10.1515/cer-2016-0027

EUGENIUSZ KWIATKOWSKI*

Why Have Labour Markets Reacted To The Global Crisis In Different Ways?[1]

Abstract

This paper aims to identify the effects of the global crisis on employment and unemployment in the EU countries and indicate factors which may explain the differentiated response of labour markets to this crisis.

Analyses show that the global economic crisis affected the labour markets of EU countries, causing declines in employment and increases in unemployment. The greatest declines in employment were observed in Greece, Estonia, Ireland, Spain, Iceland, and Portugal, and the lowest in Austria, Belgium, the Netherlands, and Poland. The greatest increase in unemployment occurred in the Baltic countries, Greece, Spain, and Portugal.

The analyses indicate that the scale of changes in employment and unemployment during the global crisis depends on such factors as: the depth of the demand shock and scale of GDP adjustments; the degree of openness of the economy; the scope of alternative labour market adjustments and some labour market institutions, especially employment protection legislation and the share of fixed-term employment contracts. The analyses indicate that the smallest declines in employment (and correspondingly the smallest increases in unemployment) during the crisis can be expected in countries where the EPL

* Ph.D., Full Professor at the University of Lodz, Faculty of Economics and Sociology, Chair of Macroeconomics, e-mail: ekwiatk@uni.lodz.pl

[1] This research was supported by the National Centre of Science within project No. DEC-2013/11/B/HS4/00684, entitled: 'Labour market institutions and labour market performance in the OECD countries during the global crisis'.

indexes and share of those employed on fixed-term employment contracts in total employment are moderate.

***Keywords**: employment, unemployment, the global crisis, EU*

1. Introduction

Market economies are subject to a variety of impacts, whose origins may lie in the economies themselves, or outside of them. These impacts are of a various nature: cyclical, long-term trends, or one-time supply or demand shocks. They produce imbalances in the economy, including in the labour market, which induce adjustment processes in various areas of the economy. Adjustment processes require a certain flexibility of the economy, i.e., the ability of an economy to change its existing states. Due to the fact that the degree of flexibility in individual areas of the economy is different, the adjustment processes in the economy, including the labour market, have different natures.

The final years of the first decade of the 21st century were a period of strong negative macroeconomic tendencies in the world. They commenced by the real estate market crash in the US in the years 2006–2007, which also affected other segments of the financial sector of the American economy, and later moved rapidly into the real sector. Over time, these negative cyclical impulses and crisis phenomena moved to other countries, giving rise to what came to be called the 'global crisis'.

The global crisis became the subject of lively debates and investigations in the economic literature. Its course was analysed in detail, various concepts with respect to its causes were put forward then further developed, and attempts were made to identify and assess its effects. The crisis severely affected the vast majority of countries and the economic position of all groups of economic entities, left its mark on the activities of the States, revised a series of common views held in the theory of economics. It is no surprise that the global crisis has become a burning issue in economic debates during recent years.

The global crisis affected also labour markets in the European countries. It was reflected in the drop in the volume of employment and the increase of unemployment rates. The scope of this paper concerns the changes in employment and unemployment in the EU countries, as well as their interpretation in the existing mainstream economic theories.

This paper aims to:

- Identify the employment and unemployment effects of the global crisis in the EU countries; and
- indicate factors which may explain the differentiated responses of labour markets to the global crisis.

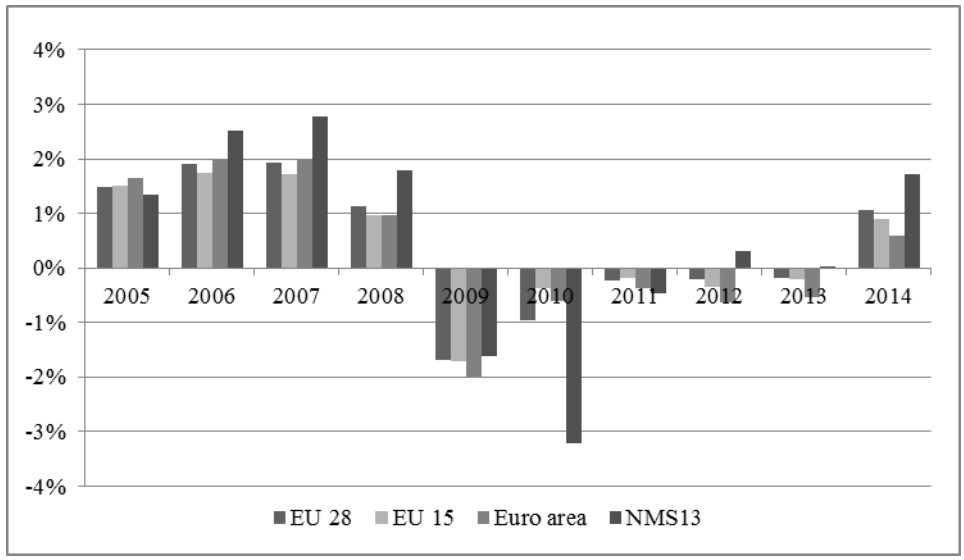
The structure of the paper is as follows. Part 2 shows the changes in employment and unemployment in the EU countries as a result of the global crisis. Subsequent parts of the paper analyse the factors which may explain the differentiated effects of the global crisis on changes in employment and unemployment in the countries under study. These factors are examined from the theoretical side, as well as from empirical side, which demonstrates their development in individual countries. The factors include openness of the economy (Section 3), GDP dynamics (Section 4), alternative labour market adjustments (Section 5), and selected labour market institutions (Section 6). Section 7 offers conclusions.

2. The effects of the global crisis on employment and unemployment

The situation on the labour market can be described using different economic measures and indicators. The economic literature devoted to the overall assessment of the state of the labour market mainly uses measures determining trends in labour supply, labour demand, unemployment, and wages. In the analysis of developments in the labour markets undertaken in this study it was decided to use two economic measures characterizing the state of the labour market, namely employment and unemployment. Although these economic measures are to some extent dependent on each other (an increase in the volume of employment usually leads to a decline in unemployment and a decline in employment to an increase in unemployment), nevertheless the determining factors differ to some extent and they can demonstrate tendencies different from the above interdependencies. Therefore, taking into account both measures in the assessment of the situation on the labour market deepens the analysis of the state of the labour market.

The global crisis produced significant negative changes in the labour markets in most EU countries, even though its origins did not take place in the individual countries at the same time. The year 2009 marked a watershed, when the negative trends intensified in most countries, but in the following years the effects of the crisis continued in various ways in many countries. They involved both employment and unemployment.

Figure 1. Rates of change of employment in the groups of countries in 2005–2014 (in %)



Source: Eurostat – http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsi_emp_a&lang=en; NMS 13 – Author's own calculations [access date: 05.06.2015].

