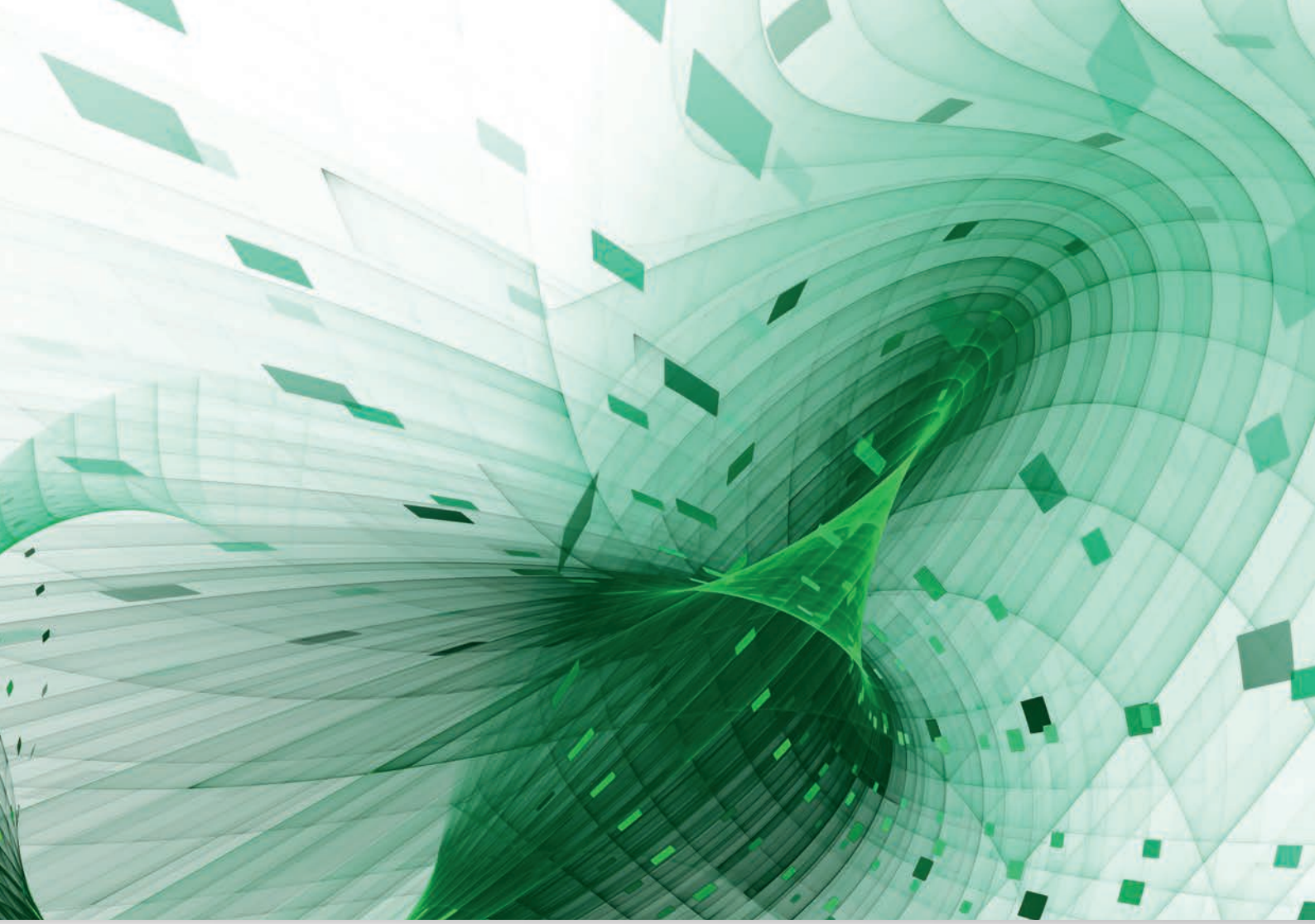

Employment in Poland 2012

LABOUR MARKET DURING THE RECOVERY FROM THE CRISIS

edited by Piotr Lewandowski and Iga Magda

HUMAN CAPITAL
NATIONAL COHESION STRATEGY

Human Resources Development Center

MINISTRY OF LABOUR AND SOCIAL POLICY

EUROPEAN UNION
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Editor: Piotr Lewandowski, Iga Magda PhD

Part I
Piotr Lewandowski
Marek Antosiewicz
Jan Baran

Part II
Iga Magda PhD
Monika Potoczna
Maciej Lis

Part III
Joanna Tyrowicz PhD
Agnieszka Kamińska

Part IV
Jan Hagemejer PhD
Karol Pogorzelski

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Project implementation:

Human Resources Development Centre
Aleje Jerozolimskie 65/79
00-697 Warsaw
www.crzl.gov.pl

Survey implementation:

Institute for Structural Research
ul. Rejtana 15, r. 28
02-516 Warsaw, Poland
www.ibs.org.pl

Translation from Polish:
Centrum Tłumaczeń Profesjonalnych, C.T.P. Anna Michalska
www.ctp.com.pl
and Michał Biela

Cover design, typesetting and editing:
Maciej Zalewski / alkione.net

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INTRODUCTION

It is with great pleasure that we present the eighth edition of "Employment in Poland". The report was prepared by the Institute for Structural Research on the initiative of Ministry of Labour and Social Policy as part of the systemic project *Analysis of processes on the Polish labour market and in the area of social integration in the context of the conducted economic policy*, commissioned by the Human Resources Development Centre.

This edition is devoted to the analysis of the impact of the 2007-2009 global financial crisis (the so called Great Recession) on the labour market, and of the public finance and public debt crisis, which constitutes the direct consequence of a recession in some of the developed countries (especially in the Euro zone). The report has been divided into four parts.

"The Great Recession" is the title of the first part. It focuses on the causes, the course and macroeconomic consequences of the crisis that started in 2008 in most of the EU and OECD countries. It aims at creating a complex image of the course of the Great Recession, and particularly at understanding its causes, mechanisms of transmission, evaluating the role of different mechanisms of adjustment and identifying multi-dimensional similarities and differences – both internationally and in comparison with the crises from the past.

The second part is titled "The Great Recession and inequalities" and it is devoted to the diversification of the influence of the crisis on the situation of each of the socio-demographic groups on the labour market. It serves to identify the socio-demographic groups which were the most exposed to the negative effects of the changes of the economic situation, especially to the long-term joblessness. Such perspective is crucial for proper designing of government action and labour market policies. This part also raises the question of how the changes of the economic situation influenced the income distribution.

Third part is devoted to the responses to the crisis of the policies and institutions; it is titled "Public policy in the face of crisis". It focuses on the analysis of the impact of public intervention on the course of the crisis. The authors draw attention to the institutional conditions on the eve of the crisis, their international diversification from the perspective of the labour markets ability to absorb shocks. What is more, the analysis is carried out concerning the diverse responses used by the EU and OECD countries governments, and an attempt to evaluate their effectiveness is made.

The fourth part, titled "Crisis of Public Finance and the Second Wave of Recession", is a natural capstone of the report. It covers the subject of the importance of fiscal policy for the course of the Great Recession. The authors show how the condition of public finances in different countries changed before and during the crisis, and they reconstruct the processes and regularities occurring in the examined economies with an emphasis put on the role played by automatic stabilisers and discretional policies. Then the analysis is made concerning the collapse of public finance experienced by many countries during the second wave of the Great Recession. What is more, the question how the fiscal policy may be shaped in the future is posed.

The recommendations for the public policy constitute the summary of the report.

Employment in Poland 2012 Part I

The Great Recession

Piotr Lewandowski, Marek Antosiewicz, Jan Baran

INTRODUCTION

The first part of this edition of the report is devoted to the causes, course and macroeconomic consequences of the crisis which started in 2008 across the EU and OECD. It aims at creating a comprehensive picture of the unfolding of the Great Recession, understanding of its causes, transmission mechanisms and the identification of multidimensional similarities and differences – both in the international cross-section, as well as with respect to the crises of the past. The subject of the first chapter is a chronology of the Great Recession with an emphasis on a macroeconomic dimension. We present the diversity of mechanisms of subprime crisis transmission to economies, analyse the processes behind the different dynamics of GDP across the EU and OECD. In the second chapter we focus on labour markets. We analyse how European economies reacted to the biggest post-war crisis in key dimensions of adjustment in the labour market – employment and unemployment, labour productivity and wages. We also pay attention to the sectoral differences in the scale of these adjustments, as well as to the reactions in the intensive labour supply, that is, hours worked. The role of changes in layoffs and hiring is also studied, separately for the first and second wave of the crisis. In the third chapter we use the DSGE macroeconomic model to identify shocks behind the economic downturn and changes in the labour markets in different countries. We also use the model to assess the relative importance of differences in shocks and the mechanisms of their absorption for the differences in the reaction of European economies, including Poland. Main conclusions are discussed in the Summary.

1 THE RISE OF THE GREAT RECESSION

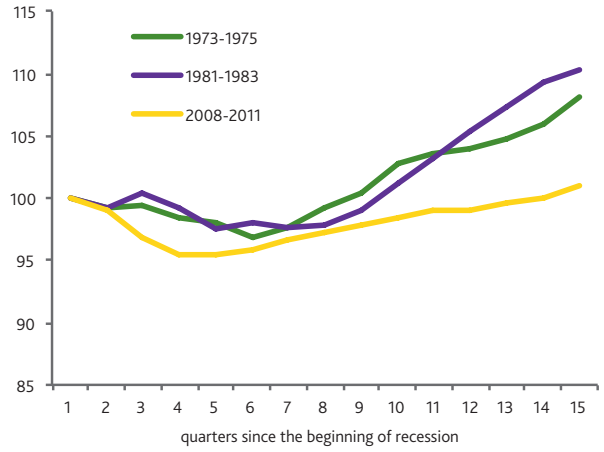
1.1 THE CAUSES AND MECHANISMS OF TRANSMISSION OF THE GREAT RECESSION

In mid-2007, the speculative bubble burst in the housing markets in the United States and the United Kingdom. This caused a deep crisis in the financial markets which quickly turned into the Great Recession, the most serious global recession since World War II. Compared to the other crises which occurred since the Great Depression of the 1930s, it was outstanding not only in its depth but also the durability of the economic slowdown. In a typical sequence of events, for example characteristic for the recessions in the early 1970s and 1980s, a period of recession is followed by a period of accelerated growth (see Figure I.1.). During the recent crisis this did not happen. In the United States it took 15 quarters for the GDP to return to a level recorded before the outbreak of the Great Recession. The EU did experience a very short period of economic recovery in 2010, but then re-entered the recession combined with a crisis of public finances. As a result, GDP in the EU is still at a lower level than at the end of 2007.

The impact of the Great Recession on the labour markets was as high and in many cases even more severe than on the economic growth. While initially, over the first five quarters, the impact on unemployment in developed countries was comparable to the impact of previous recessions, in the later period the situation in the labour markets deteriorated even further, instead of stabilising as usual (see Figure I.2). Similar developments occurred only during the first oil crisis of the mid-1970s. In the fourth quarter of 2009, the unemployment rate in OECD countries averaged 8.7%, the highest level in the post-war period. In addition, despite the global economy returning to positive growth, in 2011 the unemployment rate in OECD averaged 8.3%, which meant that 44.8 million people were looking for jobs, with long-term unemployment increasing.

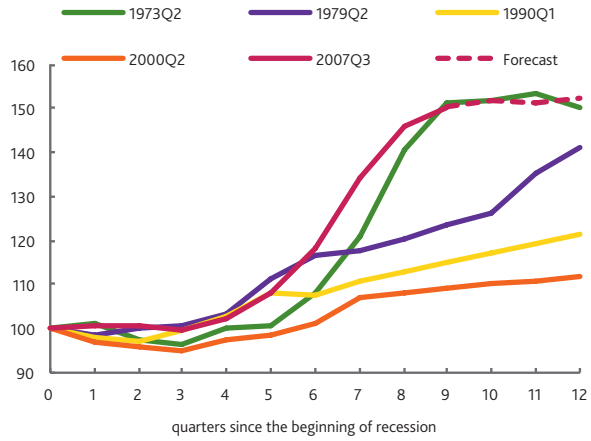
The speculative bubble in the housing market concerned not only the United States, but was a global phenomenon including most of the EU and some Asian economies (Putland, 2009). When the bubble burst in the U.S., a similar process occurred soon after in other countries of the world, triggering similarly adverse economic consequences.[1] The size and geographical coverage of the bubble resulted from a number of factors. Firstly, governments of many countries deliberately stimulated mortgage lending and real estate investment (Friedman, 2010); this policy was used mainly as a tool for combating poverty but also to create an 'ownership society'. In addition, from 2002, the central banks in many countries, especially the U.S. Federal Reserve, were running expansionary monetary policies in the hope of preventing the spread of the 2001 crisis, which facilitated the growth of a speculative bubble in the real estate

Figure I.1. **Comparison of the evolution of GDP during the current and previous recessions in the U.S.**



Source: Own elaboration based on the U.S. Bureau of Economic Analysis data.

