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**Unemployment and labor market policy in Visegrad
Group countries**

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Unemployment and labor market policy in Visegrad Group countries¹

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Abstract: In the recent years, an economic crisis has appeared in most economies. It affected the labor market situation. This article refers to changes in the labor markets of the Visegrad Group countries. The analysis concerns the relations between the economic crisis, the level and structure of unemployment (taking into account the situation of women and young people as the groups strongly exposed to unemployment), and the level and structure of expenditures within the labor market policy. The article is based on data published by Eurostat, using the tools of descriptive statistics, and statistical indexes, in particular. The research period covers the years 2007-2012, which is dictated by the availability of comparable statistical data. An analysis of the data indicates that the economic crisis increased the economic activity of the population, which contributed to an increase in unemployment. There is no discrimination against women in the labor market, but there has been a serious increase in unemployment among young people. With the increase in unemployment, the expenditures on the total labor market policy have increased, as have those on passive labor market policies and labor market service. Expenditures on active labor market policies (ALMPs) grow relatively more slowly, which may be especially evident in the case of expenditure on training.

(minimum 500, maximum 1500 characters). Should outline the background, objectives, methodology, data, results and main contribution of the paper (Times New Roman, 10 pt, fully justified, single-space line)

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Introduction

The level of unemployment and its structure mainly depend on the economic situation. A period of an economic crisis is characterized by a reduction of labor demand and a rising level of unemployment, whereas a period of economic recovery entails the opposite phenomenon. With higher levels of unemployment, one may access the additional resources for labor market policy activated by the state in order to avoid turning this situation into a phenomenon of long-term unemployment. In the context of labor market policy, the state has a range of instruments at its disposal, which, in various ways, support the unemployed in the job search process.

Instruments of the labor market policy should be tailored to the current situation and trends in the structure of unemployment. The labor markets of individual countries do not always respond to changes in the economic conditions in a way presented in theoretical studies. Labor market reactions are dependent on many factors, the most important of which seem to be the level of economic development and structure of the economy (the structure of employment by the sectors). To avoid these sources of differentiated labor market situations, the subject of the analysis in this article is the countries of the so-called Visegrad Group. These countries may be treated as operating at a similar level of economic development and are characterized by a similar structure of employment.

The evidence-based theoretical model hypothesis in this article states that the economic crisis has caused an increase in unemployment, a rise of discrimination in the labor market (e.g., on women and youth) and a change in the level and structure of expenditures in the labor market policy (LMP) adapted to the changes in the labor market.

To verify the hypothesis above, an analysis of the data related to the situation in the labor market, published by Eurostat for the Czech Republic, Hungary, Poland, and Slovakia in the years 2007-2012, has been carried out.

Methodology of the research

An objective of this work is to verify how the labor markets of the Visegrad Group countries respond to changes in the economic conditions in accordance with the literature model and, therefore, to what extent they may use the resulting recommendations to reduce unemployment. The selection of countries is dictated by their similarity in reference to the level of economic development. It allows for a reduction of the factors other than the economic situation that have an impact on unemployment and the

methods of its prevention. The research problem determines the methodology that has been applied. First, the analysis of the literature describing the model of the labor market response to the changes in economic conditions has been carried out, which enabled us to state the hypothesis of this article. This model has been updated with the results published in other publications, which are related to the particular problem (on the changes of activities and the presence of discrimination in the labor market).

The analysis of unemployment and prevention methods in the Visegrad Group countries was based on the data published by Eurostat. The year 2007 was chosen as the beginning of the analyzed period when positive economic trends were still visible. The end of the research period is the year 2012 because until this year, the data on the labor market policy were available. The article analyzes the changes in the level of economic growth and the accompanying changes in the level and structure of unemployment, as well as changes in the level and structure of expenditures on labor market policy. The method of statistical analysis has been applied in relation to the particular changes in the various quantities characterizing the labor market, mainly using the index method.

Unemployment and labor market policy in theory

Economic fluctuations, which usually appear first in the financial market, cause changes in the goods market and the labor market (in the form of changes in the level and structure of employment and unemployment). The economic crisis causes a decrease in the demand for work reported by employers (Neumeyer & Perri, 2005, pp. 545-580; Andolfatto, 1996, pp. 112-132; Zieliński & Jonek-Kowalska, 2011, p.46). This situation may be partly balanced by the response to the supply side of the labor market, which may go two way. On the one hand, the supply of work falls because of the appearance of the so-called “discouraged unemployed” (people who have lost their jobs and do not register in labor offices or the ones who resign from the status of the unemployed), who will return to the labor market when the employment prospects have substantially improved (Blundell et al., 2008, pp. 421–453; Pissarides, 2000, p. 172; Góra, 2005, p. 29). On the other hand, the supply of labor increases, thanks to the effect of the so-called “additional employee”, that is, the emergence of workers who thus far, have been professionally inactive in the labor market, as they have come from families whose incomes have decreased due to the loss of employment by the “main breadwinner” (Cahuc & Le Barbanchon, 2010, pp. 196-205). In the

literature, it is assumed that the effect of the “discouraged unemployed” is usually greater than the effect of the “additional employee” thus, the economic downturn entails the reduction of professional activity (and vice versa) (Pissarides, 2000, pp. 170-174; Kwiatkowski, 2002, p. 32; Coile & Levine, 2007, pp. 1902-1919).