Figure 1 shows the trends in employment in four groups of countries in the years 2005–2014, i.e., the EU-28, the EU 15, euro zone countries, and new member states NMS 13 (these groups partially overlap). As seen in Figure 1, in the years 2005–2008 there were tendencies towards increased employment in all groups of countries, but in the NMS 13 they were stronger than in other countries. After 2008 strong downward trends in all country groups can be observed, but in the euro zone they were stronger than in the other EU countries. It was not until 2014 that the negative trends reversed.

The detailed data on annual changes in employment in individual EU countries are included in Table 1. The data show the differentiated situation in individual countries in the period under study. Malta was the only country which demonstrated a continuous upward trend in employment throughout the entire period. A quite favourable situation took also place in the countries in which upward trends were intertwined with stabilization or slight declines in employment. This concerns such countries as Austria, Belgium, the Czech Republic, Sweden, and also Poland. Other countries demonstrated strong fluctuations in their employment changes, coupled with significant declines in employment in the crisis years. The table shows, first, that the greatest variability of the rate of changes in employment took place in Greece, Ireland, Latvia, Estonia, Croatia, and Spain. Secondly, the largest declines in employment during the period occurred in Greece, Latvia,

Ireland, Spain, Portugal, and Lithuania, as evidenced by the highest values of the negative semi-standard deviation. On the other hand, the largest increases in employment occurred in Luxembourg, Estonia, Ireland, Bulgaria, and Cyprus.

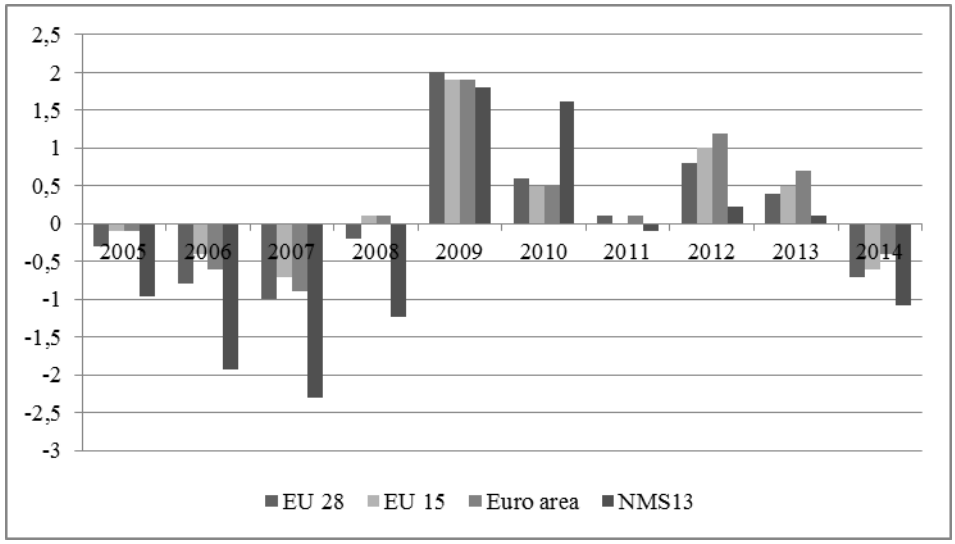
Table 1. Employment growth rates in the EU countries, 2005–2014 (in %)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Luxembourg	2.76	0.88	3.89	-0.25	7.31	1.66	1.81	5.03	1.10	2.89
Malta	1.01	1.20	2.78	2.06	0.57	1.94	2.46	2.22	3.29	3.07
Poland	2.33	3.39	4.43	3.67	0.43	-2.49	0.58	0.18	-0.15	1.89
Netherlands	0.06	1.85	2.45	1.53	0.04	-2.63	-0.02	0.66	-0.71	-0.56
Cyprus	2.50	2.67	5.77	1.32	0.00	3.21	0.76	-3.26	-5.22	-0.14
Germany	1.45	2.23	2.20	1.46	-0.18	0.69	0.13	0.87	1.03	0.88
Austria	1.93	2.10	2.55	1.80	-0.30	0.87	0.89	0.79	0.49	0.19
Belgium	2.33	0.68	2.73	1.50	-0.57	1.54	0.46	0.32	0.14	0.29
Croatia	0.65	0.85	9.29	2.12	-0.76	-3.80	-3.86	-3.62	-2.69	2.74
France	0.74	0.63	1.75	1.31	-0.97	0.22	0.24	-0.01	0.00	0.08
United Kingdom	1.05	0.92	0.64	0.85	-1.04	0.23	0.54	1.07	1.20	2.30
Greece	1.23	1.89	0.81	1.02	-1.18	-3.65	-7.64	-8.86	-4.92	0.65
Romania	0.13	1.94	0.67	0.17	-1.34	-5.74	-2.12	0.90	-0.65	0.76
Czech Republic	1.57	1.35	1.94	1.64	-1.36	-1.00	-0.26	0.36	0.96	0.75
Slovenia	0.61	1.26	2.50	1.11	-1.55	-1.50	-3.10	-1.31	-1.94	1.20
Italy	0.20	1.56	0.60	0.86	-1.70	-0.76	0.32	-0.14	-1.66	0.40
Sweden	1.32	1.90	2.51	1.15	-2.04	0.54	2.26	0.67	1.02	1.44
Hungary	0.03	0.69	-0.67	-1.38	-2.61	-0.41	0.71	1.81	1.71	5.34
Slovakia	2.19	3.93	2.41	3.22	-2.77	-2.06	-0.09	0.59	0.01	1.46
Denmark	0.52	1.93	-0.06	1.75	-2.88	-2.32	-0.13	-0.52	-0.04	0.99
Portugal	-0.30	0.63	0.27	0.47	-2.89	-1.41	-3.23	-4.08	-2.58	1.58
Finland	1.53	1.78	1.97	1.58	-2.91	-0.40	1.07	0.38	-1.07	-0.39
Bulgaria	2.03	4.30	4.59	3.32	-3.19	-6.17	-2.87	-1.05	0.03	1.58
Spain	5.87	3.81	3.21	-0.54	-6.66	-2.00	-1.62	-4.28	-2.80	1.20
Lithuania	0.99	-0.38	1.58	-1.68	-7.69	-5.29	0.47	1.76	1.34	2.03
Ireland	4.67	4.70	4.86	-0.69	-7.85	-4.03	-1.76	-0.61	2.36	1.74
Estonia	2.28	5.86	0.91	-0.24	-9.47	-4.36	6.20	1.94	1.04	0.56
Latvia	0.88	6.03	2.57	-0.24	-3.88	-6.36	1.28	1.62	2.09	-1.04

Source: Eurostat – http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsi_grt_a&lang=en [access date: 05.06.2015].

