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Maria Balcerowicz-Szkutnik
University of Economics in Katowice, Poland

SPACE-TIME ANALYSIS OF THE PHENOMENON OF UNEMPLOYMENT IN THE GROUP OF NEW EU MEMBER STATES

Abstract: The article shows in a synthetic way the problems of unemployment in the ten states that newly accessed the EU in 2004. Special attention was paid to long-term unemployment. The period of time from 2000 to 2011, that was selected for the purpose of the analysis, includes the years that directly preceded and directly followed accession to the EU. This was to show the possible changes in intensity of this phenomenon in the selected countries.

Keywords: labour market, employment, unemployment, age structure, space-time analysis.

1. Introduction

2004 was a critical year in the economy and the position on the market of Europe for ten European states. This was because this was the year when they joined the European community. As a rule, together with economic changes, hopes for certain changes in everyday life occurs among people. Some of those hopes were associated with the labour market, particularly with the expansion of possibilities of getting a job and improving living conditions. The changes were oriented to, and could, bring a decrease in unemployment and an increase in the level of employment. Particularly significant expectations were set on the states of the "old union". The present article includes the initial results of analyses of the level of unemployment in the group of states that joined the EU in 2004. The analyses were limited to the period of time from 2000 to 2011, to show whether changes in the unemployment rate occurred in the years directly preceding 2004 and in the years after accession to the EU. Therefore, if we consider the years 2000, 2004 and 2011 as in some way the border years, there were some more specific analysis introduced. The establishment of the occurrence of specific changes should allow for the formulation of conclusions concerning the influence of economic changes associated with the accession to the EU concerning the labour market. The article is divided into three short parts. The first part includes general characteristics of the age structure of the population of particular countries – the new EU member states, the second includes the analyses of the unemployment rate while considering the age of employees and their education,

and in the third part special attention was paid to a particular form of unemployment, that is long-term unemployment. Data from Eurostat provided the empirical base for the performed analyses. They were suitably compiled for the needs of the subject area included in the topic. All of the tables and graphs in the article were prepared on the basis of EUROSTAT data.

2. Structure of population of "new" EU member states

On 1st May 2004, the European Union was enlarged by 74 141 654 people, the citizens of ten states. They were Cyprus, Estonia, Lithuania, Latvia, Malta, Poland, the Czech Republic, Slovenia, Slovakia and Hungary. The size of the populations of those countries was significantly diversified. Poles were the largest population (about 51%) and the smallest group was the population of Malta and Cyprus (about 1% each) (Figure 1).

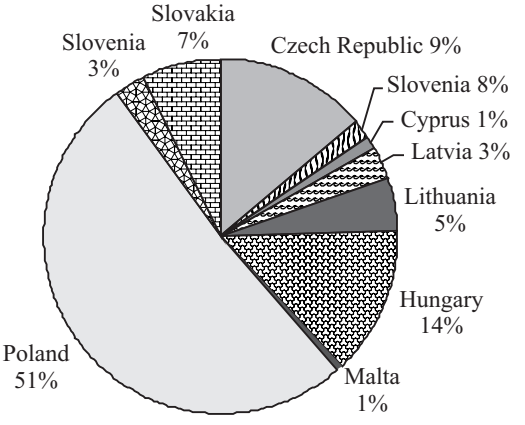

Figure 1. Population structure of all the states that joined the EU on 1st May 2004

Source: calculations made by the author.

Taking the population structure of these states into consideration (Figure 2), we can state that, while measuring the proportion of people under 24 years of age, the population of Cyprus (35.1%) as well as of Poland and Slovakia (33.2%) were the "youngest". On the other hand, the population of Slovenia (27.8%) and the Czech Republic (28.3%) were the oldest, while the percentage of young people under 24 years of age in the whole EU was 28.7%.