An analysis of the statistical data on the labor markets in six largest EU countries during the recent economic crisis, contradicts the theoretical assumptions, unfortunately. In most of the countries the years 2008-2010 brought an increase in the professional activity of the population, and in half of them (France, the UK, and Spain), the increase in unemployment outmatched the decline in employment. Thus, the effect of “additional employees” was higher than the effect of “discouraged unemployed” persons (Zieliński et al., 2014, pp. 765-766).

The period of economic crisis is characterized by deterioration in the structure of unemployment in the form of increased participation of the so-called “problem groups” in total unemployment. The “problem groups” are classified as those with unfavorable socio-demographic characteristics, which result in a worse situation in the labor market. Among these problem groups, we may distinguish the following: women, young people, low-skilled persons, older workers, workers in declining industries, those working part-time, the disabled, etc. (Maksim, 2001, pp. 5-7). The increase of participation of these groups in total unemployment contributes to the growth of long-term unemployment and decreased professional activity (groups of discouraged unemployed) (Góra, 1994, p. 212). An economic downturn reduces the liquidity of the labor market because employers often protect their employees from dismissals, and one of the first measures to reduce the scale of the necessary reduction in employment is to suspend the inflow of a new workforce. Such a strategy adopted by employers particularly affects young people, including school graduates, who are also perceived by employers as being low-skilled, because they do not have any professional experience. Staying outside the group of employed leads to the depreciation of human capital concerning graduates and causes perturbations in their careers (Wincenciak, 2010, pp. 859-860). The situation of young people in the period of accelerating economic growth usually improves, when new businesses are created and the existing ones usually want to increase and supplement their staff.

Empirical studies confirm the discrimination of problem groups on the labor market, which is reflected in higher unemployment and lower wage levels. This occurs in relation to women (Kraal et al., 2010; Shortland, 2009; Bardasi, Monfardini, 2006; Rutkowski, 2006), the youth (Verick, 2011; Rutkowski, 2006; Golsch, 2004), low-skilled workers and low levels

of education (Belan et al., 2010; Tomé, 2007; Charlot & Malherbet, 2013), immigrants, and ethnic minorities (Sa, 2011; Pereira, 2012).

The basic instrument of the state intervention aimed at reducing the level of unemployment is the labor market policy. Through it, a given country tries to adjust the structure of labor supply to the demand and to counter the imbalance in the specific segments of the labor market. Among the objectives of the labor market policy, different purposes may be listed, such as the purpose of employment (increase in employment and decrease in unemployment), structural purpose (reducing a mismatch of supply and demand for labor), production purpose (increasing workforce productivity), and social purpose (ensuring social security and leading to professional integration of the unemployed) (Wiśniewski, 1999, p. 20; Jarmołowicz & Knapińska, 2005, p. 95).

The instruments of labor market policy are usually divided into the passive and active ones. The passive instruments are of a protective nature, and their goal is to reduce the risk of a sudden drop in incomes and the associated threats (e.g., extending the scope of poverty, social exclusion). The passive labor market policy instruments including benefits for the unemployed, early retirement, and severance pay for the dismissed. The active labor market policy instruments are designed to increase the chances of permanent employment of the unemployed (Jarmołowicz & Knapińska, 2005, p. 97). In addition to the prevention of deactivation of the unemployed, they are aimed at activating the inactive people. Among the activities in the field of an active labor market policy, the following are most often mentioned (Kluge et al., 2007, pp. 27-28):

- labor market services (job search assistance) – job agency and counseling conducted by the public employment services (labor offices), which decrease the exploration costs on the labor market (both for employers and employees),
- training programs – improving the qualifications of the unemployed through courses in training institutions, as well as apprenticeship and professional training at the headquarters of employers,
- supported employment and job creation – financial support for the employers of people who were previously unemployed, activation allowances for the unemployed who are about to take jobs, subsidy and advisory assistance provided to the unemployed setting up their own businesses (start-up incentives),
- supported employment and rehabilitation – initiating special programs designed to promote employment of people with

disabilities (supported employment, financing of trainings, additional job search assistance for the disabled),

- direct job creation – creation of temporary jobs in the public sector entities and non-governmental organizations, and
- special programs for young people – trainings, supported employment, job search assistance.