Figure I.2. **Comparison of the evolution of unemployment rate during the current and previous recessions in the OECD countries.**



Source: (OECD, 2010).

1 The growth of the speculative bubble in the property market was also facilitated by the fact that structured assets secured by mortgages allowed to circumvent the international regulations of the capital market (Acharya & Richardson, 2009). The deregulation of financial markets in the 1990s also played a significant role, in particular the abolition of the Glass-Steagall Act which separated investment banking from commercial banking the United States (Stiglitz, 2009).

market. When monetary policy in the U.S. was again tightened in 2005 due to rising inflation, it became one of the impulses for the burst of the real estate bubble.

Figure I.3 illustrates the formation of bubbles in real estate markets and their bursting in selected countries. There is a visible acceleration in real estate price growth in the United States in 2004 and in Spain after 2001. The rate of price growth began to decline first in the United States, which was at the heart of the subprime crisis – it took the U.S. real estate market more than four years to exit this collapse and the recovery in real estate prices was observed as late as 2012. In the EU the breakdown took place a year later than in the U.S., but not with equal force in all its member states. In the Baltic countries, where the rapid pre-crisis growth of wages and loose credit policy accelerated the price increases to over 60% per year, prices declined by more than half. In the so-called GIIPS countries (Greece, Ireland, Italy, Portugal and Spain), housing prices are still falling. On the other hand, the price bubble did not happen at all in Germany and Austria. In Poland, low interest rates and rising wages enabled the expansion of the mortgage market after 2002, which contributed to a rapid increase in prices – immediately before the crisis, housing prices in major Polish cities were growing at a rate of over 40% per year. Although in 2008 there was a sharp slowdown in price growth, it was not as deep as those that occurred in the Baltic States and Spain. Moreover, in contrast to those countries, there was no excessive growth of the construction sector in the boom times in Poland.

Box I.1. Chronology of the Great Recession

The Great Recession may be divided into two phases. The first one includes the bursting of a speculative bubble in the housing market, the crisis in the financial markets, and the direct impact that both events had on the real economy.

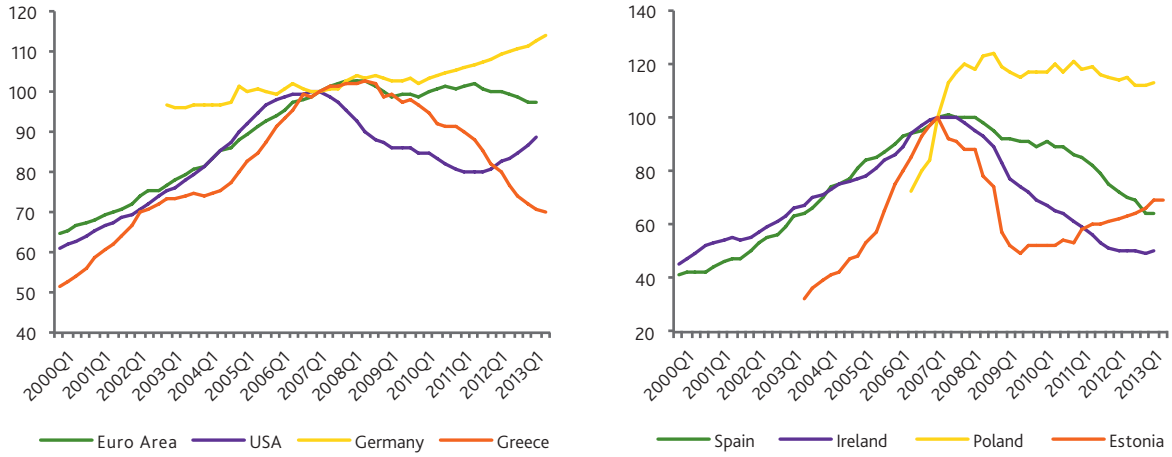
- June-July 2007: The bursting of a speculative bubble in the housing market in the United States.
- September 2007: The collapse of the mortgage bank Northern Rock in the United Kingdom.
- November 2007: The loss of liquidity in interbank money markets in the world.
- January 2008: The first fiscal stimulus in the U.S.
- July 2008: Denmark announces entry into recession as the first country in the European Union.
- September 2008: The bankruptcy of Lehman Brothers, the fourth largest investment bank in the United States.
- October 2008: Announcement of the Troubled Assets Relief Programme in the U.S.
- November 2008: The eurozone as a whole enters the recession. Of the 15 economies which constituted the euro area at the time, only three (Belgium, France, Greece) were still growing.
- January 2009: Announcement of the American Recovery and Reinvestment Act of 2009.
- November 2009: The eurozone as a whole comes out of recession, mainly due to high economic growth in Germany.

The second phase of the Great Recession was a consequence of the dramatic deterioration in public finances in the United States and the EU countries due to a decrease in budget revenues and expansionary fiscal policies that governments undertook to curb the effects of the first wave of the crisis. The increased cost of servicing public debt put some countries on the brink of bankruptcy and forced them to tighten fiscal policy, which hampered the process of the gradual improvement in the economic situation in the world.

- April 2010: Greece asks the European Union and the International Monetary Fund (IMF) for a rescue loan.
- May 2010: Launch of the EFSF (European Financial Stability Facility) with a total value of 440 billion euro (raised to 780 billion euro), whose goal was to provide rescue loans for the EU. At the same time, the European Central Bank (ECB) started buying bonds of the EU countries.
- October 2010: Ireland receives a rescue loan from the EU and IMF.
- April 2011: Portugal asks for a rescue loan from the EU and IMF.
- 2012: Spain receives a rescue loan from the EU.

Source: Own elaboration.

Figure I. 3. **Evolution of the price index of residential real estate in the United States, the euro area and selected European economies during the 2000-2013 period, (second quarter 2007 = 100)**



Notes: Based on the House Price Index (United States), Residential Property Price Indicator (European Union) and housing prices in 10 largest cities in Poland.

Source: Own calculations based on Federal Housing Finance Agency (United States), the European Central Bank, the Base Real Estate Housing Price NBP data.

The burst of the speculative bubble in the housing market resulted in a recession with exceptionally severe consequences, as it launched a series of adverse events whose cumulative consequences shook the macroeconomic foundations of the global economy (Diamond & Rajan, 2009). The most important events included:

1. **A deep crisis in the financial markets.** Investment in real estate had been financed by structured financial instruments secured by mortgage loans (i.e. mortgage backed securities, MBS) which constituted a significant position in the balance sheets of many financial institutions: investment banks, hedge funds and insurance companies. These instruments rapidly lost value when the real estate bubble burst. As a result, their owners suffered heavy losses which they had to cover by the sale of other assets, contributing to the global downturn and liquidity crisis in the financial markets. In many countries, some of the financial institutions declared bankruptcy or were taken over by the state, while others restricted lending, which resulted in a more difficult access to credit for households and companies seeking funds for their investment projects.

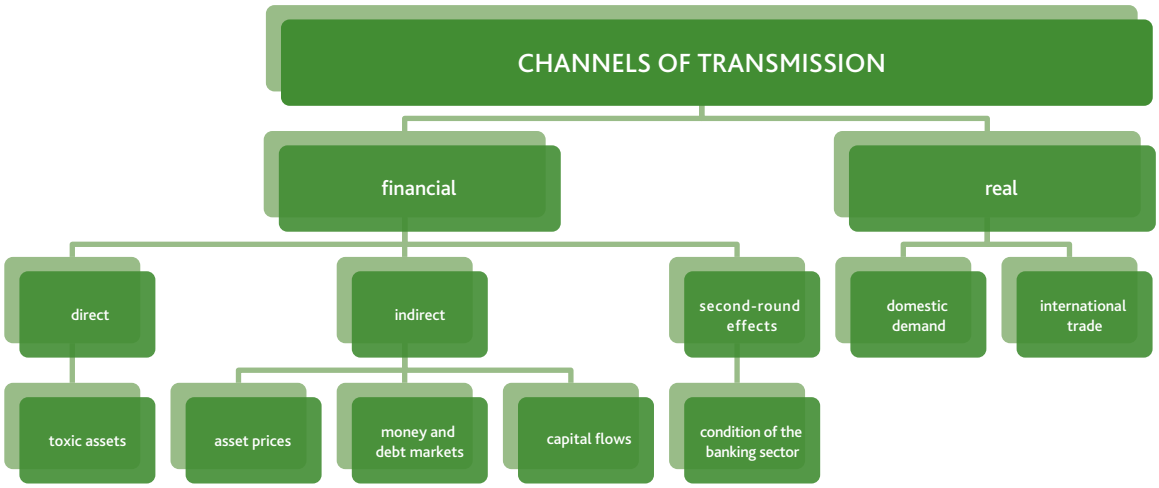
2. **A decrease in the value of household assets,** which largely consisted of real estate and financial assets. The lower value of a property and/or loss of savings caused a sense of relative impoverishment and uncertainty about financial stability, and thus households reduced consumer spending. This led to a decline in aggregate demand.

3. **Contraction in the construction sector** and related industries. The decrease in property values meant a decline in profitability of construction projects and the consequent suspension of many of them. Many construction companies and developers had to declare bankruptcy and dismiss employees. This was followed by lower demand for construction materials, transport services, design, surveying, etc.

4. **A deterioration of public finances.** The financial crisis proved to be so deep that it posed a threat of the collapse to the global financial system. In order to prevent this, governments of both developed and developing countries adopted an active stance towards the crisis. Affected financial institutions received high emergency loans (bailouts), and some were taken over by the state. The drop in consumption and employment on one hand caused a drop in budget revenues, and on the other hand it resulted in increased spending on social policy. Consequently, many countries significantly increased their budget deficit and public debt. This resulted in the need to re-tighten fiscal policy which, in the circumstances of sluggish economic recovery, further slowed the recovery of the global economy from the crisis.

Taken together, these factors explain why the financial crisis resulted in a decline in GDP and employment. However, the fact that the recession proved to be so deep and widespread across the world was the result of the increasing globalisation of financial, production and trade relations. The multiple nature of the links between economies resulted in the crisis, initially limited to the U.S. market, spilling into the global economy through multiple channels of transmission. These can be divided as shown in Diagram I.1, proposed by Gardó and Martin (2010). These authors distinguished two main groups of mechanisms for the transmission of shocks: financial and real; dividing the financial channels into direct, indirect and second-round effects.

Diagram I.1. **Typology of transmission channels during the Great Recession**



Source: Gardó, Martin (2010).

The direct impact of the U.S. crisis on the financial systems of other countries was associated with the fact that economic agents all over the world owned toxic assets which were secured by real estate and lost value as a result of the collapse of the mortgage market. The impact of this channel was limited to economies with the strongest capital ties with the U.S. As the Polish banks generally did not invest in toxic assets, the direct financial channel of transmission was not significant for Poland and also other peripheral EU economies. However, financial markets did exert their influence indirectly, through fluctuations in asset prices, the availability of money and changes in the intensity of capital flows. As a result of the activities of global financial institutions making investments within a broad spectrum of assets around the world, seemingly distant financial markets had been linked together, such as the real estate market in the U.S. and stock markets in developing countries or the foreign currency market. The strength of these relationships stemmed from, inter alia, the fact that global financial institutions manage a global portfolio of assets; the losses incurred by these institutions in bonds secured by mortgage loans resulted in the sale of seemingly non-related assets (stocks, bonds, commodities and derivatives) in the international securities markets. Therefore, the collapse of the real estate market in the U.S. caused rapid changes in the prices of many other assets around the world, and the lack of liquidity in the interbank market was also global.[2]

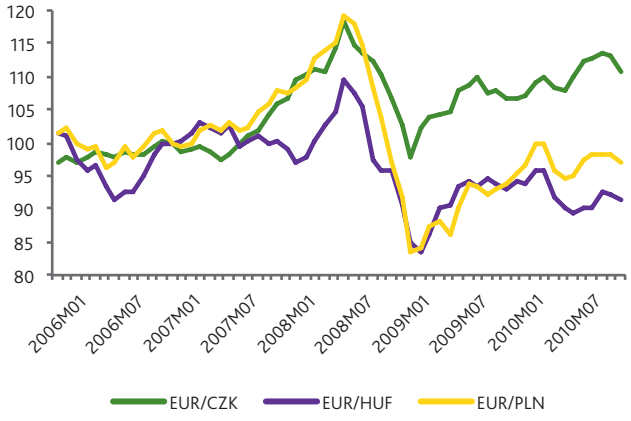
Moreover, the persisting increased risk aversion in the global financial market meant that investors were selling assets perceived as more risky in order to buy safe assets. This phenomenon, known as the flight to quality, limited capital inflows to emerging economies, resulting in the markdown of assets, but also hindered financing of investment projects. For example, the Warsaw Stock Exchange's main index lost half its value over the year 2008, which was negatively reflected in the balance sheet reports of financial institutions and the assets of households. Another effect of the flight to quality were strong fluctuations in the Polish zloty exchange rate at the turn of 2008/2009. Before the crisis, Polish currency was strengthening considerably, as did the currencies of neighbouring countries. The turnaround in investor sentiment led to the sale of Central European currencies, and the nominal exchange rate of the euro against the zloty fell by 30% in just a few months.[3] The Czech koruna and the Hungarian forint were less affected; nevertheless the forint depreciated by 22% and the Czech koruna by 17% (see Figure I.4). The pressure on the weakening of the currencies in the region forced some central banks to intervene, to either defend a fixed exchange rate (Latvia), or to prevent further declines (Romania). The weakening of the currencies resulted in an increase in the operating costs of foreign currency loans, which had been growing in the period before the crisis. On the other hand, the depreciation of the exchange rate increased the price competitiveness of exports, cushioning the impact of the external shock.