Let us now consider the development of unemployment in the EU countries. Figure 2 shows trends of changes in unemployment rates in the four main groups of EU countries. As clearly shown in the Figure, the highest declines in unemployment rates in the years 2005–2008 took place in the group of New Member States NMS13. Moreover, Figure 2 also shows that the global crisis was affecting the growth in unemployment rates not only in the years 2009–2010, but also in the years 2012–2013, although in the latter sub-period this impact was relatively weak in the New Member States.

Figure 2. Changes in unemployment rates in the groups of EU countries in 2005–2014 (in percentage points)



Source: Eurostat – http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_a&lang=en; NMS 13 –Author's own calculations [access date: 05.06.2015].

Table 2 shows indicators of unemployment rates in individual EU member countries in the years 2004–2014. These data indicate a high differentiation of unemployment rate levels in individual countries and particular sub-periods. Firstly, the highest unemployment rates in the period of the global crisis occurred in Greece (27.5% in 2013), Spain (26.1% in 2013), Latvia (19.5% in 2011), Lithuania (17.8% in 2010), Croatia (17.3% in 2013), and Portugal (16.4% in 2013). Secondly, relatively low unemployment rates in the period of the global crisis (after 2008) occurred in Austria (below 6%), Luxembourg (below 6%), and Malta (below 7%). Thirdly, in the last year of the period under study, i.e., in the year 2014, the highest unemployment rates were in Greece, Spain, Croatia, and Cyprus, while the lowest were in Germany, Austria, and Malta. Fourthly, the unemployment rates in Poland before 2008 stood above the EU-28

average, and since 2009 slightly below the EU-28 average. However, the level of the unemployment rate in Poland in 2014 (9.0%) should still be considered as too high.

Table 2. Total unemployment rates in the EU countries, 2004–2014 (in %)

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Belgium	8.4	8.5	8.3	7.5	7.0	7.9	8.3	7.2	7.6	8.4	8.5
Bulgaria	12.1	10.1	9.0	6.9	5.6	6.8	10.3	11.3	12.3	13.0	11.4
Czech Rep.	8.3	7.9	7.1	5.3	4.4	6.7	7.3	6.7	7.0	7.0	6.1
Denmark	5.5	4.8	3.9	3.8	3.4	6.0	7.5	7.6	7.5	7.0	6.6
Germany	10.4	11.2	10.1	8.5	7.4	7.6	7.0	5.8	5.4	5.2	5.0
Estonia	10.1	8.0	5.9	4.6	5.5	13.5	16.7	12.3	10.0	8.6	7.4
Ireland	4.5	4.4	4.5	4.7	6.4	12.0	13.9	14.7	14.7	13.1	11.3
Greece	10.6	10.0	9.0	8.4	7.8	9.6	12.7	17.9	24.5	27.5	26.5
Spain	11.0	9.2	8.5	8.2	11.3	17.9	19.9	21.4	24.8	26.1	24.5
France	8.9	8.9	8.8	8.0	7.4	9.1	9.3	9.2	9.8	10.3	10.3
Croatia	13.9	13.0	11.6	9.9	8.6	9.2	11.7	13.7	16.0	17.3	17.3
Italy	8.0	7.7	6.8	6.1	6.7	7.7	8.4	8.4	10.7	12.1	12.7
Cyprus	4.6	5.3	4.6	3.9	3.7	5.4	6.3	7.9	11.9	15.9	16.1
Latvia	11.7	10.0	7.0	6.1	7.7	17.5	19.5	16.2	15.0	11.9	10.8
Lithuania	10.9	8.3	5.8	4.3	5.8	13.8	17.8	15.4	13.4	11.8	10.7
Luxembourg	5.0	4.6	4.6	4.2	4.9	5.1	4.6	4.8	5.1	5.9	6.0
Hungary	6.1	7.2	7.5	7.4	7.8	10.0	11.2	11.0	11.0	10.2	7.7
Malta	7.2	6.9	6.8	6.5	6.0	6.9	6.9	6.4	6.3	6.4	5.9
Netherlands	5.7	5.9	5.0	4.2	3.7	4.4	5.0	5.0	5.8	7.3	7.4
Austria	5.5	5.6	5.3	4.9	4.1	5.3	4.8	4.6	4.9	5.4	5.6
Poland	19.1	17.9	13.9	9.6	7.1	8.1	9.7	9.7	10.1	10.3	9.0
Portugal	7.8	8.8	8.9	9.1	8.8	10.7	12.0	12.9	15.8	16.4	14.1
Romania	8.0	7.1	7.2	6.4	5.6	6.5	7.0	7.2	6.8	7.1	6.8
Slovenia	6.3	6.5	6.0	4.9	4.4	5.9	7.3	8.2	8.9	10.1	9.7
Slovakia	18.4	16.4	13.5	11.2	9.6	12.1	14.5	13.7	14.0	14.2	13.2
Finland	8.8	8.4	7.7	6.9	6.4	8.2	8.4	7.8	7.7	8.2	8.7
Sweden	7.4	7.7	7.1	6.1	6.2	8.3	8.6	7.8	8.0	8.0	7.9
United Kingdom	4.7	4.8	5.4	5.3	5.6	7.6	7.8	8.1	7.9	7.6	6.7

Source: Eurostat – http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_a&lang=en [access date: 05.06.2015].

The sensitivity of unemployment to changes in the economic situation can be better observed taking into account changes in unemployment rates in consecutive years. Table 2 shows that, firstly, in the period of the global crisis the greatest increases in unemployment rates took place in the Baltic States (Latvia, Lithuania, and Estonia) and in Greece, Spain, and Ireland. On the other hand, a relatively weak sensitivity of unemployment to the global crisis (annual increases of unemployment rates below 1 percentage point) were observed in Germany, Luxembourg, Belgium, Romania, and Malta. Secondly, Table 2 shows that in certain countries the effects of the global crisis continued for a relatively long time. The longest periods of uninterrupted increases in unemployment rates occurred in Spain and Cyprus (6 years), as well as in Greece, Portugal, Slovenia, Bulgaria, and Croatia (5 years).

The above-presented trends with respect to changes in the labour markets in the EU countries show that the crisis has left a significant imprint on the labour markets, causing decreases in employment and increases in unemployment. The scale of these changes, however, was strongly differentiated with respect to particular countries. The question thus arises: What are the main reasons for this high degree of differentiation? In the investigation below we focus on a few selected reasons, such as:

- economic openness,
- GDP dynamics,
- alternative labour market adjustments,
- labour market institutions.

All these factors can be of some importance in explaining the differentiated response of the labour markets to the global crisis.