Job centers and career guidance counselors encourage the increase in the transparency of the labor market and the mobility of workers in reference to their qualifications and territory. The system of trainings and development of employees contribute to growth of their skills, mobility, and professional activity (Kukulak-Dolata, 2003, p. 185; Kryńska 2001, p. 57). The state, through employment services, may also decide to intervene in the labor market by subsidizing some of the costs connected with employment of the unemployed. Supported employment may take a form of organizing public works, intervention works, and preferential loans to employers who create new jobs or to the unemployed who are setting up their own businesses (Kukulak-Dolata, 2003, p. 185; Wiśniewski, 1999, pp. 27-30).

The effectiveness of activation of the unemployed depends on the economic situation. It decreases along with the increasing levels of unemployment, a decline in the labor market liquidity, and prolongation of the period of labor market imbalance (Wiśniewski, 1999, pp. 20-21; Kryńska 2001, p. 42). In addition, in the conditions of an economic crisis, the state operates at a strong reduction of the budget, and the transformation of supported employment into stable jobs is much less likely than in the conditions of prosperity.

The labor market policy is an essential tool for reducing the level of unemployment among the problem groups. Without the help from the state, these groups are exposed to long-term unemployment, resulting in professional consequences (reduction in qualifications), as well as psychological and health ones (Maksim, 2001, pp. 6-7; Góra, 1994, p. 212). Reducing long-term unemployment fosters the launch of special programs, which, in weak economic conditions, are often effective only temporarily. After they have finished a return of people taking part in these programs to the pool of the unemployed may be observed.

Unemployment and labor market policy in the Visegrad Group countries in the years 2007-2012

To illustrate the factors influencing the level and structure of unemployment, besides the changes in economic conditions, other factors have been taken into account; these factors include the population of people

aged 15 to 65 years, the level of employment, and the professional activity rate, which are considered the quotient of the sum of the employed and unemployed and the total population aged 15 to 65 years (Table 1).

Table 1. The basic factors characterizing the situation of the labor market in the Visegrad Group countries in the years 2007-2012

| Country | Year | Real GDP growth rate | Population aged 15 to 65 years (1,000 persons) | Employment (1,000 persons) | Unemployment (1,000 persons) | Professional activity ratio |
|----------------|------|----------------------|--|----------------------------|------------------------------|-----------------------------|
| Czech Republic | 2007 | 5.7 | 7346.7 | 4922.0 | 276 | 70.8 |
| | 2008 | 3.1 | 7410.4 | 5002.5 | 230 | 70.6 |
| | 2009 | -4.5 | 7431.0 | 4934.3 | 352 | 71.1 |
| | 2010 | 2.5 | 7399.5 | 4885.2 | 384 | 71.2 |
| | 2011 | 1.8 | 7295.8 | 4872.7 | 351 | 71.6 |
| | 2012 | -1.0 | 7229.1 | 4890.0 | 367 | 72.7 |
| Hungary | 2007 | 0.1 | 6799.7 | 3926.2 | 312 | 62.3 |
| | 2008 | 0.9 | 6794.2 | 3879.4 | 329 | 61.9 |
| | 2009 | -6.8 | 6770.9 | 3781.8 | 421 | 62.1 |
| | 2010 | 1.1 | 6769.3 | 3781.2 | 475 | 62.9 |
| | 2011 | 1.6 | 6770.2 | 3811.9 | 468 | 63.2 |
| | 2012 | -1.7 | 6715.7 | 3877.9 | 476 | 64.8 |
| Poland | 2007 | 6.8 | 26298.7 | 15240.5 | 1579 | 64.0 |
| | 2008 | 5.1 | 26265.7 | 15799.8 | 1165 | 64.6 |
| | 2009 | 1.6 | 26338.3 | 15868.0 | 1359 | 65.4 |
| | 2010 | 3.9 | 25842.0 | 15473.1 | 1650 | 66.3 |
| | 2011 | 4.5 | 25813.8 | 15562.1 | 1659 | 66.7 |
| | 2012 | 2.0 | 25697.4 | 15590.7 | 1749 | 67.5 |
| Slovakia | 2007 | 10.5 | 3873.0 | 2357.2 | 293 | 68.4 |
| | 2008 | 5.8 | 3891.8 | 2433.7 | 254 | 69.1 |
| | 2009 | -4.9 | 3916.6 | 2366.3 | 321 | 68.6 |
| | 2010 | 4.4 | 3926.2 | 2317.5 | 386 | 68.9 |
| | 2011 | 3.0 | 3882.3 | 2315.3 | 363 | 69.0 |
| | 2012 | 1.8 | 3881.0 | 2329.0 | 378 | 69.8 |

Source: Eurostat, economy and finance/annual national accounts/real GDP; population and social conditions/labor market/employment and unemployment (1.12.2014)

In the first year of the research, the analyzed countries were characterized by a very good economic situation, apart from Hungary, which reported economic stagnation in 2007. In the following year, there was a deterioration of economic growth, which, in 2009, took the form of a recession in three of the analyzed countries. The recession did not occur in Poland, but the year 2009, in this case, was characterized by the lowest

level of growth. It may be noticed that the two consecutive years brought an upturn, but in 2012, there was a “second downturn” of the economic situation in the Czech Republic and Hungary, where a recession appeared again.