The flight of capital and increased risk aversion of commercial banks translated into a decline in turnover in the interbank market. In addition, the deteriorating macroeconomic situation resulted in an increase in the incidence of non-performing loans. This situation created a risk of a liquidity crisis and subsequent bank failures, or at least a further reduction in lending by commercial banks. The Polish banking sector proved to be relatively resistant and did not experience a major crisis, which was also significantly related to the actions of the Polish

2 The globalisation of the financial sector meant that during the first wave of the crisis countries with stronger links between their banking systems experienced similar fluctuations in GDP. Kalemli-Ozcan et al. (2012) show that although the interconnection of banking systems and synchronization of changes in GDP were negatively correlated before the crisis, i.e. in a period of relative calm in the financial markets, this relationship changed to positive in the crisis of 2007-2009.

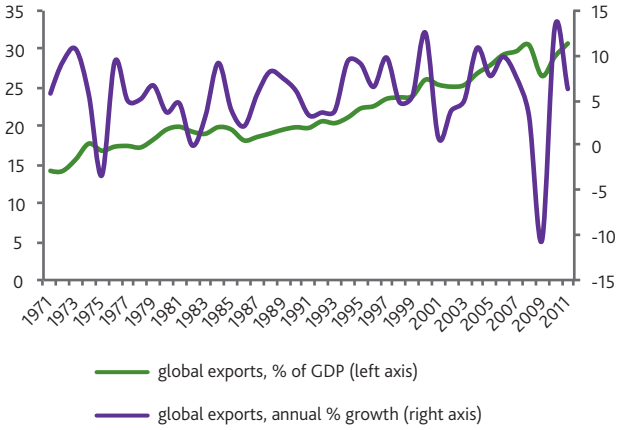
3 Due to the strong depreciation of the zloty questions arose as to the need for intervention in the currency market. In early 2009, the Ministry of Finance made a small-scale purchase of foreign currencies through the BGK bank, but this operation had no major impact on the exchange rate.

Figure I.4. **The evolution of the nominal exchange rate of the euro against the zloty, the Hungarian forint, the Czech koruna 2006-2010, January 2007 = 100**



Source: Own elaboration based on Eurostat data

Figure I.5. **The evolution of global trade volume, 1971-2011**



Source: Own elaboration based on the World Bank WDI data.

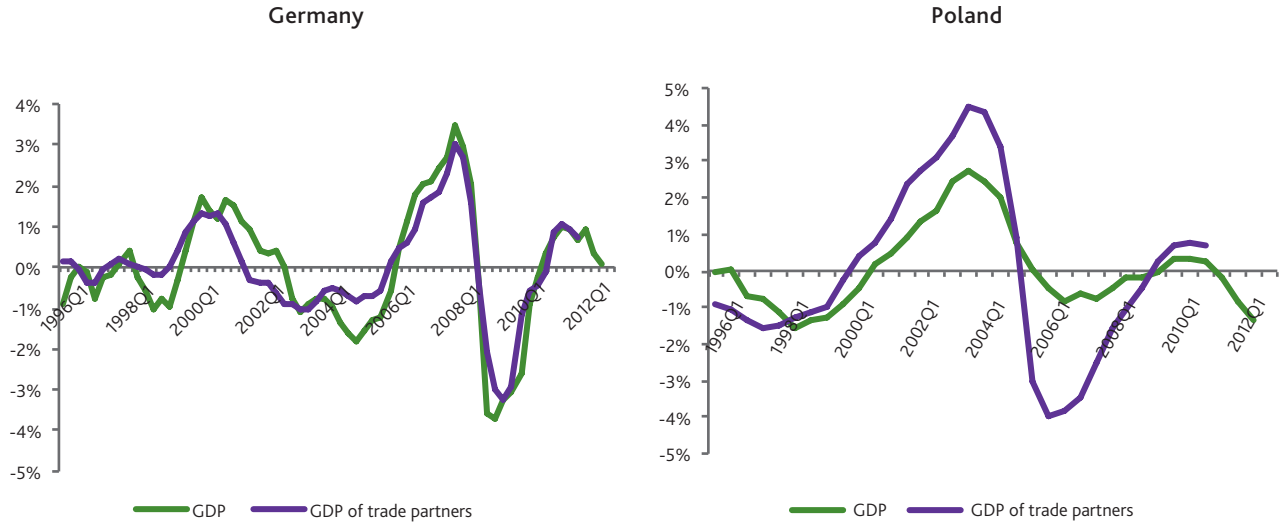
National Bank that implemented a series of anti-crisis measures (see Box I.2). However, increased uncertainty in the interbank market and the decline in the value of loans in the retail market resulted in a 1.5% drop in Polish GDP (Brzoza-Brzezina & Makarski, 2010). It is a significant value and explains a part of the observed slowdown. In contrast to Poland, the tightening credit market was the main factor behind the decrease in output in the euro area between 2008 and early 2009 (Gerali, et al., 2010). In the first phase of the Great Recession (2007-2008), the collapse of liquidity in the financial markets and the consequent reduction in lending played a relatively greater role in the case of developed economies, while the impact of increased risk aversion was felt stronger by the emerging markets (Chudik & Fratzscher, 2011). During the next wave of the crisis – the debt crisis (2010-11), the mechanisms of transmission reversed. Developed economies reacted relatively more strongly to the shock of risk aversion than to the liquidity shock, while emerging markets proved to be resistant to the spread of this disturbance (Chudik & Fratzscher, 2012).[4]

The collapse of real estate prices led to a significant impact on the budgets of households, which also suffered from a slowdown in wage growth and increase in the risk of job loss. This resulted in limited purchases, especially of durable goods such as cars, appliances, etc. In order to counteract this phenomenon, some governments introduced subsidy programmes to scrap old cars and buy new ones, but this failed to improve balance sheets in manufacturing companies. The real sector of the economy had to face a limited access to credit combined with increased uncertainty about the economic situation in the near future, and so many companies were forced to postpone their investment projects. The decreased investment resulted in a decline in demand for capital goods and construction services; firms in the worst situation reduced employment. A particularly strong shock in domestic demand occurred in countries which had accumulated large macroeconomic imbalances before the crisis (Spain, Ireland, Greece and the Baltic States). The collapse in final demand resulted in a lower demand for intermediate goods used in the production process. Because manufacturing processes are subject to increasing fragmentation across the globe, the demand shock in one country transformed to a drop in demand in foreign markets. In addition, limited purchases by households resulted in lower imports; as imports of one country are the exports of another country, the channel of international trade spread the negative demand shock across the entire global economy. Furthermore, the financial shock most likely increased the impact of trade disturbances, due to difficulties in financing exports (Amiti & Weinstein, 2009).

In 2009, global trade volume decreased by 10.5% (see Figure I.5). The scale of decline in trade during the Great Recession was second to none in the period after the Second World War – the collapses following the oil crisis and the dot-com bubble burst were much weaker. Importantly, although global trade reacted more strongly than global GDP (see Figure I.5), its decline was short-lived, and in 2010 exports re-entered a path of dynamic growth. In 2009, no EU member state escaped the collapse in international trade, either in imports or exports; the strongest decline in exports (over 15%) occurred in Finland, Estonia, Greece, Italy, Slovakia, Slovenia and Austria. German exports were as strongly affected, decreasing by 13%, while Poland was in a group of the EU countries whose exports showed the greatest resistance to the external shock (a decrease of 6.8%). Imports declined most in Romania, Bulgaria,

4 The depth of the global collapse during the Great Recession may have been partly due to the fact that the financial crisis began in the United States. Eickmeier, Ng (2011) show that those crises in the credit markets in the years 1983-2009 that originated in the United States, affected the GDP of various countries more than crises originating in Japan or the euro zone. The spread of U.S. shocks occurred through its impact on credit and stock markets. Similarly, Helbling et al. (2011) argue that the collapse of the U.S. credit market played an important role in the economic slump in the G-7 countries during the Great Recession. Also Kalemli-Ozcan et al. (2012) suggest that economies with strong financial links with the United States experienced stronger changes in their economic situation.

Figure I.6. **The cyclical component of real GDP in Germany and Poland, as well as their trade partners**



Notes: The figure shows the cyclical component of real GDP expressed as % of trend. GDP of trade partners were weighed with shares in trade structure in Germany and Poland, respectively.

Source: Own calculations based on Eurostat data.

Greece (by about 20%) and in the Baltic States (up to 30%). Such strong changes in international trade flows suggest that international trade played an important role in the spread of the crisis between countries; for example, changes in the business cycle of Poland and Germany, trading partner countries, were strongly synchronised during the Great Recession (see Figure I.6). In the Europe Regional Economic Outlook (IMF, 2011), it was estimated (based on the historical elasticity of international trade), that a 1% change in GDP in Western Europe translates into a 0.4% change in GDP in Central and Eastern European countries. There is also an interaction in the opposite direction: a 1% change in GDP in the countries of Central and Eastern Europe implies a 0.1% change in GDP in Western Europe. In the case of the German economy, as much as 70% of the change in economic conditions during the Great Recession may be explained by the impact of international trade. The remaining 30% of the recession is ascribed to the financial channel (Enders & Peter, 2012).

The Great Recession was dramatically different from the Great Depression of the 1930s in the way the governments responded to the collapse in trade. In the 1930s, governments adopted a protectionist attitude, protecting domestic markets from foreign competition. This was reflected in a sharp increase in the level of tariffs and a deepening trade slump, one of the factors contributing to the depth and duration of the Great Depression. It was feared that a similar scenario could be repeated in 2009 but the concerns proved to be exaggerated. The actual increase in the level of trade barriers turned out to be low thanks to the legal system of the World Trade Organization, regulating the use of trade protection between Member States. As a result, trade did not encounter barriers for recovery and in 2010 global exports grew by 13%.

The significance of real channels for the deterioration of situation of firms during the 2008-2009 crisis is also suggested by microdata-based research. According to Claessens, Tong and Wei (2011), who analysed information about 7 thousand companies listed on stock exchanges in 42 countries around the world, the propagation of disturbances happened primarily via the channels of international trade and changes in domestic demand. The impact of the financial channel turned out to be less important. Similar conclusions were reached by Nguyen & Qian (2013) who focused on Central and Eastern Europe companies, showing that fluctuations in demand were the main factor behind the change in sales and production capacity of enterprises. Those authors did not find any proof that the reduced availability of credit played an important role in the change of situation of firms.

It should be noted that in some European economies, the propagation of the external shock was not the main factor behind the slump. For example, in the Baltic States the crisis was primarily caused by internal factors, initially independent of the external shock (Martin & Zauchinger, 2009). Rapid economic growth in the period before the crisis, fuelled by internal demand, was related to the expansion of credit supported by the Nordic banks. Symptoms of collapse had been observed as early as 2007. Concerns about the growing imbalances caused a tightening of lending policies by banks, thereby cooling domestic demand. At the same time, the external shock deepened the scale of the recession (Martin, 2010). The combination of the two factors, internal and external, explains the large-scale adjustments in these economies during the Great Recession.

The causes of the Great Recession in the European Union will be discussed further in the Chapter 3.

Box I.2. Anti-crisis measures in Poland.