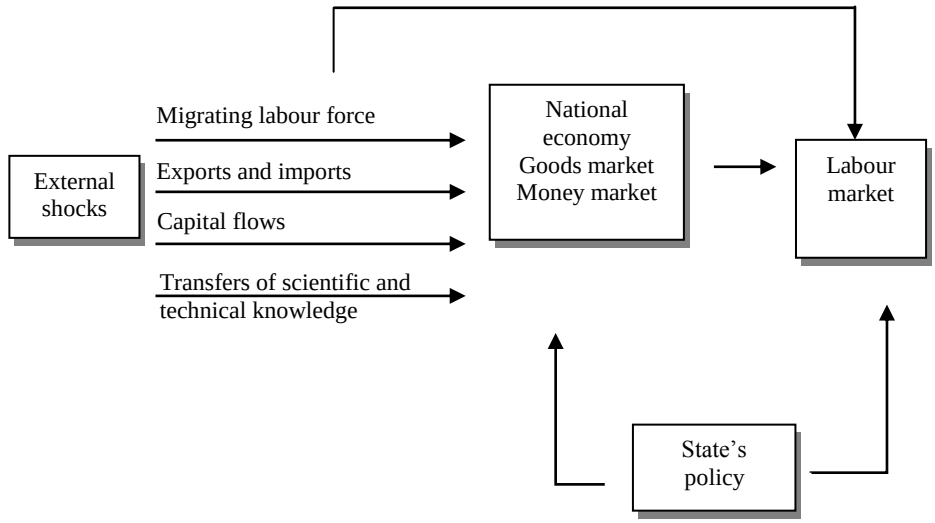
3. The role of the openness of the economy

In the contemporary globalized world there are strong economic impacts between countries. These impacts concern also cyclical impulses. For many economies, the global crisis constituted a negative shock for their overall economic activity, the source of which was outside their domestic economic systems. Simply put, the negative external shock found its way, through different mechanisms, to the national economies, causing various effects in these economies. It follows that for many economies the effects of the global crisis depended on the degree to which the economies were open to economic cooperation with other countries. We assume that the more an economy is open, the greater will be the effects of the negative external shocks in this economy.

To make this hypothesis more credible, let us consider the impact of external shocks. One can identify several mechanisms of the impact of external impulses on national economies. These are shown in Figure 3.

There are four main mechanisms of transmission of external cyclical impulses on a national economy: labour migration, exports and imports, capital flows, and transfer of scientific and technical knowledge. In the case of the recent global crisis two of these mechanisms seem to be the most important: exports and imports; and capital flows.

Figure 3. Mechanisms through which external shocks affect the national economy



Source: Author's own compilation.

Negative cyclical impulses abroad affect a national economy, firstly, through foreign trade. The downturn in the partner country will reduce its demand for products manufactured in the country under study. On the other hand, the companies in the partner's country are, in the face of declining demand for the products in their own country, trying to increase exports to other countries. Thus a decline in net exports takes place in the domestic economy, which may cause a decline in aggregate demand for goods and a decline in production.

Secondly, negative cyclical impulses from abroad arrive to a domestic economy through capital flows. The downturn in the partner country may result in the withdrawal of their capital from other countries. As a result, we can observe outflows of foreign capital from the national economy to home countries, which usually has both long-term and short-term consequences. The outflow of foreign

capital may in the long run weaken economic growth in the country under study, and in the short term can cause severe exchange rate fluctuations.

It follows from the above considerations that the transmission of cyclical impulses between countries requires the existence of open economies, in which foreign trade and foreign capital play an important role. The greater is the openness of an economy, the stronger is the response of such an economy to the global crisis.

Table 3. The degree of economic openness in the EU countries between 2005 and 2010 (average for the whole period)

Country	Openness index	Country	Openness index
Austria	1.11	Latvia	1.04
Belgium	1.67	Lithuania	1.38
Bulgaria	1.40	Luxembourg	3.39
Cyprus	1.07	Malta	1.90
Czech Republic	1.98	Netherlands	1.57
Denmark	1.08	Poland	0.80
Estonia	1.76	Portugal	0.79
France	0.60	Romania	1.24
Germany	0.90	Slovakia	1.83
Greece	0.57	Slovenia	1.42
Hungary	2.31	Spain	0.67
Italy	0.55	United Kingdom	0.64

Source: Author's own calculations on the basis of Eurostat data.

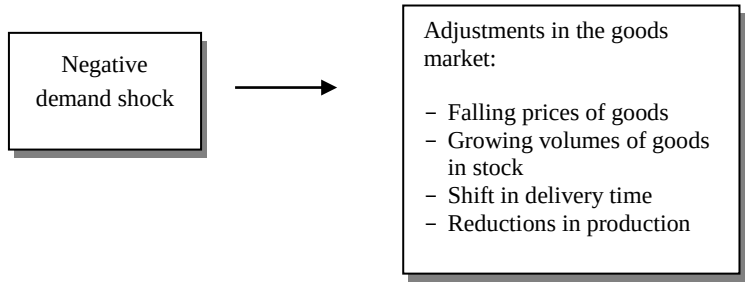
Table 3 presents statistics showing indicators of openness of the economy in the European Union between 2005 and 2010, calculated as the relationship between the total annual exports and imports and the GDP of the country. The table shows that the highest rates of economic openness were in Luxembourg, Hungary, the Czech Republic, Estonia, Slovakia, and Malta. The lowest rates were in Italy, Greece, France, Great Britain, and Spain. While the differences between these indicators are not able to fully explain the differentiated response of the labour markets in the EU to the global crisis, it seems however that in some countries they may explain a lot. In Poland, the openness of the economy was at a relatively low level and this can be seen as a source of the relatively mild nature of the global crisis in our economy.

4. The importance of changes in GDP

The shocks of overall economic activity do not affect the labour market in a direct way. Their impact is indirect, mainly through their impact on the goods market. As stressed in Section 3, two transmission mechanisms of shocks are the most important: the commercial and financial. It is through these two mechanisms of transmission that the shocks reach the goods market, and trigger appropriate adjustments and have further consequences on other markets.

A negative shock in overall economic activity, which took place in many European countries during the global crisis years 2009–2010, creates an imbalance on the goods market, causing a tendency toward declines in net exports and aggregate demand. As a result, the negative shock in overall economic activity can be reflected in the decline in aggregate demand for products. This is precisely the trend observed in many European countries during the global crisis of 2009–2010. We can say that the global crisis was, in many European countries, associated with negative demand shock.