The diversified age structure is confirmed by the age median (Table 1). People younger than 35 years of age make up half of the populations of Cyprus and Malta. In the case of the other states, the age of half of the populations was under 39, and with respect to the age median, only Lithuanians and Slovenians are close to the EU level, that is to 39.3 years of age. While analysing additionally the level of population

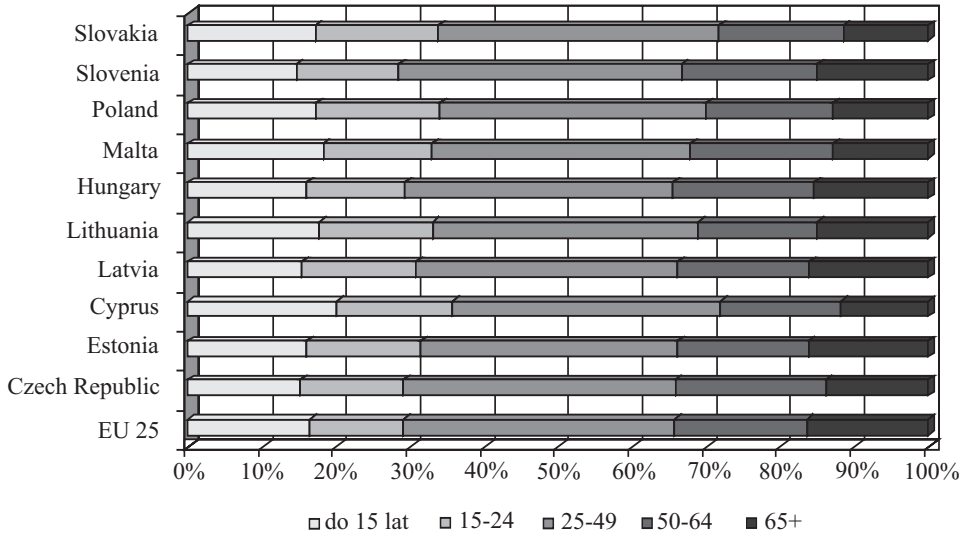

Figure 2. Age structure of the population of member states that "newly accessed" the EU in 2004

Source: calculations made by the author.

Table 1. Age median of population of selected group of EU member states in 2004 (years of age)

EU 25	Czech Republic	Estonia	Cyprus	Latvia	Lithuania	Hungary	Malta	Poland	Slovenia	Slovakia
39.3	38.5	38.7	34.8	39.0	37.3	38.8	37.7	36.2	39.4	35.0

Source: calculations made by the author.

ageing of every state, perceived as the percentage of people over 65 years of age, we can state that it was not higher than the EU level of 16.5% in any of the states.

Complementing the population analyses with gender, we can state that in each of the countries a clear predominance of women over men is observed, and only in the case of Cyprus, Malta and Slovenia, was the feminisation coefficient lower than in the EU (105.4). In other states it reached higher values of even 117.1 (Estonia and Lithuania). This can be seen in Table 2.

Table 2. Feminisation coefficient for selected group of EU states in 2004

EU 25	Czech Republic	Estonia	Cyprus	Latvia	Lithuania	Hungary	Malta	Poland	Slovenia	Slovakia
105.2	105.3	117.1	103.3	117.1	114.2	110.6	101.9	106.6	104.4	106.0

Source: calculations made by the author.

3. Dynamics of unemployment rate while considering the age and level of education of a possible employee

The level of unemployment is one of the major parameters that characterise the condition of the labour market and therefore we cannot ignore it. The unemployment rate is most often assessed as the proportion between the number of unemployed people and those who are professionally active (that is the number of people who work and those who look for work). In the case of the new EU states, its level was really diversified and it was from 4.4% in Cyprus and Malta to the level of over four times higher in Poland and Slovakia.