The main body of anti-crisis measures in Poland included prevention of the spread of the financial crisis into the Polish banking sector. The Polish National Bank (NBP) played a key role in this respect, while anti-crisis measures introduced by the government were less intense and focused mainly on levelling the negative effects of the crisis on the labour market and changes in tax legislation intended to help maintain economic activity. Two documents determined the direction of anti-crisis measures in the country: the Stability and Development Plan of November 30, 2008, and the Package of Confidence adopted by the National Bank of Poland, 14 October 2008.

In response to the liquidity risk in the banking sector, NBP launched a supply of repurchase agreements (repos), whilst extending the list of banks authorized for such transactions. The average size of repo transactions in the period to mid-next year amounted to about 12 billion zloty. NBP facilitated access of banks to lombard loans by expanding the list of assets eligible as lombard collateral. Early redemption of bonds by the National Bank of Poland accounted for an additional liquidity injection worth 8.2 billion zloty. The complementary action by the government consisted in the adoption of legal solutions providing for the possibility of granting Treasury guarantees to commercial financial institutions with liquidity problems. Access by commercial banks to foreign currencies through the National Bank of Poland was facilitated by the conclusion of agreements with the European Central Bank and the Swiss National Bank in November 2008. Thanks to these, NBP could borrow euro and Swiss francs directly from the ECB and the SNB, and then offer them to commercial banks in Poland.

In May 2009, the Polish Monetary Policy Council lowered the reserve requirement ratio from 3.5% to 3.0%. At the same time, using informal channels, NBP tried to convince bank managements to retain profit from 2008; most banks agreed to these suggestions. The Financial Supervision Commission intensified its monitoring of the situation in the banking sector (including the introduction of a daily assessment of deposits of banks with foreign capital in their parent banks). The sum of deposits guaranteed by the Guarantee Fund increased from 22.5 thousand euro to 50 thousand euro; further increases in the guaranteed amount were announced as possible, in order to prevent the possible risk of a run on the banks. An act in November 2008 established the Financial Stability Committee, whose purpose was to coordinate activities in the event of a situation threatening the stability of the financial system of the country. Committee members are the Minister of Finance, the President of the National Bank of Poland and the President of the Polish Financial Supervision Authority.

As in other countries, expansionary monetary policy was the main component of anti-crisis measures. From November 2008 to June 2009, the Monetary Policy Council cut the reference rate from 6% to 3.5%. Lower central bank interest rates resulted in a decrease in market interest rates. Households experienced this in lower borrowing costs, both in already granted and in newly granted loans. In addition, people who had lost their job were able to get government aid for the repayment of housing loans, although in practice few people were covered by this programme.

The government's anti-crisis measures were aimed at sustaining economic activity, but due to the initially moderately positive situation of public finances they were of a limited nature compared to most developed countries. However, the introduction of lower rates of personal income tax in 2009, enacted as early as 2006, was principally anti-cyclical. A similar effect was brought about by the lowering of disability pension contribution (decreased from 13% to 10%, from July 2007, and from 10% to 6% as of January 2008) and changes in VAT accounting (return times shortened from 180 to 60 days, a simplified formula of accounting for VAT on imports). There was also a number of smaller initiatives to facilitate the implementation of investment projects by companies (higher investment allowance in 2009-10), the use of European funds, and allowing for a more flexible accounting of research expenditures. Helping businesses to access credit was facilitated by a system of government guarantees and warranties through the state-owned Bank Gospodarstwa Krajowego. The situation of public finances during the crisis and its consequences for the economy are analysed in part IV.

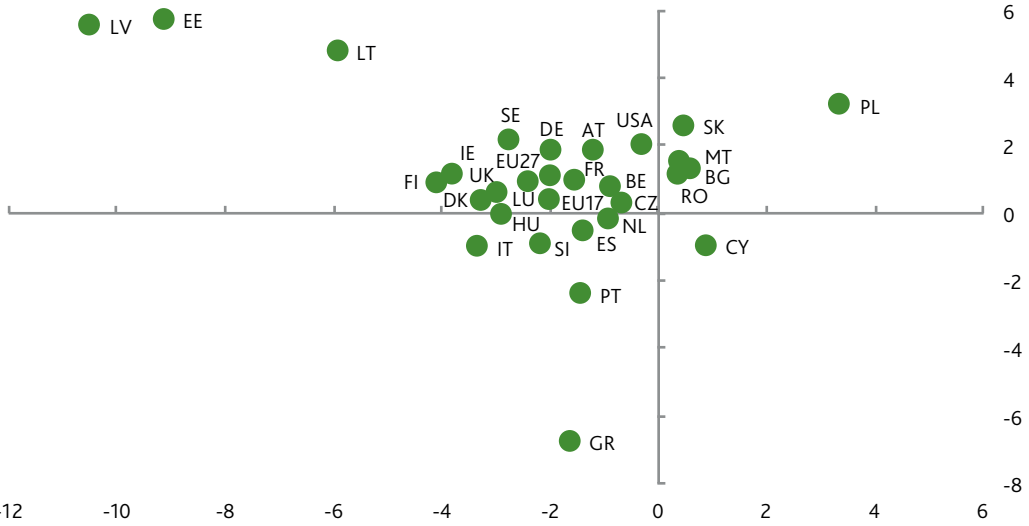
Another element of the government's action was the adoption of a July 2009 Act on mitigating the effects of the economic crisis for employees and employers. It introduced more flexible rules for accounting of working time and allowed employers in a difficult situation to reduce labour costs. These solutions, based on a German model, were to encourage employers to maintain employment during the downturn. A detailed discussion of anti-crisis measures in the labour market can be found in part III.

Source: Own elaboration based on NBP (2009).

1.2 THE COURSE OF THE CRISIS IN THE EUROPEAN UNION AND THE OECD

The sources and ways of impact of the crisis differed greatly among countries. In the United States, the United Kingdom, France, Spain and the Nordic countries, the burst of the speculative bubble in the housing market and the collapse of the construction industry were important factors behind the economic downturn. In Germany, Italy, Portugal, the Netherlands and Austria, the real estate bubble was negligible, and the recession resulted to a greater degree from a contraction in foreign demand. Shocks in the financial markets and the

Figure I.7. **Average real GDP growth rate in 2008-2009 (horizontal axis) and 2010-2012 (vertical axis) in the European Union and the United States**



Source: Own elaboration based on Eurostat data

need to support struggling financial institutions with emergency loans from the state budget contributed to the rapid deterioration of public finances in the U.S., U.K., Denmark, Iceland, the Benelux and the GIIPS countries. The latter had to ask other countries and international institutions for rescue loans. In addition, differences in the labour market adjustments during the Great Recession were even greater than differences in economic growth slowdown, which reflected differences in the sources of the crisis, its transmission channels in each country, and the resilience of labour markets (OECD, 2011).

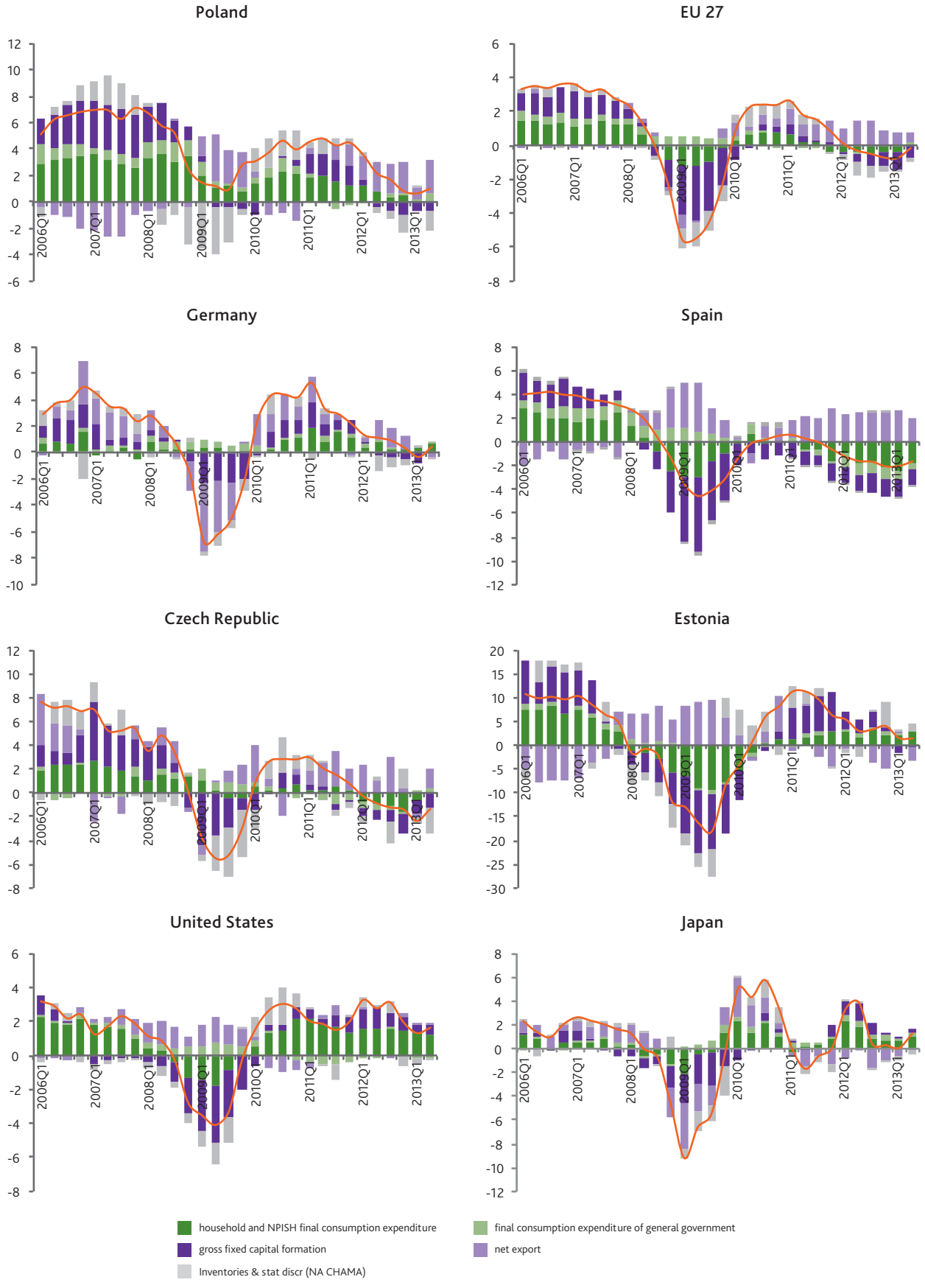
Economies differed markedly in terms of timing of the most severe impact of the crisis (see Figure I.7). In the first wave of the Great Recession (2008-2009), the Baltic States were most affected and in 2009 recorded double-digit declines in GDP. During the second wave of the crisis (2010-2012) these economies experienced the most rapid growth in the EU – at a rate of over 4% per year. Importantly, no country experienced an inverse relationship, i.e. economic growth in the first wave and a sharp decline in GDP in the second wave. Poland stands out as a positive exception among the EU countries, as it experienced a relatively high economic growth throughout the Great Recession, although it did slow down in the second wave of the crisis. Although Polish GDP did not decrease, its growth rate fell below the long-term trend and in this respect Poland did not differ from other European economies. As we have argued in the previous editions of *Employment in Poland*, Poland avoided recession primarily due to three factors: (1) the absence of a collapse in the property market, (2) low exposure of the Polish banking system to losses associated with the subprime crisis and avoiding a liquidity crisis (3) accumulation of public investment financed by the EU structural funds, which offset the decline in external demand. Some role was also played by a loosening of fiscal policy and depreciation of the zloty.

Additional information about the course of the Great Recession is provided by a decomposition of real GDP growth, presented in Figure I.8 (for the EU 27 and selected economies) and in the annex to part I (for all European economies and selected non-European OECD economies). In the decomposition we distinguished the contribution of the following GDP components to changes in output: private consumption, public consumption (consumption expenditure of government), investment (gross fixed capital formation), net exports and changes of inventories.[5]

During the first wave of the crisis, when all the analysed countries, except Poland, recorded a decline in GDP, the main factor behind the downturn was the negative contribution of investment. Deteriorating economic situation, gloomy outlook for the near future and problems in the financial sector which hindered the access of enterprises to external financing resulted in shrinking of private sector investment. In 2009, the EU 27 investment decreased year to year by 13%, and this factor explains about two thirds of the decline in GDP in the European Union. In Poland investment also declined, but this decrease was negligible in comparison with other economies (-1.2% in 2009). The growth rate of private consumption in the EU significantly decreased, although it remained positive in some countries in spite of the unfavourable macroeconomic conditions. The decline in private consumption was especially profound in the Baltic countries (about 18% in Latvia, 15% in Lithuania and 14% in Estonia) where its contribution to real GDP growth rate was comparable to the contribution of falling investment. On the other hand, in Poland and also in Belgium, Austria and Switzerland, private consumption continued to grow. Government consumption increased as a result of the

5 The contribution of changes of inventories, together with the residual, was calculated as the difference between contribution of other components and total GDP.