Figure 4. Adjustments in the goods market in response to the negative demand shock

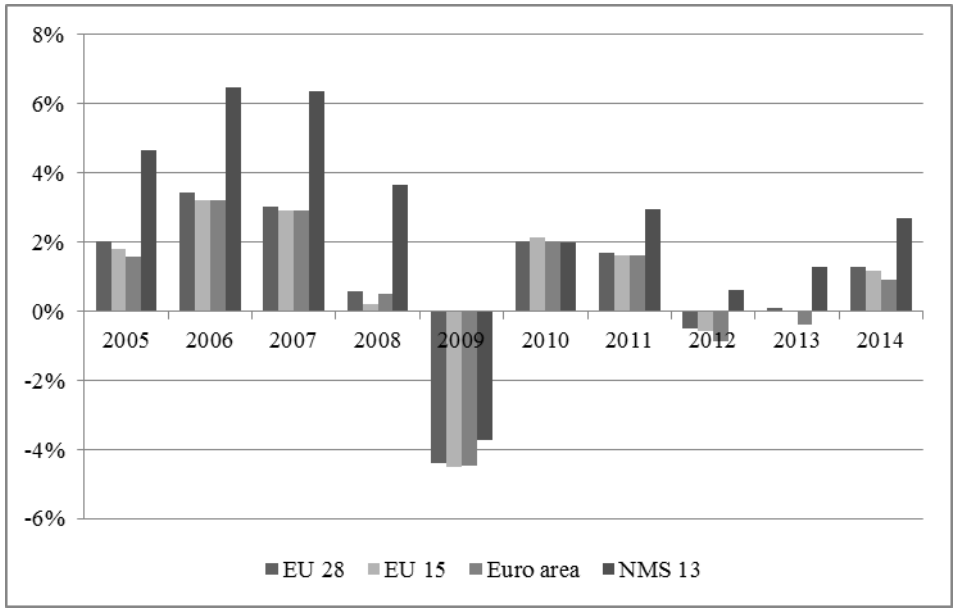


Source: Author's own compilation.

The shock decline in aggregate demand for products upsets the balance on the goods market, resulting in the adjustment process in the market shown in Figure 4. The decline in aggregate demand for products does not necessarily lead immediately to a reduction in production volume. It may cause adjustments in the form of a decline in prices of goods (under flexible prices and competitive market structures), changes in delivery dates, or an increase in stocks of commodities in enterprises. If, however, the negative demand shock is relatively deep and continues for a longer period of time, the adjustments in the form of reduced production volume are rather inevitable. These adjustments of production to shocks are not without significance for changes in employment and unemployment, with the stronger production adjustments bringing about greater changes in employment and unemployment.

Figure 5 shows the trends in GDP changes in the EU country groups in the years 2005–2014. It demonstrates that the trends varied between the groups of countries under study, and that in particular they were different in the new Member States. As the graph shows, in the period 2005–2008 the dynamics of GDP growth in this group of countries was much stronger than in the other groups. The year 2009 saw similar dynamics of decline in GDP in all country groups. In the years 2010–2011 there was a GDP growth trend in all country groups, albeit it was stronger in the NMS 13 group than in other country groups. Among the NMS 13 group an upward trend continued until the end of the period under study, while in other groups of countries there was a clear slowdown in the years 2012–2013.

Figure 5. Rates of change in GDP in the groups of countries in 2005–2014 (in %)



Source: Eurostat – http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_gdp&lang=en; NMS 13 – own calculations [access date: 05.06.2015].

Table 4. GDP growth rates in the EU countries, 2005–2014 (in %)

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Poland	3.52	6.17	7.24	3.98	2.55	3.73	4.80	1.72	1.69	3.51
Cyprus	3.87	4.51	4.97	3.60	-2.09	1.42	0.30	-2.39	-5.41	-2.27
Malta	3.78	1.77	4.02	3.34	-2.42	3.52	2.10	2.45	2.29	3.55
Belgium	1.95	2.56	3.01	1.01	-2.59	2.46	1.60	0.10	0.29	1.08
France	1.58	2.39	2.34	0.20	-2.87	1.94	2.10	0.20	0.59	0.19
Portugal	0.83	1.55	2.44	0.20	-2.97	1.94	-1.80	-4.07	-1.59	0.86
Netherlands	2.32	3.78	4.16	2.10	-3.32	1.11	1.70	-1.57	-0.80	0.91
Spain	3.72	4.11	3.74	1.17	-3.57	0.00	-0.60	-2.11	-1.23	1.35
Austria	2.07	3.41	3.61	1.49	-3.73	1.83	3.10	0.87	0.19	0.29
United Kingdom	2.85	2.98	2.59	-0.39	-4.29	1.94	1.60	0.69	1.66	2.88
Greece	0.90	5.82	3.54	-0.45	-4.34	-5.48	-8.90	-6.59	-3.88	0.86
Czech Republic	6.48	6.88	5.49	2.70	-4.77	2.25	2.00	-0.88	-0.69	1.99
Bulgaria	5.98	6.44	6.92	5.76	-5.07	0.70	2.00	0.49	1.07	1.64
Denmark	2.46	3.81	0.77	-0.67	-5.11	1.63	1.20	-0.69	-0.50	1.10
Sweden	2.78	4.76	3.41	-0.60	-5.23	6.04	2.70	-0.29	1.27	2.22
Slovakia	6.55	8.28	10.66	5.45	-5.26	4.82	2.70	1.56	1.44	2.46
Luxembourg	4.07	4.92	6.50	0.50	-5.37	5.15	2.60	-0.19	2.05	:
Italy	0.99	1.97	1.45	-1.05	-5.48	1.73	0.60	-2.78	-1.74	-0.42
Germany	0.75	3.72	3.28	0.99	-5.60	4.06	3.60	0.39	0.10	1.63
Ireland	5.74	5.43	4.96	-2.64	-6.35	-0.30	2.80	-0.29	0.10	4.78
Hungary	4.24	3.97	0.48	0.95	-6.59	0.81	1.80	-1.47	1.50	3.63
Romania	4.21	8.08	6.84	8.50	-7.10	-0.79	1.10	0.59	3.44	2.76
Croatia	4.16	4.81	5.08	2.04	-7.38	-1.67	-0.30	-2.21	-0.92	-0.41
Slovenia	3.96	5.66	6.91	3.28	-7.75	1.21	0.60	-2.58	-1.02	2.58
Finland	2.78	4.06	5.21	0.67	-8.22	2.99	2.60	-1.46	-1.29	-0.10
Latvia	10.13	11.67	9.74	-3.15	-4.17	-2.91	5.00	4.86	4.18	2.35
Estonia	9.49	10.34	7.95	-5.29	-4.76	2.46	8.30	4.62	1.59	2.09
Lithuania	:	7.42	11.15	2.58	-4.81	1.63	6.10	3.86	3.27	2.90

Source: Eurostat – http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_gdp&lang=en [access date: 05.06.2015].

The GDP growth varied in individual EU countries in different years of the 2005–2014 period (cf. Table 4). It should be emphasized that in the EU countries an uninterrupted positive GDP growth throughout the entire period

occurred only in Poland. In other EU countries there were declines in GDP for at least one year, which were obviously related to the global crisis. The longest periods of decline in GDP occurred in Greece and Croatia (6 years), Italy (5 years), as well as in Ireland, Spain, Portugal, Finland, Denmark and Cyprus (4 years). In contrast, the strongest rates of annual GDP declines occurred in the Baltic countries (more than a 14% decline in 2009), as well as in Finland, Slovenia, Croatia, and Romania (a decline of more than 7% in 2009). These differentiated trends of GDP in the EU countries are no doubt (according to Keynesian economics) very significant for the differentiated responses of employment and unemployment in these countries to the global crisis.