When analyzing the changes in the level of employment and unemployment in response to changes in the economic conditions, it appears that their direction is consistent with the literature model. An economic slowdown was usually accompanied by a decline in employment and a rise in unemployment, but each of the analyzed countries shows some specificity. In the Czech Republic in 2011, there was a simultaneous decrease in employment and unemployment along with economic growth at the level of 1.8. The next year brought both employment and unemployment increases in the conditions of the recession. Hungary was characterized by an increase in employment in 2011-2012 when economic growth was at the level of 1.6 and recession at 1.7. The level of employment in Poland grew steadily (except for the year 2010), but there was a certain shift in the time of employment response to the economic situation (in 2010, the decline in employment at the economic growth of 3.9 occurred more as a reaction to the economic growth of 1.6 from the previous year). Since 2008, employment growth in Poland has been accompanied by an increase in the level of unemployment. The Slovak economy has been steadily losing jobs since 2008, and only a slight improvement was recorded in 2012, but it was actually a result of the economic recovery in the previous years (economic growth in 2012 was only 1.8). This phenomenon was accompanied by a gradual increase in unemployment, and in 2011, a decline was reported.

By analyzing changes in the population of people aged 15 to 65 years, its drop may be noticed in the first three of the analyzed countries, respectively, by 1.6% in the Czech Republic, 1.2% in Hungary, and 2.3% in Poland. Only Slovakia recorded an increase in the number of the working-age population by 0.2%. Despite this, the pressure on the labor market was growing as a result of an increase in the professional activity of the population, which was treated as a quotient of the sum of the employed and unemployed and the total population aged 15 to 65 years. Most strongly, in the years 2007-2012, the professional activity ratio rose in Poland (3.5%), and it may have been caused by a relatively low input level, and the best economic situation of the analyzed countries. In other analyzed countries, the professional activity ratio rose by 2.5% (Hungary), 1.9% (Czech Republic), and 1.4% (Slovakia). Similarly to the large EU countries mentioned in the introduction, in the period of 2008-2012 in the Visegrad Group countries, the effect of additional employees was higher than the

effect of the discouraged unemployed. This may cause serious problems when it comes to the effectiveness of the labor market policy, as the previously unemployed people looking for work in a situation when the employers reduce the demand for labor, and, if necessary, they may complement their staff with the unemployed who have relatively high qualifications.

To investigate whether, in the labor markets of the Visegrad Group countries, one may notice deterioration in the situation of problem groups (women and youth) in response to the economic downturn, a compilation of change indexes in the number of the unemployed in the analyzed sections who were characterized by unemployment rates was prepared (Table 2).

Table 2. Change indexes in the number of the unemployed and the unemployment rate among women and youth in the Visegrad Group countries in the years 2007-2012

| Country | Year | Change indexes in the number of the unemployed | | | Rate of unemployment | | |
|----------------|-------|--|-------|----------------------------|----------------------|-------|----------------------------|
| | | Entire population | Women | People aged up to 25 years | Entire population | Women | People aged up to 25 years |
| Czech Republic | 2007 | - | - | - | 5.3 | 6.7 | 10.7 |
| | 2008 | 83.3 | 83.0 | 89.1 | 4.4 | 5.6 | 9.9 |
| | 2009 | 153.0 | 139.4 | 173.2 | 6.7 | 7.7 | 16.6 |
| | 2010 | 109.1 | 109.0 | 102.8 | 7.3 | 8.5 | 18.3 |
| | 2011 | 91.4 | 93.3 | 91.8 | 6.7 | 7.9 | 18.1 |
| | 2012 | 104.6 | 105.0 | 109.0 | 7.0 | 8.2 | 19.5 |
| | 12/07 | 133.0 | 123.5 | 158.7 | | | |
| Hungary | 2007 | - | - | - | 7.4 | 7.7 | 18.1 |
| | 2008 | 105.4 | 104.7 | 105.2 | 7.8 | 8.1 | 19.9 |
| | 2009 | 128.0 | 120.6 | 129.5 | 10.0 | 9.7 | 26.5 |
| | 2010 | 112.8 | 112.3 | 100.0 | 11.2 | 10.7 | 26.6 |
| | 2011 | 98.5 | 102.4 | 97.5 | 10.9 | 10.9 | 26.1 |
| | 2012 | 101.7 | 99.1 | 110.4 | 10.9 | 10.6 | 28.1 |
| | 12/07 | 152.6 | 143.9 | 146.6 | | | |
| Poland | 2007 | - | - | - | 9.6 | 10.3 | 21.6 |
| | 2008 | 73.8 | 76.3 | 76.6 | 7.1 | 7.9 | 17.2 |
| | 2009 | 116.7 | 110.7 | 117.4 | 8.1 | 8.6 | 20.6 |
| | 2010 | 121.4 | 119.4 | 115.1 | 9.7 | 10.0 | 23.7 |
| | 2011 | 100.5 | 104.3 | 101.5 | 9.7 | 10.4 | 25.8 |
| | 2012 | 105.4 | 106.0 | 99.0 | 10.1 | 10.9 | 26.5 |
| | 12/07 | 110.8 | 111.4 | 104.0 | | | |