Figure I.8. **Decomposition of changes in real GDP growth by quarter to the same quarter of the previous year in selected countries, 2006-2013 (in percentage points)**



Source: Own elaboration based on Eurostat data.

introduced stimulus packages and the action of automatic stabilisers (more on this in part IV), thus alleviating the contraction of GDP. Although the scale of the anti-crisis packages differed significantly between countries (Baltic countries are an exception as they tightened their fiscal policy), in no country did they prevent GDP from falling.

In line with the dramatic collapse in trade in 2009, which was discussed earlier, all EU countries recorded a marked deterioration in both imports and exports. Because changes in imports and exports were not exactly symmetrical (in Poland, the decline in imports was almost twice the decline in exports), the contribution of net exports to GDP growth in 2009 in some countries was negative, while in others it was positive. In this respect, Europe was divided into two areas. The decrease in net exports deepened the recession in some Western European countries: Austria, Germany, Belgium, the Netherlands, Finland, Sweden, Italy, and also in Japan and Switzerland outside the EU. Moreover, in Austria, Germany, Finland and Switzerland the negative contribution of net exports was as strong as the impact of declining investment. In contrast, the New Member States (except for the Czech Republic and Malta) and the United Kingdom, Ireland, Greece and Spain benefited from the positive contribution of net exports to growth, i.e. their exports fell less than imports. Outside the EU, net exports increased, e.g. in the USA.

In 2010, most EU countries were out of the recession. The strongest rebound was recorded in Sweden, where the growth rate amounted to 6.6%, Slovakia (+4.4%) and Germany (+4.0%). Greece was the only country that did not experience even a temporary upturn. However, the post-crisis recovery proved to be short-lived, and the European economy came back into recession soon after. The second wave of the crisis was linked to the saving programmes introduced by governments, even though the negative contribution of public spending was not the main factor behind the slowdown in GDP. The major role, particularly in GIIPS countries, was played by falling private consumption as result of low or even negative wage growth and rising unemployment. GDP declines were eased by positive contribution of net exports – in 2012 in Spain, Italy and Portugal, the value of exports increased while that of imports declined. The decrease in imports was a sign of declining domestic demand, while on the other hand the growth of exports shows that these economies were still competitive in foreign markets and so external demand is a major opportunity for them to exit recession.

2 THE GREAT RECESSION AND LABOUR MARKETS

Labour market adjustment after the occurrence of a negative shock can have a multidimensional nature; they may be manifested by changes in the number of employed, their hours worked or wages, and (indirectly induced) changes in labour productivity. Changes in the number of employed may be associated with changes in the number of unemployed or economically inactive, and in terms of flows, they may be caused by changes in dismissals (outflows from employment) or hirings (inflows to employment). The subject of this chapter is to analyse the various dimensions of adjustment of European labour markets (where appropriate, supplemented by non-European OECD countries), also taking into account the sectoral dimension.

Figure I.9. **The dynamics of employment rate in the 15-64 age group in selected countries and groups of countries**

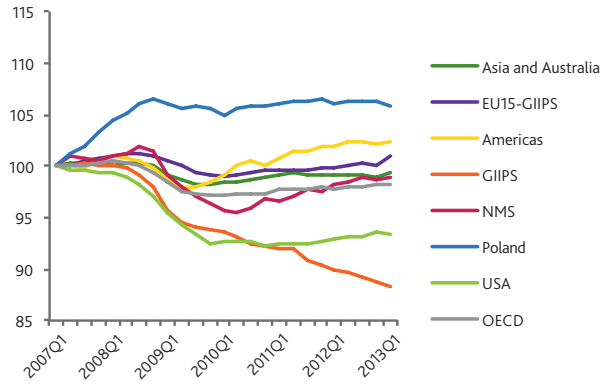
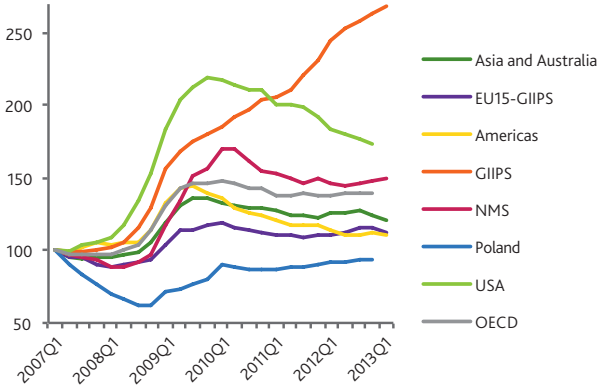


Figure I.10. **The dynamics of the unemployment rate in the 15-64 age group in selected countries and groups of countries**



Notes: Unweighted average for groups of countries. Countries are grouped as follows:
Asia and Australia - Australia, South Korea, Japan, New Zealand;
Americas: Canada, Mexico, Chile;
NMS: Czech Republic, Hungary, Slovakia, Estonia.

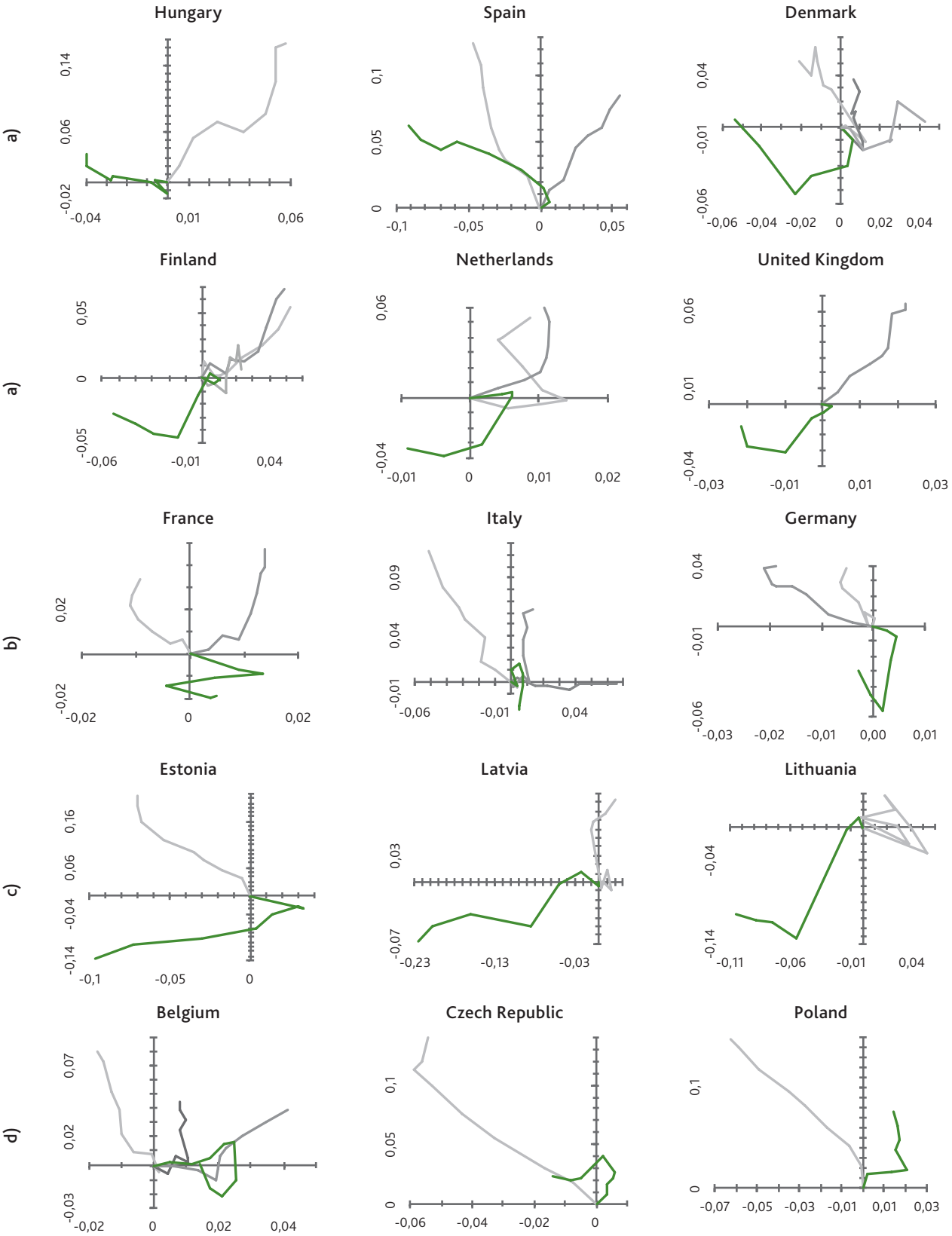
Source: Own elaboration based on Eurostat data

2.1 EMPLOYMENT, PRODUCTIVITY AND WAGES

The decline in economic activity during the Great Recession led to a decline in demand for labour and other consequences, for example a strong rise in unemployment in developed countries, where the situation began to deteriorate in the second half of 2008. It varied, though, in both the time and scale of collapse – in the GIIPS countries and the United States the unemployment rate increased 2-3 times, while in European countries outside the GIIPS group, it grew on average by just under a fifth. While from 2011 in most countries unemployment started to gradually decline (in comparison with the peak in 2009 and 2010), in the GIIPS it was still growing while employment was falling. Poland, similarly to the Czech Republic and Hungary, had been relatively little affected by the deterioration in the labour market; nevertheless, unemployment gradually increased in 2010-2012. In contrast, in a number of European Union countries, the situation in the labour market in 2010-2011 was improving steadily.

If the employment rate does not decline after a negative shock (and a decline in GDP growth), then a decrease in labour productivity (expressed in output per worker) follows, or at least a decrease in its growth. If the demand for labour and employment falls, then productivity may be maintained at the given level or even increase. These adjustments depend on decisions made by companies, but in an environment of specific national institutions and policies which influence the proportions between a decline in employment and loss of productivity. According to the real business cycle (RBC) theory, which assumes that labour markets are flexible, a decline in employment and increase in labour productivity is a typical adjustment in times of crisis (although in the initial period of adjustment, a temporarily stable or even increasing employment is possible due to a lag in response), especially if the downturn results from a negative shock on the supply side of the economy. This is exactly what happened in the United States during the

Figure I.11. **Adjustment of employment and labour productivity after the beginning of the economic slowdown in European countries during the Great Recession**



Notes: The horizontal axis shows the cumulative deviation from initial levels of employment, the vertical axis shows the deviation from initial levels of productivity. The green line corresponds to adjustments during the Great Recession, grey lines to other crises in the past two decades.

Source: Compiled on the basis of Marelli, Signorelli, Tyrowicz (2010) and data provided by the authors.

Great Recession; employment rate decreased while productivity increased. Marelli, Signorelli, Tyrowicz (2010) analysed the behaviour of European economies in this respect during the Great Recession and the previous economic crises that occurred in the last 20 years.[6] Interestingly, during the Great Recession, all economies showed a relatively strong synchronization of entry into the output contraction period – for European economies it was between the third quarter of 2007 and the second quarter of 2008. In all cases it was the period before the collapse of Lehman Brothers (third quarter of 2008). Similarly, the beginning of the adjustments in the United States occurred in the second half of 2007 (Mulligan, 2009).

Figure I.11 shows that during the Great Recession European countries exhibited significant heterogeneity in terms of changes in productivity growth and employment. We can distinguish four types of adjustments:

a) A path consistent with the predictions of the RBC model. This group includes Hungary and Spain which experienced a simultaneous decrease in employment and an increase in productivity in the recent downturn.[7] This type of adjustment also dominated in Denmark, Finland, the Netherlands and the UK, although in those countries changes in employment were initially low (and can be ascribed to labour hoarding), parallel to the decline in labour productivity. Only after several quarters did they see an increase in productivity and decrease in employment.

b) Minor changes in employment and declines in labour productivity, suggesting labour hoarding. The group includes France, Germany and Italy.

c) A simultaneous decline in employment and productivity. This category includes the Baltic countries (Lithuania, Latvia, and Estonia) which experienced a deep decline in GDP during the Great Recession.

d) Minor increases in productivity and employment. Poland, the Czech Republic and Belgium belong to this group.

