poland, which for many years has belonged to the group of Polish voivodships with the highest level of unemployment. The Podkarpackie Voivodeship is located in south-eastern Poland. It is characterised by a higher birth rate than the national average and a relatively favourable age structure. As already mentioned, it belongs to the voivodships with one of the highest unemployment rates in Poland (despite the improvement in this situation in recent years), the average salary is significantly lower than the average national wage and intra-regional wage differences.

This Voivodeship is characterised by a high internal differentiation of the labour market, indicating the existence of intra-regional disparities and a low level of cohesion. Podkarpackie belongs to regions with a lower level of economic development than most voivodships in the country. In the years 2004-2015, it achieved socio-economic success, which is confirmed, among other things, by very significant increases in GDP *per capita*. It is an area with a high percentage of the rural population in the total number of inhabitants, high fragmentation of farms and agricultural land, with a high percentage of people living on low-productivity agricultural work. However, the voivodship has a great innovation potential and stands out with indicators against the background of the country. It also has excellent potential for tourism development (Wais, 2019).

Achieving the purpose of the study required the use of appropriate statistical methods. In this study, multiple correspondence analysis and Ward's method were used as research tools, which made it possible to determine associations between variants of variables and thus to identify groups of respondents with similar views on the impact of the pandemic on the labour market situation.

The structure of this article includes an introduction, which outlines the primary purpose of the paper and explains the authors' main motivations for conducting the research. In the following section, the literature on the impact of the COVID-19

pandemic on the unemployed is reviewed. The statistical data used in the study are subsequently presented, and the research procedure is described. The article ends with the presentation of research results, discussion and conclusions resulting from the research.

## **2. The Impact of the SARS COV-2 Pandemic on the Labour Market with Particular Reference to Unemployment – A Literature Review**

Pandemics are some of the biggest, potentially harmful global threats affecting the existence of humanity. Human capital is an essential factor in management processes. The impact of human capital on economic growth, particularly socio-economic development, seems obvious (Lucas, 1988). On the example of panel research of the European Union countries for the years 1970-2017, the importance of human capital as a growth factor was emphasised, and it was argued that investing in human capital affects the sustainable development of countries. In addition, dynamic interactions between foreign direct investment, unemployment, exports and economic growth in the countries of the so-called old Union were defined (Dritsakis and Stamatiou 2018).

The issue of the relevance of unemployment for the conduct of development policy assumes particular importance given the occurrence of crisis phenomena (Pelinescu 2015), especially after the 'Great Crisis' of 2007-2008, where particular interest was devoted to labour market research projects. It is emphasised that, in the event of a recession, labour market activation programmes are of great importance (Card, Cluve, and Weber 2017).

The impact of pandemic constraints on the labour force participation of the population, especially unemployment, is the subject of much research. However, one can venture to say that an intrinsic feature of the crisis associated with the modern COVID-19 pandemic is the sharp rise in the unemployment rate in most European economies (Chi-Wei Su *et al.*, 2021). As early as May 2020, a study by the Federal Reserve Bank of San Francisco, Petrosky-Nadeau and Valletta (2020) highlighted the large-scale disruption to the US and global labour market caused by the COVID-19 pandemic and pointed to the uncertainty surrounding unemployment forecasts. Kong and Prinz (2020) have quantified the impact of reducing economic activity during the COVID-19 pandemic in individual US states. Bauer and Weber (2020) estimated a quantitative increase in unemployment in Germany. Katris (2021) examined the extent to which the COVID-19 crisis has affected the level of unemployment in Greece, and Hazakis (2021) made macroeconomic projections for the post-crisis period.

In turn, the social effects of unemployment are presented in the paper by Rosen and Stenbek (2021), which describes the consequences for mortality and life expectancy of the increased unemployment rate caused by the coronavirus pandemic in Sweden and other countries. The authors stated that "if the number of unemployed in Sweden increases by 100,000, about 1800 more premature deaths can be expected after 9 years. If the duration of the recession is limited to 4 years, the excessive number of deaths

from unemployment can be around 800, and the unemployed will lose an average of 2 years of remaining life expectancy." Acs and Karpman (2020) presented studies of US Labour Market surveys that showed that among adults "aged 18 to 64, 43.4%, they or someone in their family lost their job or was laid off, received leave or had to reduce their hours, or lost earnings or income from their job or business because of the pandemic. In 2020, the share of working adults fell to 65.6% in May, from 68.1% recorded in March/April."