| | | | | | | | |
|----------|-------|-------|-------|-------|------|------|------|
| Slovakia | 2007 | - | - | - | 11.2 | 12.8 | 20.6 |
| | 2008 | 86.7 | 87.2 | 85.0 | 9.6 | 11.0 | 19.3 |
| | 2009 | 126.4 | 116.9 | 137.3 | 12.1 | 12.9 | 27.6 |
| | 2010 | 120.2 | 115.1 | 118.6 | 14.5 | 14.7 | 33.9 |
| | 2011 | 94.0 | 91.4 | 90.4 | 13.7 | 13.7 | 33.7 |
| | 2012 | 104.1 | 108.8 | 101.3 | 14.0 | 14.5 | 34.0 |
| | 12/07 | 129.0 | 116.8 | 126.7 | | | |

Source: Eurostat, population and social conditions/labor market/employment and unemployment (1.12.2014)

When analyzing the unemployment rate, the rate for women differs little from the unemployment rates for the entire population. In the Czech Republic, the unemployment rate of women in the analyzed period was higher than the average by 1.0% to 1.4%, in Poland from 0.3% to 0.8%, and in Slovakia from 0% to 1.6%. In the case of Hungary since 2009, the unemployment rate of women was lower than or equal to the unemployment rate for the entire population. Between the years 2007 and 2012, the relative situation of women in the labor market, as measured by the proportion of unemployment rates in the Visegrad Group countries, improved, and the only exception was Poland where the difference in the disadvantages between the women's unemployment rate and the total unemployment rate grew by 0.1%.

Similar conclusions may be drawn based on the change indexes in the number of the unemployed. In the years of the worst economic situation (2009 and 2012), in only three cases out of eight, increasing indexes in the number of unemployed women were higher than the index for the entire population. For the whole period of 2007-2012, the index of increase in the number of unemployed women was significantly lower than the index for the population in the Czech Republic (by 9.5 points), Hungary (by 8.7 points), and Slovakia (by 12.2 points). This index grew more quickly only in Poland, but its growth was minimal (0.6 points). The above data allow us to conclude that the period of economic crisis (slowdown) did not contribute to the increase in discrimination against women in the labor market; in fact, in most of the countries, their situation in the labor market has relatively improved.

This situation is different in the case of young people. The observed unemployment rates of people aged up to 25 years in all countries strongly deviate upward from the average. In absolute terms, the worst situation of youth present in Slovakia (where the unemployment rate since 2010 has exceeded 30%), whereas the lowest unemployment rate of young people is reported in the Czech Republic (the unemployment rate throughout the whole period did not exceed 20%). Comparing the increase in the youth

unemployment rate between the years 2007 and 2012, the highest increase occurred in Slovakia (13.4%), whereas the lowest occurred in Poland (4.9%). Analyzing the changing relationship between the youth unemployment rate and the total unemployment rate in the years 2007-2012, it may be noticed that it deteriorated in all countries, respectively, in the Czech Republic, it increased from 2.0 to 2.8, in Hungary from 2.4 to 2.6, in Poland from 2.3 to 2.6, and in Slovakia from 1.8 to 2.4.

The deterioration of the situation of young people in the labor market is not as clear in the case of the analysis of change indexes in the number of the unemployed. On the one hand, in the worst economic years (2009 and 2012), in six cases out of eight, the index of increase in the number of the unemployed in the age group up to 25 years old was higher than the index for the entire population. On the other hand, for the entire 2007-2012 period, the increase in the index of the number of the unemployed in the group up to 25 years old was significantly higher than the index for the entire population only in the Czech Republic (by 25.7 points). In the other countries, the index of increase in the number of the unemployed in the group up to 25 years old was lower than the index for the population. The above data allow us to conclude that the period of economic crisis (slowdown) contributed to an increase in discrimination against people under the age of 25 years old in the labor market (as indicated by changes in the unemployment rate). Furthermore, the absolute level of unemployment in this group is growing relatively more slowly than in the total population in three of the analyzed countries, probably due to a delay of introduction into the labor market and / or a reduction in the size of this group because of demographic reasons (as indicated by the increase index in the number of the unemployed).

The most recent data on the expenditure on the labor market policy (LMP) are available for the year 2012 (in the case of Poland for 2011). To facilitate the analysis, the expenditures on LMP may be divided into three groups: labor market service (column 4 of Table 3), passive labor market policies (in Table 3, column 9), and active labor market policies (in Table 3, columns 5 to 8).