Interesting conclusions can be drawn from comparing the paths observed in the Great Recession with those recorded for the previous crises (see Figure I.11). In previous crises, European countries often responded to the slump by following a path completely compatible with the RBC model. In contrast, during the last crisis, most economies followed unusual paths of adjustments (categories b-d). One notable example was Germany, which during the recent crisis fundamentally changed its way of reaction. Poland stood out in two ways. Firstly, the adjustment path differed from that in the previous slump at the beginning of the 21st century. Secondly, there was a simultaneous increase in productivity and employment growth, which was associated with the much milder impact of the Great Recession on Poland than on the other EU countries.

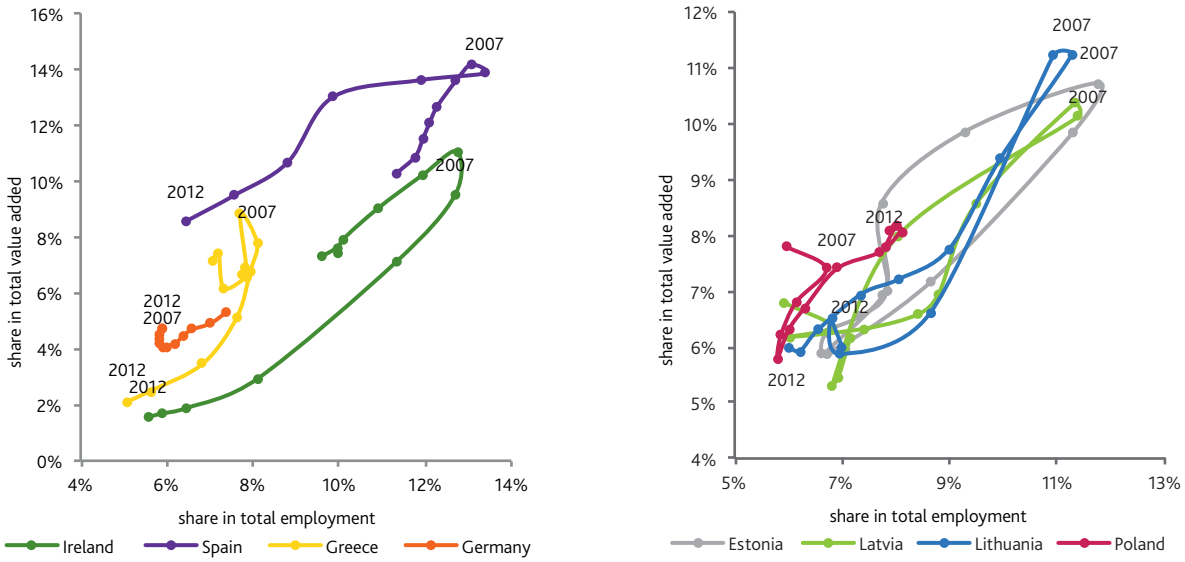
Changes in employment, value added and productivity during the crisis were not uniform across the sectors of particular economies, and also the reactions of the various sectors differed depending on the country. Figure I.13 shows the average rate of change in employment and value added in non-agricultural sectors in selected countries of the European Union. Construction was one of the sectors most badly hit during the Great Recession, a direct result of the bursting of the real estate bubble. While in 2000-2007 in almost all countries employment in the construction sector grew (except Germany, Poland and Portugal), in the period from 2008 to 2011 most economies experienced decreases in employment in this sector. In Latvia and Lithuania, which were the countries with the highest employment growth in construction (over 10%) in 2000-2007, employment in this sector fell most strongly (by 22% and 20%). In Ireland employment in construction fell by 25% per year in 2008-2011. In Greece the employment growth in this sector was close to the EU average before the crisis, but during the Great Recession it decreased by almost 15%. Value added in the construction sector in the analysed period was changing similarly to employment – in 2000-2007 it increased in almost all the analysed countries (except Germany), and during the crisis it fell. The highest decreases during the crisis were recorded in countries which exhibited the highest value added growth before the crisis (Ireland, Greece, Lithuania, Latvia, Estonia, Spain and Bulgaria). Figure I.12 is a telling illustration of the rise and burst of the bubble in the construction sector in these economies. It is worth noting that from the peak in 2007, the construction sector lost a significant share in the total structure of employment and value added. This implies a substantial reallocation of labour and poses a serious challenge with regard to the prevention of structural unemployment. By contrast, in Poland and Germany, the importance of the construction sector in the economic structure changed only slightly.

Manufacturing was another sector experiencing a decline in employment in 2008-2011. Yet it was not entirely the result of the negative impact of the crisis, but rather a continuation of a long-term declining trend in the importance of manufacturing in developed economies. In 2000-2007, only a few countries showed an opposite trend – the average growth rate of employment in manufacturing was positive in Poland, the Czech Republic, Slovakia, Bulgaria and Spain. In other countries, employment in manufacturing was falling both before and during the crisis. During the Great Recession, the rate of de-industrialisation was faster than expected from

6 Marelli, Signorelli, Tyrowicz (2010) studied 15 EU economies from the beginning 1990 to the end of 2009. For each country they identified 2-3 downturns (in three waves of recession: late 1990s – 7 countries, early 2000s – 10 countries, the Great Recession – 14 countries) and for each of them they analysed changes in employment rate and productivity over 8 quarters from the initial period. Labour productivity was calculated as the ratio of the real GDP to the number of people working in the economy.

7 Although both countries showed a similar type of adjustment, they differed in the nature of the crisis. In Hungary the crisis was caused by the external shock combined with the fiscal crisis. In Spain the downturn was due to the bursting of the bubble in real estate market and was exceptionally dramatic (a 10% decrease in employment in the analysed period).

Figure I.12 **Change in the significance of the construction sector in Germany, Poland, the Baltic States, Spain, Greece and Ireland 2000 to 2012**



Source: Own elaboration based on Eurostat data.

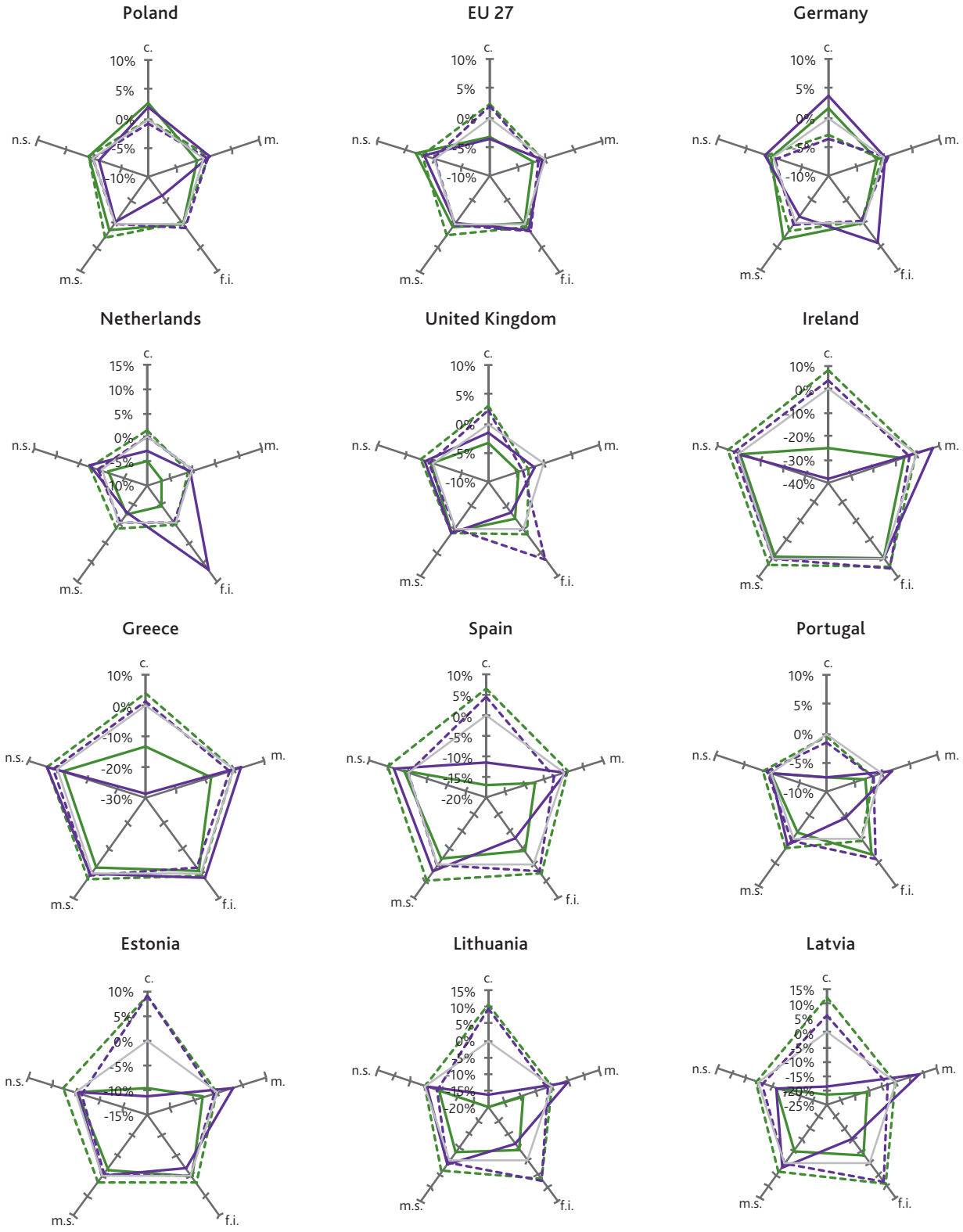
the extrapolation of the trend in the U.K., Finland, Denmark, the Netherlands, Greece, Lithuania and Latvia. Before the crisis, the value added in manufacturing declined in almost all of the EU economies, except for a few New Member States, which were closing the gap in productivity in this sector (and did not experience a significant decline in manufacturing employment). During the crisis, the situation changed – in countries where employment in manufacturing declined the most (Latvia, Ireland and Iceland), value added grew most.

In 2000-2007 employment in the non-financial market services grew in all European countries. During the recession, in a large number of countries employment in this sector was still growing, although slower than in the previous period. Germany, Ireland and Belgium were the exceptions, as in these countries employment in this sector increased during the crisis even more rapidly than during the boom of the 2000s. In the GIIPS countries, the Baltic States, and in the Netherlands and Denmark, employment in non-financial market services decreased during the Great Recession, but noticeably less than in manufacturing and construction. Declines in employment, however, did not result in a decrease in value added. The value added in non-financial market services, both before and during the crisis, grew in most countries, although in comparison with other sectors the pace of growth was low. During the crisis value added declined in Romania, the Netherlands, Germany, the Czech Republic, Belgium and France – the decreases ranged from 1% in France to 4% in Romania.

The Great Recession had a negative impact on employment in financial intermediation in many European countries that previously generally grew (as in other market services). In 2000-2007, the highest growth was recorded in Latvia and Lithuania, 9% and 7% per year, respectively. The only country where employment in this sector fell before the crisis was Denmark (on average by 2% per year). Employment in financial intermediation decreased in half of the EU countries - the most in the Netherlands (5%), Ireland, Latvia and Lithuania (about 4%). However, these countries differed in terms of changes in value added which occurred during the crisis. In the Netherlands, the rate of change of value added increased significantly, from 0% to 12% per year, while in other countries the value added stabilised or began to decline; in Ireland from 5% in 2000-2007 to 0% in 2008-2011, in Latvia from 8 % to -11%, and in Lithuania from 7% to -6% respectively.

In the case of non-market services, the occurrence of the second wave of the crisis linked to the situation of public finances in the European countries (discussed in detail in part IV) was the most important factor. Employment in non-market services generally grew across the EU, but during the crisis it began to fall, primarily in countries that implemented austerity programs and reduced employment in the public sector (Lithuania, Latvia, Greece), as well as in Belgium and the Netherlands. In other countries (except Slovakia), the employment growth in non-market services slowed down, but remained positive. Interestingly, in a large number of countries the Great Recession did not affect the direction of changes in value added. However, the value added in non-market services, in contrast to other sectors, is defined by the sum of wages, and not the value of the delivered products and services. In most countries its decline decelerated (as in Lithuania, Estonia, Hungary, and Bulgaria) or its growth accelerated. The exceptions were Poland, Romania and Ireland, where small increases occurred after slight declines, and Latvia, affected by a deep reduction in value added. The situation in Latvia resulted from exceptionally deep wage cuts in the public sector forced by the need to consolidate public finances (more on this issue in section 2.4 in part IV).