Analysing the values of the rates presented in Figure 3 in detail, we can state that 2004 was for most of the countries (except for Poland and Slovakia) a year of decreased unemployment level. Maybe the EU requirements influenced the activation of economic mechanisms, the purpose of which was to increase employment as well as to prevent and fight unemployment. The efficiency of active employment policies was maintained in the period after the accession to the EU because in 2011 in some of the countries including Poland, the Czech Republic and Slovakia, the unemployment rate decreased, but in the majority of the countries, particularly in such small states as Hungary, Lithuania, Latvia, Cyprus and Estonia, the direction of changes was opposite and the level of unemployment increased in comparison with 2004. At the same time, a specific regularity of the level of unemployment was maintained, that is, unemployment affected women more than men. In each of the countries selected for the analysis in 2000, 2004 and 2011, the unemployment rate for women is a few per cent higher than for men.

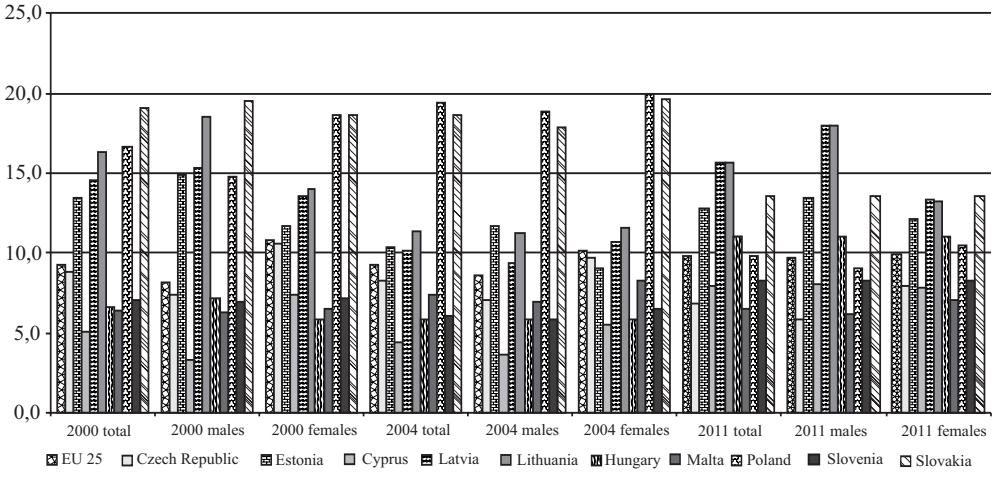

Figure 3. Unemployment rate for selected EU states in 2000, 2004 and 2011 while considering gender

Source: calculations made by the author.

The level of unemployment is also determined by the age of the potential employee. Table 3 shows the level of unemployment divided into age groups, with the establishment of three basic age groups including the group of school leavers (15 to 24 years of age), employees of a professionally mobile age (25 to 49 years of age) and the employees of just before old age and those of pre-retirement age (50 to 64 years of age). It appears that the youngest group of people, that is secondary school leavers and university graduates, are most influenced by unemployment. Employers' confidence in young employees is very low and they reluctantly offer work to them. It is also associated with decreasing dynamics or rather job rotation in the work place. The growing wave of unemployment among young people that was clearly seen in the first years after accession to the EU, is the result of the shortage of work places for young people.

Table 3. Unemployment rate by age in selected countries of the EU in 2004

GEO/TIME	15–64	15–24	25–49	50–64
EU 25	9.3	18.3	8.4	7.0
Czech Republic	8.3	19.9	7.2	5.7
Estonia	10.4	23.5	9.1	9.3
Cyprus	4.4	8.7	3.8	4.4
Latvia	10.1	19.3	8.0	9.1
Lithuania	11.4	21.2	9.8	11.9
Hungary	5.9	14.4	5.5	3.8
Malta	7.4	18.3	4.5	
Poland	19.4	40.1	17.0	14.7
Slovenia	6.1	14.0	5.3	5.4
Slovakia	18.6	32.8	16.4	16.3

Source: calculations made by the author.