The quantitative relationship between the development of the pandemic and changes in the labour market was reported by Petrosky-Nadeau and Valletta (2020). They pointed to the significant (double-digit) share of unemployment in the US caused by the pandemic. McGuinness and Kelly (2020) examined unemployment as a consequence of the pandemic in Ireland. They described the situation as "*an unprecedented crisis in the Irish Labour Market*". They found a significant increase in the unemployed and the associated burden on labour market institutions. They proposed solutions to support public labour market institutions aimed at eliminating long-term unemployment and activating the unemployed. In addition, they devoted attention to the risk of long-term unemployment and the most vulnerable sectors. They identified five main sectors of the economy with a high rate of job losses. In their view, the impact of the pandemic varies by age, and in terms of geographical location, the border region has the highest job losses.

The impact of crises, including the COVID-19 pandemic on Greek society, also considering employment risk factors, has been analysed, among others, in the study of Parlapani *et al.* (2020). The impact of pandemic phenomena on the labour market is essential with regard to the assessment carried out directly in the groups of the unemployed most affected by the pandemic - already in June 2020, scholars saw the need for a research agenda using quantitative methods of unemployment during the COVID-19 pandemic, with a particular focus on the experiences and personal situation of the unemployed, including the loss of loved ones in the pandemic (Blustein *et al.*, 2020). They stated that "*unemployment has a devastating impact on the psychological, economic and social well-being of individuals and communities.*"

It should be noted that factors such as, for example, unemployment or foreign direct investment are drivers of economic growth, not only nationally (Dritsakis and Stamatiou 2018), but are particularly important in smaller regions, such as the Podkarpackie Voivodeship in Poland analysed in the paper (Hydzik, 2018; Barwińska-Małajowicz Tęcza, 2020).

The issue of unemployment during the COVID-19 pandemic has been addressed in many works and reports as Alhambra (2020), Almeida and Santos (2020), Al-Thaqeb *et al.* (2020), Caperna, Colagrossi, Geraci, and Mazzarella (2020), Churchill (2020), Hendrickx *et al.* (2020), Kantova and Arltova (2020), Khan *et al.* (2020), Manganese (2020a; 2020b), McGann *et al.* (2020), Grima *et al.* (2020), Mithras and Xu (2020),

Sachs (2020), Scott and Finamor (2020), Svabova, Metzker, and Pisula (2020), Trzebiatowski *et al.* (2020).

### **3. Materials and Methods**

Statistical data on the impact of the COVID-19 pandemic on unemployment in the Podkarpackie Voivodeship were taken from surveys conducted in 2021 among people aged 18 and over living in the Podkarpackie Voivodeship. The questionnaire included six classification questions and 9 questions relating to the studied phenomenon. The questionnaire included socio-demographic questions on the type of social group, gender, age, education, place of residence and seniority. The second part of the survey concerned the impact of the COVID-19 pandemic on job losses, the behaviour of employers in relation to hiring new employees, economic spheres that have suffered the most due to the outbreak and development of the pandemic. The survey was completed correctly by 367 people, among whom every third respondent was unemployed.

In order to check whether it is possible to identify regularities regarding respondents' opinions on the labour market during the COVID-19 pandemic based on the conducted surveys, a multiple correspondence analysis was used. It was carried out on the basis of a Burt matrix measuring 48×48 (the number of answer variants assigned to fifteen questions of the questionnaire). Variants of the answer, that is, categories of characteristics, were given the following symbols:

- age A1 – 18-25 years, A2 – 26-35 years, A3 – 36-50 years, A4 – 50 years and more;
- education, E1 – at most lower secondary school, E2 – vocational, E3 – secondary, E4 – higher;
- gender: F – woman, M – man;
- residence; R1 – rural areas up to 10,000 inhabitants, R2 – rural areas over 10,000 inhabitants, R3 – urban areas up to 10,000 inhabitants, R4 – urban areas from 10,000 to 50,000 inhabitants, R5 – urban areas over 50,000 inhabitants;
- Seniority S1 – up to 10 years, S2 – from 10 to 30 years; S3 – over 30 years;
- Social status ST1 – working person, ST2 – unemployed person. ST3 – pensioner, ST4 – farmer, ST5 – student;
- Q1: Do you agree that the pandemic has contributed to the fact that the unemployed are more determined to find a job during this period? Q<sub>1\_1</sub> – I disagree, Q<sub>1\_2</sub> – I have no opinion, Q<sub>1\_3</sub> – I agree;
- Q2 In your opinion, has the emergence of the COVID-19 pandemic contributed to the loss of jobs for society? Q<sub>2\_1</sub> – yes, Q<sub>2\_2</sub> – no, Q<sub>2\_3</sub> – it is difficult to say;
- Q3 Has the COVID-19 pandemic affected the area of the economy in which you are or have been employed, causing you to lose your job? Q<sub>3\_1</sub> – yes, Q<sub>3\_2</sub> – no;