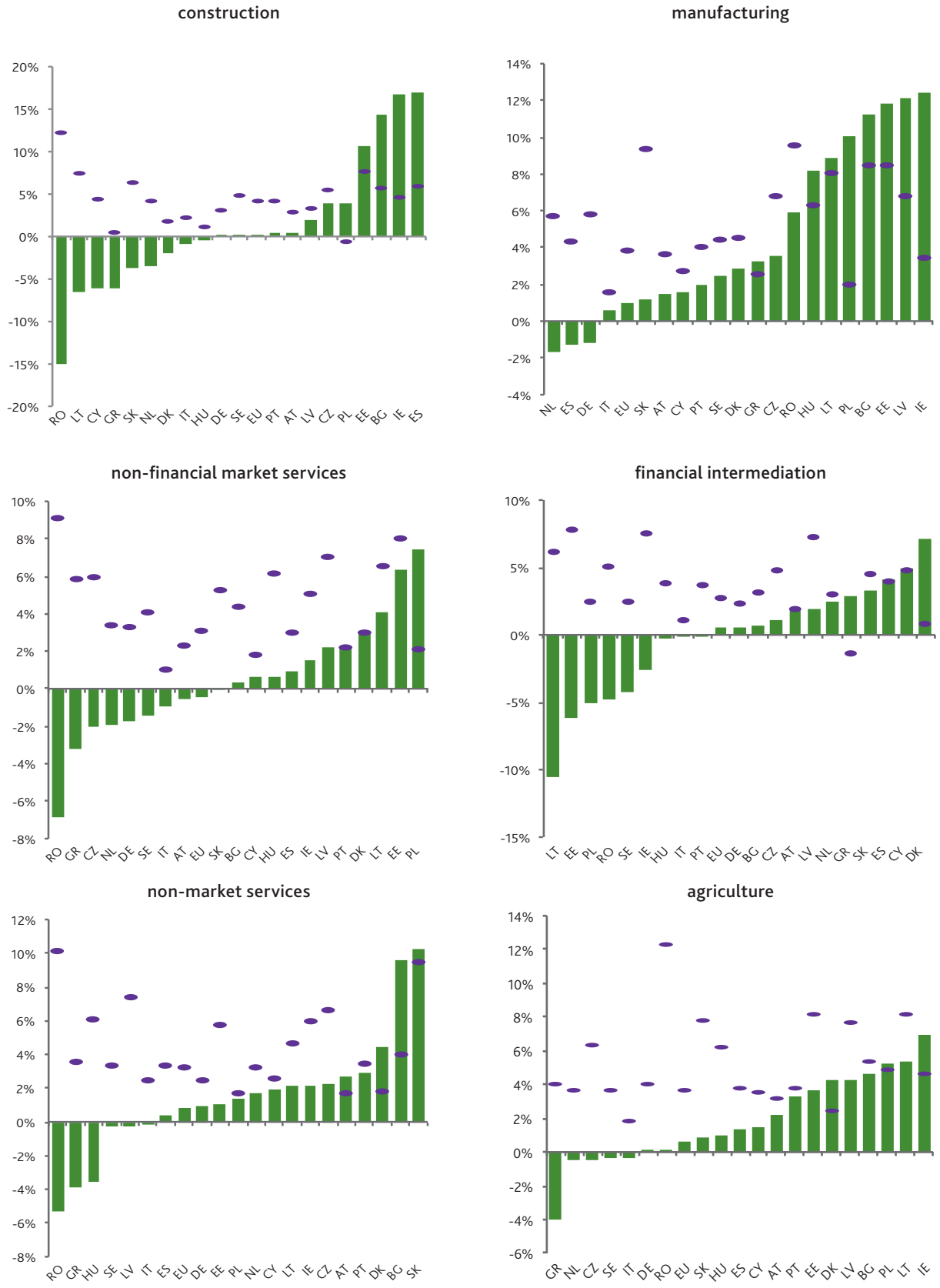
Figure I.13 The rate of change of employment and value added in sectors other than agriculture in 2000-2007 and 2008-2011



Notes: c - construction, m - manufacturing, fi - financial intermediation, ms - market services, ns - non-market services. The green line - changes in employment, the red line - change in value added, the dotted line - changes in the period 2000-2007, solid line - changes in the period 2008-2011.

Source: Own elaboration based on Eurostat data.

Figure I.14. **Change in productivity in 2000-2007 (purple marker) and 2008-2010 (green bar) by sector in selected European countries**



Notes: The Figure shows the average rate of change in productivity. The period for which measures are given depends on the availability of data on the number of hours worked by sector.

Source: Own calculations based on Eurostat and ILO data.

Figure I.15. **The unemployment rate and the real labour costs in the Baltic States, 2007-2013**

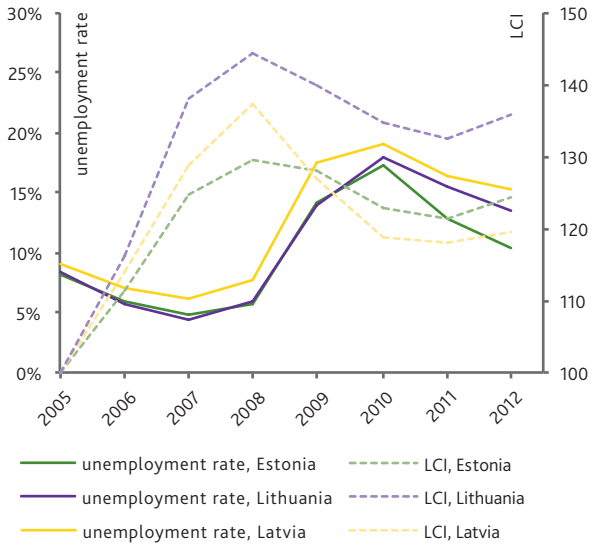
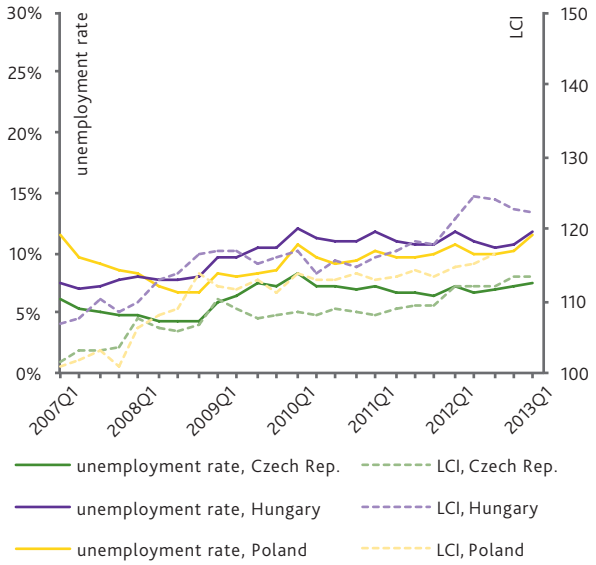


Figure I.16. **The unemployment rate and the real labour costs in the Czech Republic, Poland and Hungary, 2007-2013**



Notes: LCI – Labour Cost Index includes compensation to employees plus taxes minus subsidies in manufacturing, construction and services.

Source: Own calculations based on Eurostat data.

As noted earlier, in several European economies productivity adjustment during the recent crisis was unusual and different from that during the previous downturns. The use of sectoral data sheds additional light on the nature of the evolution in productivity.[8] In 2000-2007, labour productivity grew in almost all countries and in all the analysed sectors (although the scale of growth varied). The crisis negatively affected the pace of productivity growth, and in some sectors and countries there was even a negative growth rate. Manufacturing and non-market services were the most resistant sectors and maintained a positive growth rate. The exceptions were Germany, the Netherlands and Spain, where value added in manufacturing fell more than employment (although declines in productivity were rather low and did not exceed 3% per year).

Large declines in value added per worker concerned particularly construction (Romania, Lithuania, Greece and Cyprus) and financial intermediation (Lithuania, Estonia, Romania, Poland), where the collapse of the sectoral value added was even greater than the decline in employment. Interestingly, the strongest improvement in productivity occurred in the construction industry in Spain and Ireland, i.e. countries that were most affected by the collapse of the construction sector, but it also reduced the utilisation of labour in construction.[9]

The relative importance of quantitative adjustments (changes in employment) and price adjustments (changes in wages) constitutes a key dimension of labour market responses to shocks. The scale of employment reduction in the aftermath of a negative demand shock may be strengthened by wage rigidity which prevents absorption of disturbances by a decrease in wages. In practice, countries differ in wage flexibility, which noticeably differentiates the rate of absorption of shocks.[10] For example, the Baltic countries (Estonia, Lithuania, and Latvia) recorded one of Europe's largest increases in unemployment rate in 2008-2010, by about 15 percentage points, and, in subsequent years, the largest drop in unemployment rate. At the same time, these countries exhibit flexible wages; real labour costs had already started to decline in 2008, and they decreased by 10% till 2012. It can be presumed that this is one of the factors that allowed the rapid reversal of the increase in unemployment rate, which at the end of 2012 was a few percentage points lower than the peaks of 2010 (see Figure I.15). In turn, Poland, the Czech Republic and Hungary were affected by the crisis to a much lesser extent, and also wage adjustments were much smaller, although Hungary

8 Sectoral productivity was calculated as the ratio of the value added in a given sector to employment in the full-time equivalents (FTE). FTE is a ratio of the total number of hours worked in a given sector to the number of hours worked by a full-time worker provided that the working week lasts 5 days and the work lasts all year (52 weeks). The number of hours worked in a given country was determined based on the data of International Labour Organization (ILO), in line with the methodology proposed by OECD (OECD, 2008).

9 Figure I.13 suggests that the decline in employment in construction in Ireland was relatively lower than a decrease in value added, which would imply a decrease in productivity. However, the number of hours worked in that sector dropped by half and the number of employed by 1/3, which implied an increase in productivity.

10 Bukowski, Koloch, Lewandowski (2013) confirm this conjecture empirically for the countries of Central and Eastern Europe.

Figure I.17. **Changes in the unemployment rate and the real labour costs in Spain and Ireland in 2007-2013**

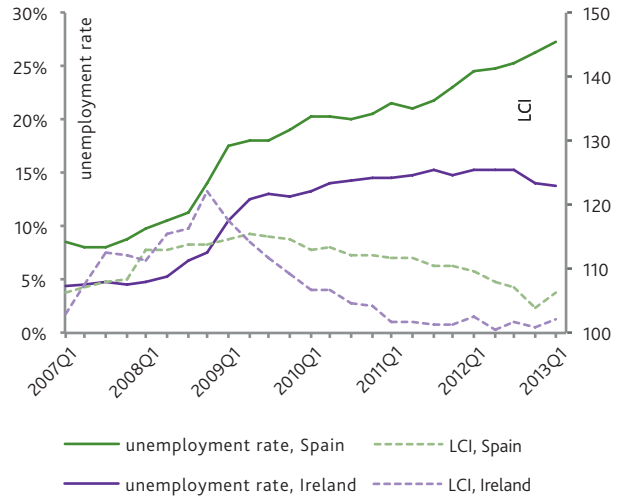
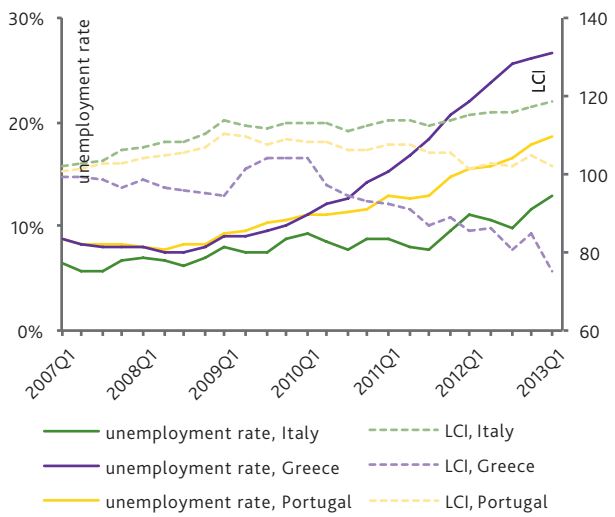


Figure I.18. **Changes in the unemployment rate and the real labour costs in Portugal and Italy in 2007-2013**



Notes: LCI - Labour Cost Index includes compensation of employees plus taxes minus subsidies in manufacturing, construction and services; results for Greece are based on average wages.