Comparing the level of unemployment, we can state that in 2004 the highest rate of unemployment among young people, as high as 40.1%, was reported in Poland and in Slovakia (32.8%), and the lowest, only 8.7%, was observed in Cyprus. The high level of unemployment in the youngest age group directly influences the general unemployment rate because in other age groups the level of unemployment is rather similar in all the states, with a slight predominance of older age groups. In a way this can be surprising, because the work potential of the oldest age groups is significantly weakened in relation to the other age groups. Concerning redundancy related to the restructuring of the economy, the oldest employees were most often dismissed, regardless of their seniority and work experience. New technologies required additional skills, and professional experience was not always enough to cope with it. Additional knowledge, or at least the will to complement it, was necessary, which in

the case of older-age employees was not always possible. Therefore dismissals from work were the result of new tendencies in the economy that, in some branches of the economy, had quite a broad range. On the other hand, in the case of many employees the pre-retirement benefits that allowed them to maintain the previously achieved standard of living at least at a minimum level, was a form of escape.

If we analyse the dynamics of the changes in the level of unemployment in selected age groups in the years from 2000 to 2011 (Table 4), it is seen that the expected decrease in the level of unemployment was not always possible to achieve. Lack of data for Malta in Tables 3 and 4 for the age group of 50+ is caused by a shortage of the source data.

Table 4. Average pace of changes in unemployment rate in selected states for the period between 2000 and 2011 (in per cent)

GEO/TIME	15–64	15–24	25–49	50–64
EU 25	0.48	1.45	2.13	–0.39
Czech Republic	–2.32	0.52	–2.58	–0.15
Estonia	–0.42	–0.48	–1.58	0.59
Cyprus	4.06	7.41	8.62	2.52
Latvia	0.67	2.88	0.83	1.61
Lithuania	–0.40	1.28	–0.43	0.83
Hungary	4.75	7.08	3.85	8.04
Malta	0.14	1.37	0.51	
Poland	–4.68	–2.91	–4.61	–2.43
Slovenia	1.43	–0.40	3.16	–0.38
Slovakia	–3.04	–0.96	–2.60	–1.99

Source: calculations made by the author.

Without the division into age groups, the largest decrease in unemployment rate is observed in Poland, Slovakia and in the Czech Republic. On the other hand, the highest increase is observed in Hungary and Cyprus.

Apart from age, the education of the potential employee is a factor that significantly influences the possibility of finding a job. Adopting a three-level division of education into: kindergarten, elementary and lower secondary, that is junior high school education (level 0–2), education higher than junior high school and post-secondary, but not university education (levels 3 and 4), and first and second level of university education (levels 5 and 6); we can state that people with the lowest level of education made up the significantly smallest percentage of the unemployed (Figure 4). Among ten EU countries, in this group of education, the unemployment for Slovakia reached the level from 40% in 2000 to over 50% in 2004. In 2011 it reached the level of over 40% again.

The situation of people with university education is the most favourable on the labour market. This is proved by the lowest level of unemployment rate. In each of the three indicated years, unemployment among people with a university education was only in a few cases higher than 7% and in the Czech Republic, Slovenia and Cyprus it was not higher than 3%. Hungary is a specific "leader" here. The unemployment rate among people with a university education was only 1.4% in 2000 and 2.2% in 2004.