5. The role of alternative labour market adjustments

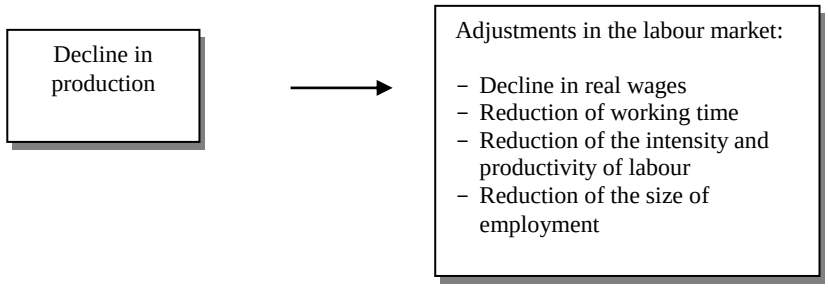
Adjustments on the goods market, in the form of a reduction of production volume, cannot be irrelevant in assessing the situation on the labour market. Empirical observations of the process of changes in employment size and production volume in the business cycle, however, indicate the existence of a number of regularities. Empirical observations indicate that fluctuations in the size of employment are milder (weaker) than fluctuations in production, and moreover take place with some delay (Smith 2003, pp. 48–51). In times of crisis, when production volume is declining, companies usually do not immediately reduce employment. They try to maintain, for at least some time, the current size of employment despite the declining production. It is worth noting that these trends indicate a decline in labour productivity per employee. When the decline in production deepens and lasts longer, companies are not able to maintain their current size of employment and the reduction phase kicks in. The reduction in employment is finally halted by an upward trend in production. This growth in production does not, however, entail immediate employment growth. The upturn is also accompanied by an increase in labour productivity per employee. It is only after some time, when production growth is well established, that employment increases. So we can say that there is some inertia in employment effects in relation to production in the business cycle, which was visible even during the crisis. The causes of this inertia are rooted in, *inter alia*, the degree to which alternatives to employment adjustment processes in the labour market are used.

The above-described inertia in terms of employment is due to the existence of costs related to adjusting the employment size to changing production. This concerns the costs incurred by companies related to dismissals (mainly severance payments), the costs of recruiting new employees when the crisis is over, and the cost of training employees (Smith 2003, p. 48). If the costs

of adjusting employment to changing production were nil, companies would find ways to make rapid and deep adjustments in employment. However, their existence leads to the so-called employment inertia, causing declines in labour productivity in the crisis phases (i.e., the phenomenon of hoarding the labour force in enterprises)[2] and to the rapid growth of labour productivity in the prosperity phases. It can thus be said that reducing the intensity and productivity of labour are, taken together, one form of labour market adjustment to a decline in production.

Job cuts and reductions in the intensity and productivity of labour are not the only forms of labour market adjustments to the negative demand shock and declines in production. Observations of the behaviour of enterprises suggest that in practice other alternative forms of adaptation processes are also used. Their combination is shown in Figure 6.

Figure 6. Labour market adjustments in the case of production decline



Source: Author's own compilation.

One form of the adjustment process in the labour market in the situation of a shock decline in production is a reduction in wages. This form of adaptation of the labour market is a big part of the neoclassical theory of the labour market, which implies a high degree of wage flexibility.[3] This assumption, however, is doubtful in the modern world, with fairly strong trade unions, collective agreements, and acts on minimum wages. Therefore, it does not seem that wage cuts would today completely exhaust the description of the adjustment processes in the labour market during the crisis.

[2] The phenomenon of hoarding a labor force in Poland is broadly described in: (Strzelecki, Wyszynski, Saczuk 2009, pp. 77–104)

[3] Wage flexibility is understood here as the sensitivity of wages to changes in the factors that determine wages, particularly in the labour market, labour productivity, or competition on the labour market. See Smith, 2003, p. 245.

Another important form of adjustment process in the labour market to shocks in economic activity is made up of changes in working time. These changes consist in the fact that in times of decline in demand and production, the number of weekly working hours is reduced. The increased use of this form of adjustment is fostered by practical reasons, agreements between employers and employees, and trade unions. It is much easier for employers to persuade employees to reduce their working time than to reduce employment or reduce wages. The significant dismissals costs (severance payments), as well as the costs of hiring and training employees, are of great importance in explaining the wide-spread use of working time adjustments. The higher the costs, the stronger are the incentives for employers to use working time changes as a form of labour market adjustment (Cahuc and Zylberberg 2004, p. 196).

It is worth noting the specific interchangeability (e.g. trade-offs) between the different forms of adjustment processes in the labour market. This is related to the fact that these forms constitute, in practice, different ways of adjusting (reducing) the operating costs incurred by manufacturers to their monetary revenues from sales of products (which obviously decrease in times of crisis). Therefore, it may be possible to effectively lower the cost of operations through one form (e.g., by reducing the working time), than to give in to the pressure to lower costs through other form of adjustments. Inasmuch as our analysis focuses on the adjustment of the labour market in the form of changes in employment (and unemployment), it is important here to note that the scale of employment changes in the business cycle also depends on the degree to which other alternative forms of labour market adjustments are used. So we can talk about a certain interchangeability (e.g. trade-offs), at least in the short term: the greater the adjustments of the labour market in the form of, e.g., changes in working time, changes in intensity and productivity of labour, and wage changes, the smaller are the adjustments in the form of changes in employment (and unemployment). It can be concluded that the scale of use of alternative labour market adjustments explains to some extent the differentiated responses to the global crisis in terms of employment and unemployment in different countries.