Table 3. Level and structure of expenditure on LMP in the Visegrad Group countries in the years 2007-2012

| Country | Year | Level and structure of expenditure on LMP | | | | | | |
|----------------|------|---|----------------------------------|------|------|------|------|------|
| | | Total (mln €) | Structure of expenditure (in %)* | | | | | |
| | | | 1 | 2 | 3 | 4 | 5 | 6 |
| Czech Republic | 2007 | 588.92 | 28.8 | 1.7 | 5.8 | 14.8 | 4.8 | 44.1 |
| | 2008 | 645.50 | 27.7 | 1.7 | 3.3 | 15.7 | 6.5 | 45.1 |
| | 2009 | 1007.66 | 17.6 | 3.8 | 3.5 | 9.7 | 5.6 | 59.8 |
| | 2010 | 1045.02 | 16.1 | 6.0 | 7.3 | 11.5 | 6.7 | 52.4 |
| | 2011 | 863.87 | 17.5 | 2.2 | 7.9 | 16.6 | 5.3 | 50.5 |
| | 2012 | 758.60 | 22.2 | 2.5 | 4.2 | 18.8 | 4.0 | 48.3 |
| Hungary | 2007 | 709.60 | 11.9 | 8.3 | 14.1 | - | 15.0 | 50.7 |
| | 2008 | 761.40 | 12.2 | 9.0 | 14.3 | - | 13.3 | 51.2 |
| | 2009 | 1069.14 | 7.6 | 4.2 | 7.9 | - | 21.3 | 59.0 |
| | 2010 | 1319.34 | 6.6 | 3.7 | 7.5 | - | 29.3 | 52.9 |
| | 2011 | 1026.40 | 1.6 | 2.5 | 9.6 | - | 21.9 | 64.4 |
| | 2012 | 1116.49 | 10.5 | 0.3 | 11.4 | - | 41.3 | 36.5 |
| Poland | 2007 | 3151.50 | 9.4 | 10.0 | 5.2 | 18.3 | 6.4 | 50.7 |
| | 2008 | 3285.75 | 9.7 | 13.6 | 6.3 | 22.9 | 8.9 | 38.6 |
| | 2009 | 2985.23 | 10.2 | 4.1 | 16.9 | 22.1 | 11.6 | 35.1 |
| | 2010 | 3673.86 | 8.9 | 3.5 | 20.7 | 20.7 | 13.2 | 33.0 |
| | 2011 | 2675.69 | 11.7 | 1.6 | 12.0 | 26.6 | 5.9 | 42.2 |
| | 2012 | 492.10 | 9.6 | 0.2 | 11.7 | 7.1 | 8.3 | 63.1 |
| Slovakia | 2007 | 321.80 | 18.1 | 0.8 | 2.8 | 2.3 | 14.0 | 62.0 |
| | 2008 | 446.91 | 16.0 | 1.5 | 2.2 | 2.4 | 15.5 | 62.4 |
| | 2009 | 581.47 | 11.1 | 1.3 | 3.3 | 2.9 | 8.8 | 72.6 |
| | 2010 | 617.26 | 10.7 | 0.6 | 10.4 | 3.7 | 10.1 | 64.5 |
| | 2011 | 546.79 | 9.1 | 0 | 12.6 | 5.3 | 10.3 | 64.5 |
| | 2012 | 492.10 | 9.6 | 0.2 | 11.7 | 7.1 | 8.3 | 63.1 |

*1- labor market service; 2- training; 3- employment incentives; 4- supported employment and rehabilitation; 5- direct job creation and start-up incentives; 6- out-of-work income maintenance and support and early retirement

Source: Eurostat, population and social conditions/labor market/employment and unemployment/labor market policy/public expenditure on labor market policy (1.12.2014)

When analyzing the total LMP, it may be noticed that their highest levels of expenditure on LMP occurred in all analyzed countries in the year 2010, two years after the first downturn of the economic situation. It was also the year with the highest level of unemployment in the Czech Republic and Slovakia, as well as almost the highest in Hungary (about 1,000 more people were unemployed in 2012). Having high expenditures on LMP in 2010 was probably one of the reasons for reduction in the level of unemployment in the following year (in three of the analyzed countries) and the slowdown in unemployment growth in Poland.

The structure of expenditures on the LMP varied in the particular countries in different ways. In the Czech Republic, the amount of spending on passive labor market policies ranged from 44.1% in 2007 to 59.8% in 2009, and then in subsequent years, it gradually fell. Therefore, the relation of this group of expenditures with the unemployment rate can be noticed. Expenditures on the labor market service were relatively stable, and the fluctuations of their share were mainly due to changes in the level of total LMP. As part of active labor market policies (ALMPs), an increase in total expenditures in 2010 can be observed, as well as a further increase in spending in 2011 in the group of supported employment and rehabilitation. The Czech Republic stands out among the examined countries in respect to an increase in spending on training during the growth of unemployment. This is probably because the unemployment rate in the Czech Republic is clearly the lowest among the examined countries (the highest level reached 7.3%). Further, at a low level of unemployment, the effectiveness of training as a way of reducing unemployment may prove to be successful.