- Q4 Have anyone in your immediate environment (family, friends) lost their job due to the COVID-19 pandemic? Q4\_1 – yes, Q4\_2 – no;
- Q5 Have you now observed employers' caution towards hiring new employees due to the overall slowdown in the economy? Q5\_1 – yes, Q5\_2 – no, Q5\_3 – Do not know;
- Q6 In your opinion, could the current COVID-19 pandemic lead to a deep recession, including difficulties in finding a new job? Q6\_1 – yes, Q6\_2 – no, Q6\_3 – it is difficult to say;
- Q7 How do you assess the financial support for entrepreneurs from the state in order to limit the increase in unemployment? Q7\_1 – Badly, Q7\_2 – OK, Q7\_3 – it is difficult to say;
- Q8 In the current situation of the COVID-19 pandemic, would you be ready to start your own business? Q8\_1 – yes, Q8\_2 – no, Q8\_3 – it is difficult to say;
- Q9 In your opinion, will the situation in the labour market improve in the following stages of the pandemic or, on the contrary, will it deteriorate for people looking for a job? Q9\_1 – it will improve, Q9\_2 – it is difficult to say Q9\_3 – it will deteriorate.

The correspondence analysis consists of the following stages (Greenacre and Hastie, 1987; Goodman, 1986; Greenacre, 1994; Stanimir, 2005; Bittern, 2013):

1. the determination of the real of coexistence space ( $K$ ) out according to the formula:

$$K = \sum_{q=1}^Q (J_q - 1) \quad (1)$$

where:

$J_q$  – number of variable  $q$  categories ( $q = 1, 2, \dots, Q$ ),

$Q$  – number of variables;

2. Checking to what extent the eigenvalues ( $\lambda_k$ ) of the lower-dimensional space explain the total inertia (a measure of the dispersion of points) ( $\lambda = \sum_{k=1}^K \lambda_k$ ) For this purpose, the Greenacre criterion was used, according to which those eigenvalues ( $\lambda_k$ ) for which the inequality is satisfied are considered relevant for the study:

$$\lambda_k > \frac{1}{Q}. \quad (2)$$

3. Modification (improvement of quality) of eigenvalues according to Greenacre's proposal based on the formula:

$$\tilde{\lambda}_k = \left(\frac{Q}{Q-1}\right)^2 \cdot \left(\sqrt{\lambda_k} - \frac{1}{Q}\right)^2 \quad (3)$$

where:

$\lambda_k$  –  $k$ -th eigenvalue ( $k = 1, 2, \dots, K$ ),

$Q$  – number of variables;

4. Graphical representation of correspondence analysis using Ward's method.

#### 4. Study Results

A Burt's matrix of dimension 48x48 was created to identify relationships between the categories of variables presented in Section 3. For the fifteen variables studied, the dimension of the actual co-occurrence space of the answers to the questions is 33 (formula 1).

Next, it was checked to what extent the eigenvalues of the smaller dimensions explain the total inertia ( $\lambda = 2.2000$ ). For this purpose, the Greenacre criterion was used, according to which major inertia greater than  $\frac{1}{Q} = \frac{1}{15} = 0,0067$  are considered significant for the study (formula 2). Table 1 shows that these are inertias for K with values up to 12. For these dimensions, the values of the  $\tau_k$  measure were analysed, and it was found that the degree of explanation of inertia in two-dimensional space is 17.04% and in three-dimensional space 24.71%. In addition, an eigenvalue chart was drawn up and, using the 'elbow' criterion; it was concluded that the presentation space for the co-occurrence of variable variants should be four-dimensional (Figure 1).