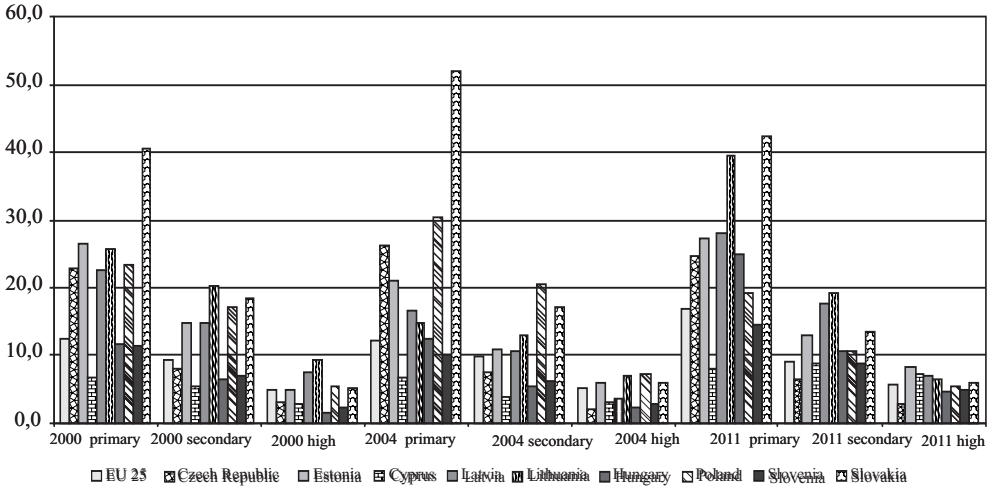

Figure 4. Unemployment rate by education in 2000, 2004 and 2011 in selected EU member states

Source: calculations made by the author.

4. Long-term unemployment as a specific type of unemployment

Long-term unemployment, that is a situation in which an employee looks for a job for a period of time that is longer than a year, is a separate problem in the analyses in the sphere of unemployment. Long-term unemployment is a specific type of unemployment and is significantly different from its other forms. According to sociologists, we can already observe a peculiar "professionalization" of the status of the unemployed. This means that unemployment is becoming more and more often a way of life and the activation of people who have been unemployed for a long time is more difficult than that of those who have been unemployed for a short time. Long-term unemployment is, to a high degree, determined by gender. Women make up a notable part of this group because they are considered by employers to be the employees who are less available and cause more problems (maternity leave, leave to bring up a child, leave to look after a sick child). Also, the range of professional availability is narrower in the case of women (they work in a smaller number of professions, particularly associated with heavy industry). In Polish reality, age and

seniority are features that are correlated with each other. They similarly influence the length of unemployment. Young people who are not older than 25 years of age and people who are over 50 years of age make up a large group among the unemployed. People who have already worked before make up a significant majority of people who are long-term unemployed. Predominantly they have lost their jobs as a result of the closure of their plants or redundancy. Most often they were employed in industry or construction works and less frequently in the private sector. Long-term unemployment results from insufficient qualifications or even the lack of them, or from their inappropriate match with the requirements of the labour market. Long--term unemployment is a problem not only on the Polish labour market but it is also experienced by labour markets of almost all the EU member states. In the case of the analysed group of countries, the level of long-term unemployment with respect to the total group of professionally active people in 2000, 2004 and in 2011 is presented in Figure 5 and Table 5 respectively. The last column in Table 5 includes the rate of the average pace of changes.