6. The impact of labour market institutions

Labour market institutions are standards defining the rules of conduct of business and/or public entities, and in particular the regulations determining the rights and obligations of entities operating in the labour market. These regulations shape the rights and obligations of both employers and employees, as well as the principles and mechanisms of individual and collective labour

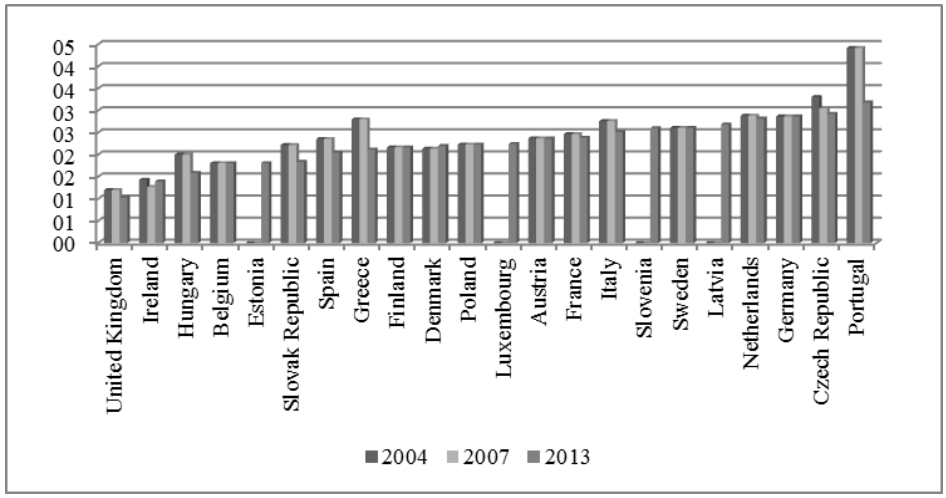
relations (Ostoj 2012, pp. 47–48). By determining and shaping the system of incentives and constraints, they affect the behaviour of individuals and their decision making. As a result of these policy decisions, the fundamental macroeconomic variables of the labour market i.e., demand for labour, employment, wages, labour supply, as well as unemployment, are established at specified levels. These decisions result also in creating a particular type of labour market adjustment process to shocks in economic activity, which shape the scale of quantitative adjustments in the form of changes in employment and unemployment and adjustments in the form of wage changes and changes of working time and labour intensity. For these reasons, in order to explain changes in employment and unemployment during the global crisis it is necessary to take into account the determinative impact of labour market institutions.

Two of the basic labour market institutions which could play a role in shaping the scale of employment and unemployment during the global crisis include employment protection legislation and the type of employment contracts in use. Hence we need to take a closer look at these institutions, and in particular at the diversity in the EU countries and the mechanisms whereby these institutions impact on the development of employment and unemployment.

Employment protection legislation is a set of norms and restrictions on dismissals, notice periods, severance payments, etc. (Cahuc, Zylberberg 2004, p. 734 and Boeri, van Ours, 2011, p. 255).[4] Its primary objective is to increase employment stability and security of employees' income. When the regulations concerning employment protection are more restrictive, employers must pay higher costs for redundancies and therefore use this type of adjustment to a more limited extent. In other words, the increase in the cost of layoffs discourages employers from making use of quantitative employment adjustments, and encourages the use of wage and working time adjustments. So we can say that stricter regulations on employment protection stabilize employment fluctuations. Indices of the degree of employment protection legislation in the various EU countries during the global crisis are shown in Figure 7 below.

[4] For more on employment protection legislation, see Kwiatkowski, Włodarczyk, 2012.

Figure 7. Employment Protection Legislation in the European Union countries in 2004, 2007 and 2013 (1= very weak; 6 = very strict)



Source: OECD – http://stats.oecd.org [access date: 05.06.2015].

However, the practical experiences in many countries, as well as theoretical analyses, indicate that the impact of employment protection legislation on the labour market is more complex. According to E.P. Lazear (Lazear 1990), the introduction of restrictive employment protection regulations in conditions of flexible wages and working time has a neutral impact on employment, because the increased costs of redundancies are taken into account in wage negotiations with employees (i.e., wages are determined at a reduced level), and as a result adjustments in times of crisis consist of the reduction of wages and working time rather than reductions in employment.

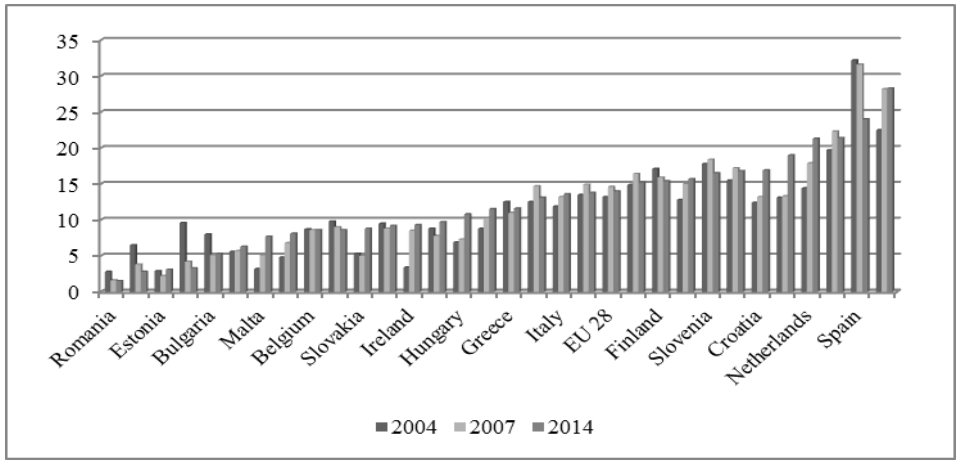
The situation is however different in the case of rigid wages. In conditions of liberal employment protection legislation, the negative shocks evoke strong quantitative adjustments in the form of reduction of employment. An increase in the stringency of these regulations results in stabilization or weakening of employment fluctuations (Blanchard, Summers 1986). However, there are other consequences. Restrictive regulations prevent the rational allocation of workforce and worsen corporate profitability, which negatively affects the size of the demand for labour and employment, increasing unemployment (Greenwald, Stiglitz 1995).

Statistical research concerning the influence of the EPL index on the elasticity of employment relative to GDP was carried out on the basis of statistical data for 26 OECD countries in the years 2008–2012 (Kwiatkowski, Włodarczyk 2015). The hypothesis that employment protection legislation

influences the elasticity of employment relative to GDP was confirmed. The obtained results show that there is a minimum value of employment elasticity when the EPL index is 2, while at lower and higher levels of the EPL index the employment elasticity was higher (Kwiatkowski, Włodarczyk 2015, p. 203). This means that both too liberal and too restrictive employment protection regulations result in a higher sensitivity of employment to GDP.

An important role in shaping the variability of employment is the employment structure in terms of type of employment contracts used, i.e., fixed-term and regular (open-ended or 'permanent') employment contracts. There are numerous differences between these two types of contracts, but the most important obviously is the time period of employment. Employees prefer employment on the basis of regular contracts, as they offer employees greater stability of employment and income. The situation is different in the case of fixed-term employment contracts. The level of employment protection is much lower in this case (the period of notice is much shorter, and severance payments at dismissal do not occur). The risks of fluctuations in employment and income are thus transferred almost entirely to employees. while for employers this type of employment contract brings a number of benefits, in particular the advantage of being able to adjust the number of employees to the prevailing economic conditions. Therefore, employers are interested in hiring employees under fixed-term contracts (Bednarski 2012, pp. 37–43). The share of fixed-term employment in overall employment in selected EU countries during the global crisis is shown in Figure 8.