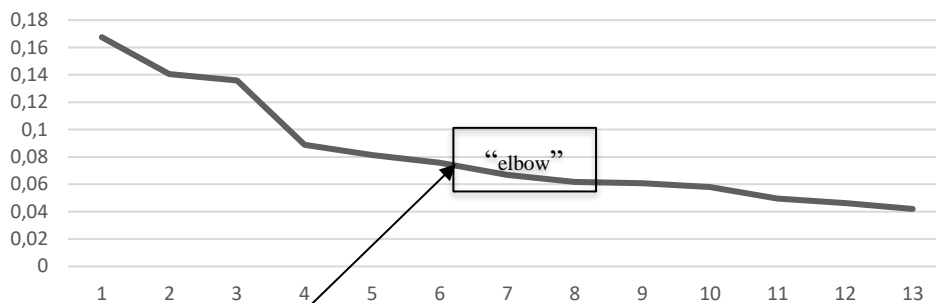
In order to improve the quality of the mapping in four-dimensional space, the eigenvalues were modified according to Greenacre's proposal (formula 3). After the modification, the first four eigenvalues represent 49.54% of the modified total inertia. Thus, considering the first four dimensions allows us to explain almost half of the total inertia.

**Table 1.** Singular values and eigenvalues together with the degree of explanation of the total inertia in the original and modified versions

| Number of dimensions K | Singular values $\gamma_k$ | Eigen values $\lambda_k$ | $\lambda_k/\lambda$ | $\tau_k$ | $\tilde{\lambda}_k$          | $\tilde{\lambda}_k/\tilde{\lambda}$ | $\tilde{\tau}_k$ |
|------------------------|----------------------------|--------------------------|---------------------|----------|------------------------------|-------------------------------------|------------------|
| 1                      | 0.4487                     | 0.2013                   | 9.1518              | 9.1518   | 0.1676                       | 0.1558                              | 0.1558           |
| 2                      | 0.4167                     | 0.1736                   | 7.8913              | 17.0431  | 0.1406                       | 0.1307                              | 0.2865           |
| 3                      | 0.4107                     | 0.1687                   | 7.6666              | 24.7097  | 0.1359                       | 0.1263                              | 0.4128           |
| 4                      | 0.3449                     | 0.1190                   | 5.4079              | 30.1176  | 0.0889                       | 0.0826                              | 0.4954           |
| 5                      | 0.3331                     | 0.1109                   | 5.0420              | 35.1596  | 0.0815                       | 0.0757                              | 0.5712           |
| 6                      | 0.3237                     | 0.1048                   | 4.7628              | 39.9224  | 0.0758                       | 0.0705                              | 0.6417           |
| 7                      | 0.3079                     | 0.0948                   | 4.3092              | 44.2316  | 0.0668                       | 0.0621                              | 0.7038           |
| 8                      | 0.2986                     | 0.0892                   | 4.0531              | 48.2847  | 0.0618                       | 0.0574                              | 0.7612           |
| 9                      | 0.2970                     | 0.0882                   | 4.0088              | 52.2935  | 0.0609                       | 0.0566                              | 0.8178           |
| 10                     | 0.2914                     | 0.0849                   | 3.8591              | 56.1526  | 0.0580                       | 0.0539                              | 0.8717           |
| 11                     | 0.2747                     | 0.0755                   | 3.4297              | 59.5823  | 0.0497                       | 0.0462                              | 0.9179           |
| 12                     | 0.2675                     | 0.0716                   | 3.2534              | 62.8357  | 0.0463                       | 0.0431                              | 0.9609           |
| 13                     | 0.2580                     | 0.0665                   | 3.0246              | 65.8603  | $\tilde{\lambda}_k = 1.0756$ |                                     |                  |

Source: Own elaboration.



**Figure 1.** Eigenvalue chart - elbow criterion

**Source:** Own elaboration.

Due to a large number of analysed variables and their variants, the interpretation of the results obtained in the four-dimensional space is impossible. In order to interpret the results more explicitly, Ward's method was used to determine the relationships between the variable variants. The Ward method is one of the agglomeration grouping methods. It is used in empirical research both in relation to the classification of objects and features. In this method, the distance between groups is defined as the module of the difference between the sums of squares of the distance of points from the centres of the groups to which these points belong. In Figure 2, which shows the aggregation of categories into classes, a horizontal line marks the stage where the aggregation of classes has been discontinued. The following five classes were obtained:

Class I (ST3; S3; E1; A4) includes pensioners with at most lower secondary education over the age of 50 and over, whose seniority has exceeded 30 years.

Class II (Q6\_2; Q5\_2; Q2\_2; ST2) concerns unemployed people who believe that the emergence of the COVID-19 pandemic has not contributed to the loss of jobs by society. In their opinion, employers are not more cautious about hiring new staff because of the pandemic, and the pandemic should not lead to a deep recession, including difficulties in finding a new job.