Hungary shows very serious fluctuations in expenditures in passive labor market policies, which reached 59% in 2009 and 64.4% in 2011 and fell to 36.5% in 2012. Very serious fluctuations also occur in the context of labor market service, the shares of which fell sharply in 2011 (to 1.6%) to grow even more rapidly in the following year (to 10.5%). As a part of ALMPs, Hungary has not listed a group of expenditures for supported employment and rehabilitation. Throughout the whole period, the expenditures on training decreased to achieve a share of 0.3% in 2012. The Hungarian labor market policy focused on the expenditures in the group of direct job creation and start-up incentives, whose participation was by far the highest among the analyzed economies, and in 2012 even surpassed spending on passive labor market policies. The expenditures on employment incentives were relatively stable, and fluctuations in their share were mainly due to changes in the level of total LMP.

In Poland, the amount of expenditures on passive labor market policies in total LMP was the lowest among the examined countries during the first downturn, which is strongly linked to the fact that Poland managed to avoid the period of recession and associated mass dismissals of workers who were entitled to unemployment benefits. Just as in the Czech Republic, expenditures on labor market service were relatively stable, and their fluctuations were mainly due to changes in the level of total LMP. Since 2009, the share of expenditures on training gradually declined. Other groups of expenditures on ALMPs grew in the years 2009-2010. The growth in supported employment and rehabilitation was recorded in 2011,

whereas shares of the other expenditure within ALMPs in 2011 significantly decreased.

Slovakia was hit by the highest level of unemployment among the countries analyzed, even though it has spent by far the largest amount of resources on passive labor market policies, the share of which in 2009 reached 72.4%. In absolute terms, as well as relative ones, after the downturn in 2008, the expenditures on labor market service in Slovakia dropped. In terms of expenditures on ALMPs, the least was spent on trainings, approaching zero in 2011-2012 (the reasons for this may be low effectiveness of this instrument at the time of a high rate of unemployment). Among the most important ALMPs in Slovakia since 2010 are those for employment incentives. Significant resources are also spent on direct job creation and start-up incentives.

Conclusions

The statistical data analysis conducted in this paper allows us to draw the following conclusions:

1. In the Visegrad Group countries, there was a trend to increase the professional activity of the population, which were treated as the sum of the number of the employed and unemployed during the time of the last economic crisis. This results in a deepening of the labor market imbalance, and it reduces the effectiveness of the labor market policy (due to the fact that it activates people who, so far, have stayed away from the labor market, most of whom are low-skilled).
2. In the labor markets of Visegrad Group countries, the economic crisis did not lead to an increase in discrimination against women (in Hungary, since 2009, the unemployment rate of women was even lower than that of men), while the situation of young people deteriorated significantly. For young people the unemployment rate in all countries was more than twice as high as for the total population.
3. Expenditures on LMP are positively associated with the level of unemployment, and in most countries, there is also a positive relation of unemployment and spending on passive labor market policies.
4. The relation between spending on training and the level of unemployment was identified. These expenses are rising in the

period of economic downturn with a relatively low unemployment rate, and they are falling with high rate of unemployment.

5. Priorities within ALMPs are varied. The Czech Republic and Poland, in recent years, have spent the most resources on supported employment and rehabilitation, while Hungary has spent the most resources on direct job creation and start-up incentives, and Slovakia has spent the most on employment incentives.
6. The least stable labor market policy, from the perspective of changes in the share of expenditures within LMP, is supported by Hungary, whereas the most stable one is that of the Czech Republic.

These conclusions allow us to partially confirm the hypothesis stated in the introduction. The economic crisis increased the level of unemployment, and it also led to an increase in discrimination in the youth labor market and the rise in the level of LMP expenditures, which was caused by changes in the labor market. However, the part of the hypothesis about discrimination against women on the labor market was not confirmed. The variability of the changes in the structure of expenditures on ALMPs in the individual countries cannot provide any reliable reason to believe that they are responsive to the changes in the labor market.

The results of the analysis of the statistical data presented in this article may be treated as a prelude to further extended research. First of all, it would be advisable to study, for a longer period of time, to what extent the observed relations are statistically significant, especially to what extent the structure of LMP expenditures translates into the reduction of the level of unemployment. This would allow us to propose some adjustments of the labor market policies in an attempt to increase its effectiveness.