Figure 8. The share of temporary, fixed-term employment in total employment in the European Union countries in 2004, 2007 and 2014 (in %)



Source: Eurostat – http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsi_pt_a&lang=en [access date: 05.06.2015].

Theoretical arguments and empirical observations allow us to formulate the hypothesis of a U-shaped relationship between the share of workers on regular employment contracts in the total number of employees, and elasticity (variation) of employment. This hypothesis can be justified as follows. With a low share of regular employment contracts, the employment elasticity can be quite high due to the high proportion of fixed-term employment and the ease with which employees can be dismissed during downturns. An increase in the share of workers on regular contracts should reduce the employment elasticity due to the increased employment protection and increased cost of redundancies for employers. But this regularity probably has its limits. When the proportion of workers on regular contracts is too high and it is impossible to adjust the number of employees to economic conditions, additional costs are incurred in the form of irrational allocation of labour in enterprises, resulting in negative consequences for corporate profits and reducing the size of the demand for labour, as a result raising the employment elasticity during downturns (i.e., increasing the decline in employment during this period).

We undertook statistical research on the influence of the share of temporary employment on the elasticity of employment relative to GDP was undertaken on the basis of statistical data for 26 OECD countries in the years 2008–2012 (Kwiatkowski, Włodarczyk 2015). It follows from the research that there is a minimum value of employment elasticity relative to GDP when the share of temporary employment to total employment is about 18% (Kwiatkowski, Włodarczyk 2015, p. 203). This suggests that a too-high share of temporary employment induces higher employment elasticity relative to GDP.

7. Conclusions

Analyses show that the global economic crisis affected the labour markets of EU countries, causing declines in employment and increases in unemployment. The changes in the size of employment in individual countries, however, were differentiated. The greatest decline in employment was observed in Greece, Estonia, Ireland, Spain, Iceland, and Portugal, and the lowest in Austria, Belgium, the Netherlands, and Poland. The greatest increase in unemployment occurred in the Baltic countries, Greece, Spain, and Portugal.

The scale of adjustments in the labour market during the global crisis depended on several factors: the depth of the demand shock and scale of adjustments in production volume, the degree of openness of the economy, and the extent of adjustments in wages, working time, and labour productivity. The scope of quantitative adjustments is also affected by institutional factors, such as

the degree of stringency of employment protection legislation and the share of fixed-term employment contracts in overall employment.

Statistical analysis shows that declines in production volume during the period in question took place in most EU countries. They were particularly strong in the years 2008–2009, and the greatest declines were in Greece, Estonia, Iceland, Finland, Slovenia, Ireland, and Italy.

This study also showed that the changes in employment and unemployment depend on the degree of restrictiveness of employment protection legislation and the share of the fixed-term employment contracts in overall employment. The results indicate that the smallest declines in employment during the crisis can be expected in countries where the EPL is moderate (about 2), and the share of those employed on fixed-term employment contracts in total employment is close to 18%.

References

Bednarski M. (2012), *Zatrudnienie na czas określony. Perspektywa pracodawców*, [in:] M. Bednarski, K.W. Frieske (ed.), *Zatrudnienie na czas określony w polskiej gospodarce. Społeczne i ekonomiczne konsekwencje zjawiska*, Instytut Pracy i Spraw Socjalnych, Warsaw.

Blanchard O., Summers L. (1986), *Hysteresis and the European Unemployment Problem*, NBER Macroeconomics Annual, No. 1, MIT Press, Cambridge, MA.

Boeri T., van Ours J. (2011), *Ekonomia niedoskonałych rynków pracy*, Wolters Kluwer Polska Sp. z o.o., Warsaw.

Cahuc P., Zylberberg A. (2004), Labour Economics, The MIT Press, Cambridge, Massachusetts, London.

Eurostat,: epp.eurostat.ec.europa.eu

Greenwald B.C., Stiglitz J.E. (1995), *Labour Market Adjustments and the Persistence of Unemployment*, AEA Papers and Proceedings.

Kwiatkowski E., Włodarczyk P. (2012), *Wpływ prawnej ochrony zatrudnienia na rynek pracy w warunkach negatywnego szoku ekonomicznego*, 'Gospodarka Narodowa', Vol. LXXX/XXI, No. 11–12.

Kwiatkowski E., Włodarczyk P. (2015), *Instytucje rynku pracy i polityka makroekonomiczna a zatrudnienie w krajach OECD w okresie globalnego kryzysu*, [in:] E. Kwiatkowski, B. Liberda (ed.), Determinanty rozwoju Polski. Rynek pracy i demografia, PTE, Warsaw.

Lazear E.P. (1990), *Job security provisions and unemployment*, 'Quarterly Journal of Economics', No. 3.

OECD, strona internetowa OECD: http://www.oecd.org

Ostoj I. (2012), *Formalne i nieformalne instytucje rynku pracy*, Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, Katowice.

Smith S. (2003), *Labour Economics*, Routledge, London–New York.

Strzelecki P., Wyszyński R., Saczuk K. (2009), *Zjawisko chomikowania pracy w polskich przedsiębiorstwach po okresie transformacji*, 'Bank i Kredyt', 40(6).

Streszczenie

DLACZEGO RYNKI PRACY ZAREAGOWAŁY NA GLOBALNY KRYZYS W RÓŻNY SPOSÓB?

Celem artykułu jest identyfikacja skutków globalnego kryzysu dla zatrudnienia i bezrobocia w krajach UE oraz wskazanie czynników, które mogą objaśnić zróżnicowaną reakcje rynków pracy na ten kryzys.

Analizy pokazują, że kryzys globalny wpłynął na stan rynków pracy w krajach UE, powodując spadki zatrudnienia i wzrosty bezrobocia. Największe spadki zatrudnienia zaobserwowano w Grecji, Estonii, Irlandii, Hiszpanii, Islandii i Portugalii, zaś najmniejsze w Austrii, Belgii, Holandii i Polsce. Największe przyrosty bezrobocia wystąpiły w krajach nadbałtyckich oraz Grecji, Hiszpanii i Portugalii.

Analizy wskazują, że skala zmian zatrudnienia i bezrobocia w okresie globalnego kryzysu zależy od takich czynników jak: głębokość szoku popytowego, skala dostosowań PKB, stopień otwartości gospodarki, rola alternatywnych przystosowań rynku pracy oraz niektóre instytucje rynku pracy, a w szczególności prawna ochrona zatrudnienia i udział umów o pracę na czas określony. Analizy wskazują, że najmniejsze spadki zatrudnienia (i wzrosty bezrobocia) w okresie kryzysu mogą być oczekiwane w krajach, w których indeksy EPL i udziały umów o pracę na czas określony w łącznym zatrudnieniu są umiarkowane.

Słowa kluczowe: *zatrudnienie, bezrobocie, kryzys globalny, UE*