Class III (Q9\_3; Q7\_2; Q8\_2; Q1\_2; R4; Q6\_3; Q5\_3; Q9\_2; Q4\_2; Q8\_3; Q2\_3; Q3\_1; Q1\_3; R1; E2; ST4; M; R3; Q7\_3; R\_2; S2; A3) applies to men, farmers aged 36-50, with a length of service of 10 to 30 years, with vocational education, living in rural areas or urban areas up to 50,000 inhabitants. They mostly agree with the opinion that the pandemic has contributed to the fact that the unemployed are more determined to find a job during this period, they do not know: whether the emergence of the COVID-19 pandemic has contributed to the loss of jobs by society. They claim that the area of the economy in which they work has been badly affected by COVID-19, but they do not know anyone in their immediate environment who has lost their jobs due to the pandemic. They are also unable to answer whether employers are cautious

about hiring new employees due to the overall slowdown in the economy. They do not know whether the pandemic can lead to an economic recession, but they think that the situation on the labour market will improve in the following stages of the pandemic. They positively assess the state's financial support for entrepreneurs to limit the increase in unemployment. They believe that in the current situation, they are ready to start their own business.

Class IV (PYT9\_1; Q6\_1; Q5\_1; Q4\_1; Q2\_1; Q7\_1; E4; E3; F; ST1; Q3\_2; Q1\_1; Q8\_3; A2) includes working women aged 26-35 with at least secondary education. They believe that the emergence of the COVID-19 pandemic has contributed to the loss of jobs for the public. They were not affected, but they know people in their immediate environment who lost their jobs because of the pandemic and are now finding it difficult to find new ones, as employers are very cautious about hiring new staff. In their opinion, the pandemic has not contributed to the fact that the unemployed are more determined to find a job during this period, but it can lead to a deep recession, including difficulties finding a new job. Financial support for entrepreneurs from the state in order to limit the increase in unemployment is assessed negatively. Their views on starting their own business during the pandemic are often divergent, some of them would take it, and some believe that this is not possible. They believe that the situation in the labour market in the next stages of the pandemic will certainly deteriorate.

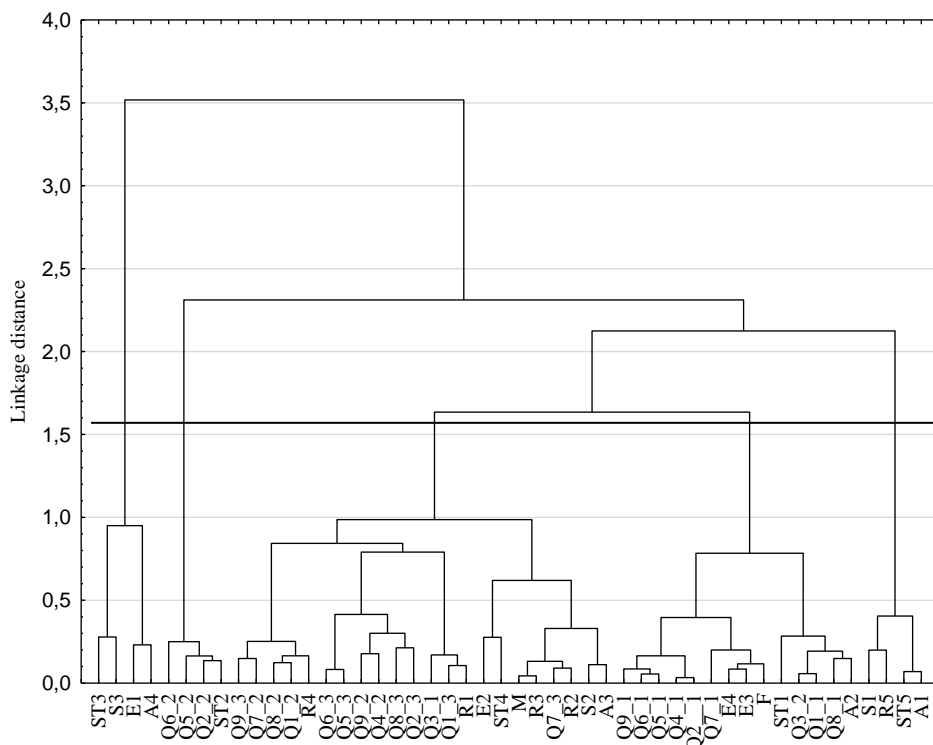
Class V (S1; R5; ST5; A1) applies to students up to 25 years of age with a short period of service (usually up to 5 years) living in urban areas with more than 50,000 inhabitants.