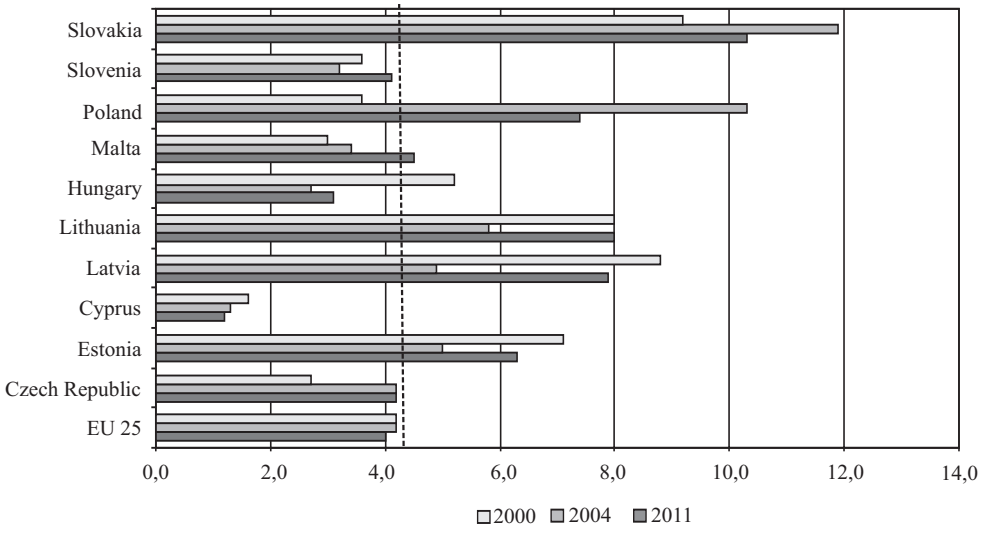

Figure 5. Long-term unemployment rate according to professionally active

Source: calculations made by the author.

A detailed analysis of the values from the last column allows us to state that both the long-term unemployment rate and the pace of changes are clearly diversified. The largest decrease in the level of unemployment was observed between the years 2000 and 2011 in Poland and in the Czech Republic, and the largest increase in Cyprus and Hungary. However, considering its absolute level, it should be indicated that despite the relatively high pace of increase in unemployment in Cyprus, its level

Table 5. People unemployed for a long term as a percentage of the total number of professionally active people in selected years

GEO/TIME	2000	2004	2011	
EU 25	4.0	4.2	4.2	0.44
Czech Republic	4.2	4.2	2.7	–3.94
Estonia	6.3	5.0	7.1	1.09
Cyprus	1.2	1.3	1.6	2.65
Latvia	7.9	4.9	8.8	0.99
Lithuania	8.0	5.8	8.0	0.00
Hungary	3.1	2.7	5.2	4.81
Malta	4.5	3.4	3.0	–3.62
Poland	7.4	10.3	3.6	–6.34
Slovenia	4.1	3.2	3.6	–1.18
Slovakia	10.3	11.9	9.2	–1.02

Source: calculations made by the author.

is the lowest in the whole group of states and when compared with the EU, it is almost three times lower.

Analysing additionally the percentage of people who are unemployed for a long term against the total number of the unemployed (Figure 6 and Table 6) we can state that in the analysed period of time the dynamics of changes in unemployment

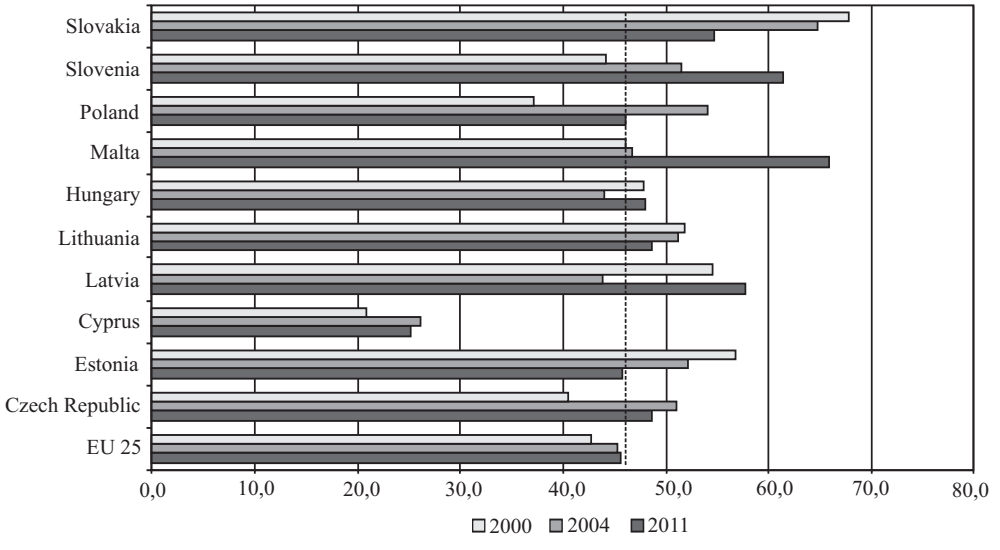

Figure 6. Long-term unemployment rate according to unemployed in chosen years

Source: calculations made by the author.