References

- Andolfatto, D. (1996). Business cycles and labor market search. *American Economic Review*, 86.
- Bardasi, E., & Monfardini, C. (2009). Women's employment, children and transition. An empirical analysis for Poland. *Economics of Transition*, 17.
- Belan, P., Carré, M., & Gregoir S. (2010). Subsidizing low-skilled jobs in a dual labor market. *Labour Economics*, 17. <http://dx.doi.org/10.1016/j.labeco.2010.04.003>.
- Blundell, R., Brewer, M., & Francesconi, M. (2008). Job changes and hours changes: understanding the path of labor supply adjustment. *Journal of Labor Economics*, 26 (3). <http://dx.doi.org/10.1086/588245>.

- Cahuc, P., & Le Barbanchon, T. (2010). Labor market policy evaluation in equilibrium: some lessons of the job search and matching model. *Labour Economics*, 17 (1).
- Charlot, O., & Malherbet, F. (2013). Education and employment protection. *Labour Economics*, 20. <http://dx.doi.org/10.1016/j.labeco.2012.09.004>.
- Coile, C. C., & Levine, P. B. (2007) Labor market shocks and retirement: Do governments programs matter? *Journal of Public Economics*, 91.
- Golsch, K. (2004). Labour market insecurity and its impact on labour market entry and early career. A Comparison of Germany, Britain and Spain. Retrieved from http://epunet.essex.ac.uk/papers/golsch_pap.pdf (1.12.2014).
- Góra, M. (1994). Labour Market Policies in Poland. In *Unemployment in transition countries: transient or persistent?* Paris: OECD.
- Góra, M. (2005). Trwale wysokie bezrobocie w Polsce. *Ekonomista*, 1.
- Jarmołowicz, W., & Knapieńska, M. (2005). *Polityka państwa na rynku pracy w warunkach transformacji i integracji gospodarczej*. Poznań: Wydawnictwo AE w Poznaniu.
- Kluge, J., Card, D. et al., (2007). *Active Labor Market Policies in Europe. Performance and Perspectives*. Essen: Springer.
- Kraal, K., Roosblad, J., & Wrench, J. (2010). *Equal Opportunities and Ethnic Inequality in European Labour Markets, Discrimination, Gender and Policies of Diversity*. Amsterdam: Amsterdam University Press.
- Kryńska, E. (2001). *Dylematy polskiego rynku pracy*. Warszawa: IPiSS.
- Kukulak-Dolata, I. (2003). Współpraca przedsiębiorstw ze służbami zatrudnienia. In E. Kryńska (Ed.), *Elastyczne formy zatrudnienia i organizacji pracy a popyt na pracę w Polsce*. Warszawa: IPiSS.
- Kwiatkowski, E. (2002). *Bezrobocie. Postawy teoretyczne*. Warszawa: PWN.
- Maksim, M. (2001). Grupy celowe na rynku pracy w Polsce. *Rynek Pracy*, 2.
- Neumeyer, P.A., & Perri, F., (2005). Business Cycles in Emerging Economies: The Role of Interest Rates. *Journal of Monetary Economics*, 52. <http://dx.doi.org/10.1016/j.jmoneco.2004.04.011>.
- Pereira, S. (2012). Immigrant workers' (im)mobilities and their re-emigration strategies. *Employee Relations*, 6.
- Pissarides, C. A. (2000). *Equilibrium Unemployment Theory*. London: MIT Press.
- Rutkowski, J. (2006). *Labor market developments during economic transition*. Washington: World Bank.
- Sa, F. (2011). Does employment protection help immigrants? Evidence from European labor markets. *Labour Economics*, 18.
- Shortland, S. (2009). Gender diversity in expatriation: evaluating theoretical perspectives, *Gender in Management. An International Journal*, 5.
- Tomé, E. (2007). Employability, skills and training in Portugal (1988-2000): evidence from official data. *Journal of European Industrial Training*, 5.
- Verick, S. (2011). The Impact of the Global Financial Crisis on Labour Markets in OECD Countries: Why Youth and Other Vulnerable Groups Have Been Hit Hard. In: I. Islam, & S. Verick (Eds.), *From the Great Recession to Labour*

- Market Recovery, Issues, Evidence and Policy Options. International Labour Organization: Palgrave Macmillan.
- Wincenciak, L. (2010). Graduates' Characteristics and Labour Market Entry: Polish Experience. *Ekonomista*, 6.
- Wiśniewski, Z. (1999). *Kierunki i skutki deregulacji rynku pracy w krajach Unii Europejskiej*. Toruń: Wydawnictwo UMK.
- Zieliński, M., & Jonek-Kowalska, I., (2011). Economic crisis in the view of change on regional labour markets in Poland. In K. Malik (Ed.), *Regional and local development: Capitals and drivers*. Opole: Wydawnictwo Politechniki Opolskiej.
- Zieliński, M., Jonek-Kowalska, I., & Sojda A. (2014). Reakcje rynku pracy na zmiany koniunktury w dużych krajach Unii Europejskiej. *Ekonomista*, 5.