## **5. Discussion and Conclusions**

The coronavirus pandemic has affected all countries, all sectors of the economy and businesses. However, the effects of the pandemic are not felt equally in all countries/regions. Despite the aforementioned financial measures launched under support programmes aimed at protecting jobs (including limiting mass redundancies), an increase in the number of unemployed has not been avoided. The unemployment rate increased in almost all EU countries, analysed as a relation of Q1 2021 to the same period of the previous year.

Table 2 lists the countries of the European Union which recorded the largest increase in the unemployment rate in the period under review. It occurred in such countries as: Austria (by 3.7%), Croatia (3.5%), Belgium, Estonia and Spain (2.6% each), Sweden (2.4%), the Netherlands (2.2%), Latvia (2.0%). In most countries, this increase remained at the level of 1% - 2%. In Poland, it amounted to 1.3%. Also, in the examined Podkarpackie Voivodeship, an increase in the unemployment rate was observed in the analysed period.

**Figure 2.** Diagram of a hierarchical classification of variable categories using the Ward method



Source: Own elaboration.

**Table 2.** The unemployment rate in selected EU countries in 2020-2021 (quarterly data)(%)

| Country         | 2020 |      |      |      | 2021 | Q1 2021/<br>Q1 2022 |
|-----------------|------|------|------|------|------|---------------------|
|                 | Q1   | Q2   | Q3   | Q4   | Q1   |                     |
| UE-27:          | 5.8  | 6.2  | 5.8  | 6.4  | 7.0  | +1.2%               |
| Belgium         | 4.9  | 5.7  | 6.4  | 5.9  | 7.5  | +2.6                |
| Estonia         | 4.6  | 7.3  | 8.8  | 8.9  | 7.2  | +2.6                |
| Spain           | 14.8 | 16.7 | 17.1 | 17.2 | 17.4 | +2.6                |
| Croatia         | 6.8  | 7.9  | 9.2  | 8.8  | 10.3 | +3.5                |
| Latvia          | 7.6  | 8.9  | 9.4  | 9.2  | 9.6  | +2.0                |
| The Netherlands | 3.1  | 3.7  | 4.0  | 3.9  | 5.3  | +2.2                |
| Austria         | 4.0  | 5.0  | 5.5  | 5.4  | 7.7  | +3.7                |
| Sweden          | 5.6  | 6.7  | 6.5  | 6.4  | 8.0  | +2.4                |
| Poland          | 3.3  | 3.4  | 3.5  | 3.5  | 4.6  | +1.3                |

Source: Own elaboration based on Eurostat data.

The opinions of the public on the phenomena occurring during the pandemic on the regional labour market are very varied. The methods used proved to be a helpful tool in presenting the impact of the pandemic on the situation of the unemployed in the

studied voivodeship. They indicated several discrepancies in the perception of the effects of the COVID-19 pandemic on the labour market by groups with different demographic and social characteristics. The results of the survey, analysed using the Ward method, showed that out of five separate classes of respondents taking part in the survey – the residents of the Podkarpackie Voivodeship, only one group, i.e. working women aged 26-35 with at least secondary education, believes that the emergence of the COVID-19 pandemic contributed to the loss of jobs by society.

Also, the distribution of answers to other questions analysed according to the selected groups is very diverse. For example, the aforementioned group of women rated the financial support for entrepreneurs provided by the state in order to reduce the increase in unemployment negatively, in contrast to the positive assessment made by a group of men, farmers aged 36-50, with 10 to 30 years of work experience, with vocational education, living in rural areas or urban areas with up to 50,000 inhabitants. The most optimistic attitude towards the situation in the labour market during the pandemic seems to have a group of unemployed people.

As the pandemic situation is still not stabilised, this kind of analysis, as in this article, should continue in the following years. That will permit the observation of regularities or the lack thereof, particularly after the end of the pandemic. In addition, the results of this type of research can help both labour market institutions and those who are working, employed and unemployed to understand how the pandemic is affecting the labour market, especially the unemployed. Such information will be helpful, on the one hand, in making decisions by labour market institutions regarding their future activities and, on the other hand, in shaping the individual's career path in times of crisis. Thus, the study fills the research gap in this area.

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