Table 6. People who are unemployed for a long time as the percentage of the total group of unemployed in selected years

GEO/TIME	2000	2004	2011	$\bar{i}_G - 1$
EU 25	45.6	45.3	42.7	–0.60
Czech Republic	48.6	51.0	40.5	–1.64
Estonia	45.8	52.2	56.8	1.98
Cyprus	25.2	26.2	20.9	–1.69
Latvia	57.8	43.8	54.6	–0.52
Lithuania	48.7	51.2	51.9	0.58
Hungary	48.0	44.0	47.9	–0.02
Malta	65.8	46.7	46.1	–3.18
Poland	46.1	54.0	37.2	–1.93
Slovenia	61.4	51.5	44.2	–2.94
Slovakia	54.7	64.7	67.8	1.97

Source: calculations made by the author.

coefficient in the whole EU and in the majority of the "group of ten" shows a declining tendency and only in the case of Lithuania, Estonia and Slovakia, does it show a slight increase. However, the scale of this phenomenon is worrying because people who have been unemployed for a long time make up a significant percentage of the total group of unemployed that in most of the states (similarly to the whole EU) reaches the level of 45%. This confirms previous observations about the specific character of the phenomenon, where the status of an unemployed person allows for using a series of social benefits starting from insurance and finishing with unemployment benefit. Maybe the benefits do not allow for a prosperous life, but they allow them to survive and possibly look for unregistered work in the grey sector.

The reasons why long-term unemployment has decreased are interesting. Certainly this cannot be explained with the sudden growth in the number of work places. More reasonable explanations should be looked for in the growing labour--related migration and in the migration of the labour force from the national labour market. In this case the number of unemployed people who are registered with Employment Agencies is decreasing and at the same time appropriate statistical parameters that illustrate the discussed phenomenon have changed.

5. Conclusions

Unemployment, particularly long-term unemployment, is a serious social problem. Being unemployed for a long time triggers off the process of destruction that is expressed in social isolation, lack of self-confidence, stress in the family, decrease in

intellectual and spiritual condition and a low level of professional mobility. It is a serious problem of not only a social but also of an economic character. People who are unemployed for a long period of time have fewer chances to find a job for three reasons – their qualifications decrease, their skills and experience gradually become outdated and their optimism and enthusiasm to look for a job decrease. Being unemployed for a long time leads to social pathologies, and fighting pathologies is one of the most difficult and most expensive methods of fighting the negative results of unemployment. Therefore it is necessary to prepare a common programme that could be implemented in the majority of EU states that would aim at the professional activation of the unemployed and, in reference to the Lisbon Strategy of 2000, especially of the age group of 50+.

Websites

www.diagnoza.com/pliki/raporty/diagnoza_raport_2009.pdf.
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ANALIZA PRZESTRZENNO-CZASOWA ZJAWISKA BEZROBOCIA W GRUPIE PAŃSTW NOWYCH CZŁONKÓW UE

Streszczenie: W artykule w syntetyczny sposób przedstawiono problemy bezrobocia państw „dziesiątki" nowo przyjętych do UE w 2004 r., zwracając szczególną uwagę na bezrobocie długoterminowe. Wybrany do celów analizy przedział czasowy 2000–2011 obejmuje lata bezpośrednio poprzedzające i bezpośrednio następujące po akcesji do UE i ma na celu wskazanie ewentualnych zmian w natężeniu zjawiska w wybranych krajach.

Słowa kluczowe: rynek pracy, bezrobocie, struktura wieku, analiza przestrzenno-czasowa.