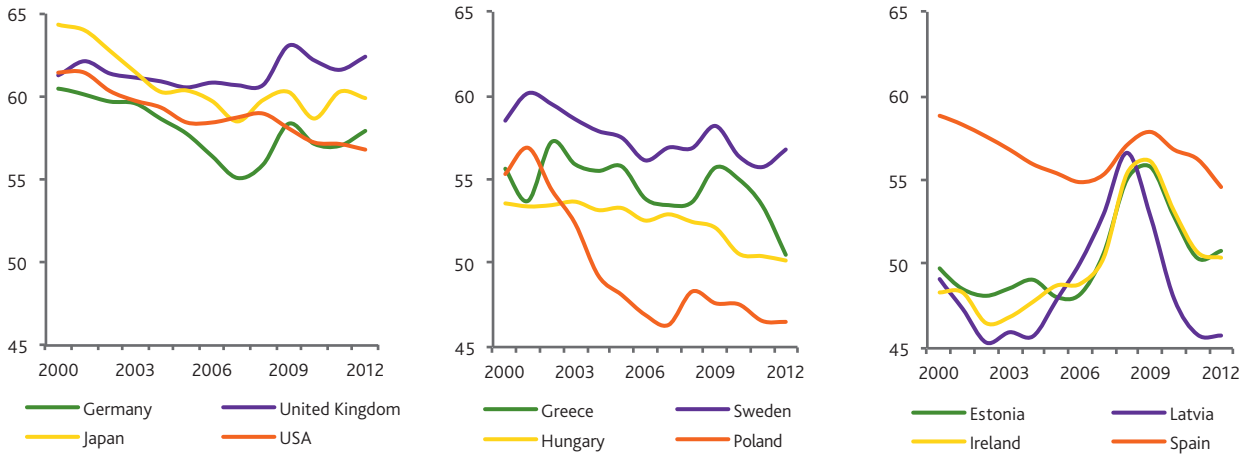
Source: Own calculations based on OECD and Eurostat (for Greece) data.

real labour costs did decline in 2009-2010 (see Figure I.16). In Poland and the Czech Republic, the real labour costs stabilised, which in circumstances of a much weaker negative shock could have restrained the unemployment increase.

Although the GIIPS countries were most affected by the economic slowdown, wage adjustments there were relatively weak and occurred later than in the Baltic countries. The exception was Ireland, where real labour costs had started to decline in late 2008 and decreased by 15%. This suggests that at least to some extent the flexibility of wages helped Ireland not to exceed the 15% rate of unemployment. In Spain and Portugal, wage adjustments were much smaller and were not sufficient to inhibit the growth of unemployment. In Italy, which faced a much smaller scale of the negative shock in the labour market, labour costs did not cease to grow after 2008. In Greece, the first impact of the crisis was accompanied by a sharp increase in labour costs, and a significant decline from 2010 did not stop the rise in unemployment (see Figures I.17-I.18).

Macroeconomic and labour market fluctuations impact on the distribution of value added between the wages of workers and the profits of enterprises. In countries that experienced the bursting of the real estate market bubble, i.e. Ireland, Spain and the Baltic countries, the share of wages in GDP fluctuated the most (Figure I.19). This share increased just before the crisis and at the beginning of the collapse, initially due to the expansion of employment and wages, and then because corporate profits

Figure I.19. **The share of labour compensation in GDP in selected EU and OECD countries (%), 2000-2012**



Source: Own calculations based on AMECO data.

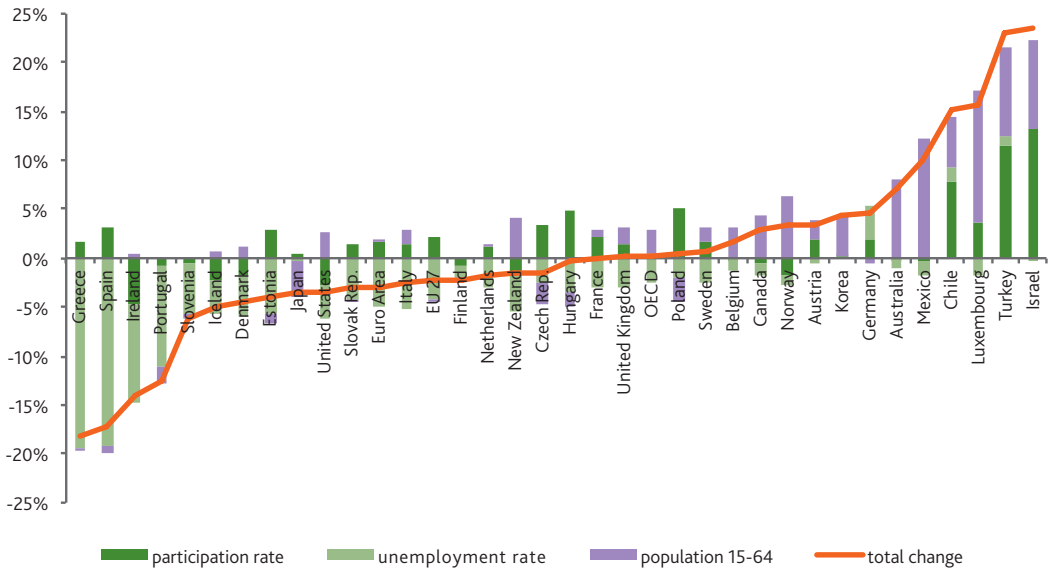
responded to the crisis first. Then, deep declines in the employment rate and average wages resulted in a sharp reduction in the share of wages in GDP. In other EU economies, slump in the labour market was weaker, so fluctuations in the share of wages in GDP were rather small. However, one can also discern their counter-cyclicality (e.g. in Germany) which arises from the fact that during the crisis corporate profits fell more than the wages of employees. It is worth noting that in the long term, the share of GDP spent on employees' wages in most countries has been showing a downward trend. This means that the growth of total wage bill in the economy has been lower than the growth of gross domestic product over a prolonged period of time. The ILO report (2013) explains this situation with technological progress, trade globalisation, the expansion of financial markets, and decreasing union density, which have eroded the bargaining power of labour. A decline in the wage share of GDP results in a slower rate of growth of private consumption. In Greece and Spain, which after 2009 had experienced a sharp decline in the share of wages and did not have, such as the Baltic states, additional growth reserves resulting from convergence to leading EU economies, falling private consumption weakened the possibility of exiting the recession (see Figure I.8).

2.2 UNEMPLOYMENT, LAYOFFS AND HOURS WORKED

This subsection is devoted to the assessment of the relative roles of the various factors affecting extensive (employment and unemployment) and intensive (hours worked) adjustments during the Great Recession. Despite the clear deterioration on labour markets of developed countries, these transformations were multidimensional and ambiguous.

While in the OECD countries unemployment significantly increased, total employment at the end of 2012 was the same as at the beginning of 2008, due to changes in labour supply. However, these processes followed various paths in different parts of the world. Economies which were not directly affected by the crisis experienced an increase in employment through an increase in working age population (Mexico, Australia, Korea), often parallel to the improvement in the participation rate (Israel, Chile, Turkey). Employment growth in these countries reached as much as 20%. In Japan, demographic developments which lead to a decline in the working age population, resulted in a decrease in employment, even though the labour market indicators have barely changed. In the GIIPS countries that were hardest hit by the Great Recession, declines in employment reaching 20% were almost entirely associated with an increase in the unemployment rate. In Greece and Spain, despite the strong increase in unemployment and a drop in income from work, there was a slight increase in the participation rate. However, in Ireland and to a lesser extent in Portugal, rising unemployment led to a withdrawal of the unemployed from the labour market, which resulted in a decrease in participation. A similar thing could be observed in the U.S. and the Nordic countries (Denmark, Iceland, and Norway). It is worth noting that the crisis did not stop the structural changes in the labour supply in countries such as Poland, the Czech Republic and Hungary, mainly an increase in participation, especially among the elderly. The combination of structural and cyclical processes meant that the increase in unemployment rate in those countries was accompanied by a transformation of the demographic structure (ageing population), which had a negative impact on employment levels. On the other hand, both these factors were counteracted by growth in the participation

Figure I.20. **The contribution of changes in participation rate, unemployment rate and demographic factor to changes in employment in selected OECD countries (in %), 2008-2012**



Source: Own calculations based on OECD data.

Box I.3. Decomposition of changes in employment

In order to isolate the contribution of changes in the unemployment rate, participation rate and demographics to employment, the number of employees can be written as:

$$E = e * P = a * (1 - u) * P$$

Where e is the employment rate, a - participation rate, u - unemployment rate, P - the working age population.

Using the definition of total differential, change in the number of employees can be written as:

$$dE = \underbrace{(1-u) * da}_{A} + \underbrace{(-a) * du}_{B} + \underbrace{a(1-u) * dP}_{C} + R$$

Where A - shows the impact of changes in participation rate, B - unemployment rate, C - demographics, to the change in employment. The residual (R) is due to the fact that changes in employment can be significantly different from 0.

Then, the total labour input (hours worked) in the economy is described by the formula:

$$NP = \sum_{i} Tm_i * E_i$$

Where Tm is the average number of hours worked in particular working subpopulation *i* (e.g. women working on fixed-term contracts), E_i – is a measure of employment in a working sub-population *i*.

Thus, change in total labour input can be re-written in the following way:

$$dNP = \sum_{i} \underbrace{Tm_i * dE_i}_{X} + \underbrace{E_i * dTm_i}_{Y} + R$$

Where *X* is a contribution of change in employment, and *Y* is a contribution of change in average number of hours worked in sub-population *i* to change in total labour input.

Source: Own elaboration.

rate, particularly in the older age groups, associated with the lengthening of the working life. In these countries the increase in participation rate facilitated maintaining employment at the 2008 levels despite the economic slowdown, the increased risk of job loss and higher unemployment rate.[11]

Changes in employment and unemployment are associated with labour market flows. Here we assess the relative role of inflows into unemployment (approximation of layoffs) and outflows from unemployment (approximation of hirings) to the changes in unemployment in European countries and the United States. We use the methodology proposed by Elsby et al. (2008) which was used to analyse the phenomena occurring in the medium term in previous editions of *Employment in Poland* (IBS / CRZL, 2011) and other studies (Bukowski et al., 2011). This time we use it to analyse short term changes in unemployment rates during the Great Recession. For this purpose, we calculated the contribution of fluctuations of the inflow and outflow rates to the total change in unemployment rate in selected European countries and the United States (Figure I.22), which allows assessment of the relative importance of the intensity of the inflow of people into unemployment (layoffs) and the outflow of people from unemployment (hiring) to the change in unemployment rate in each year.

In the United States the dominant role was played by changes in the probability of outflow from unemployment, the amplitude of which was greater than inflows, and their contribution prevailed in all the crises since the 1970s, especially during the Great Recession. In European countries it was slightly different. In periods of a relatively stable situation in the labour market, quantitative adjustments in European countries were similar to those in the U.S., with the main role played by fluctuations in the probability of outflow (hiring intensity).[12]

11 In part II we show that in Poland the greatest increase in unemployment was observed among young and prime-age workers; their employment decreased and participation did not change. Among those aged 55+, participation and employment rates grew, and the unemployment rate was de facto stable. Similar relations could be observed in other EU economies, although they were not as strong as in Poland.

12 In the period 1973-2012 (availability of data and the period of analysis varies among the countries), in 18 out of 25 EU countries the contribution of outflows from unemployment to the fluctuations in unemployment rate exceeded the contribution of inflows. Furthermore, after eliminating the spells of significant unemployment increases, this regularity can be observed in 19 out of 25 countries, and the contribution of outflows is on average 7 percentage points higher. This result is robust to changes in the definition of spells.

Table I.1. **Factors behind the episodes of significantly rising unemployment in European countries during the 2008-2012 crisis**

	Increase in layoffs	Decrease in hirings
The subprime crisis - the first wave of the Great Recession (2008-2009)	Austria (2009), Belgium (2009), Bulgaria (2009), Czech Republic (2009), Cyprus (2009), Denmark (2009), Estonia (2008-2009), Finland (2009), Greece (2009), Hungary (2009), Ireland (2008-2009), Italy (2009), Lithuania (2008), Latvia (2009), Netherlands (2009), Poland (2008-2009), Portugal (2009), Romania (2009), Slovenia (2009), Slovakia (2009), Spain (2008-09), Sweden (2009).	Ireland (2009), Spain (2009), Latvia (2008-09), Lithuania (2009).
The second wave of the Great Recession (2010-2012)	Bulgaria (2011-2012), Cyprus (2010, 2012), Greece (2010-2012), Italy (2012), Lithuania (2010), Netherlands (2010, 2012), Portugal (2011-2012), Romania (2010), Slovenia (2010-2011).	Bulgaria (2010), Czech Republic (2010), Denmark (2010), Estonia (2010), Finland (2010), Ireland (2010), Poland (2010), Portugal (2010), Slovakia (2010), United Kingdom (2010).

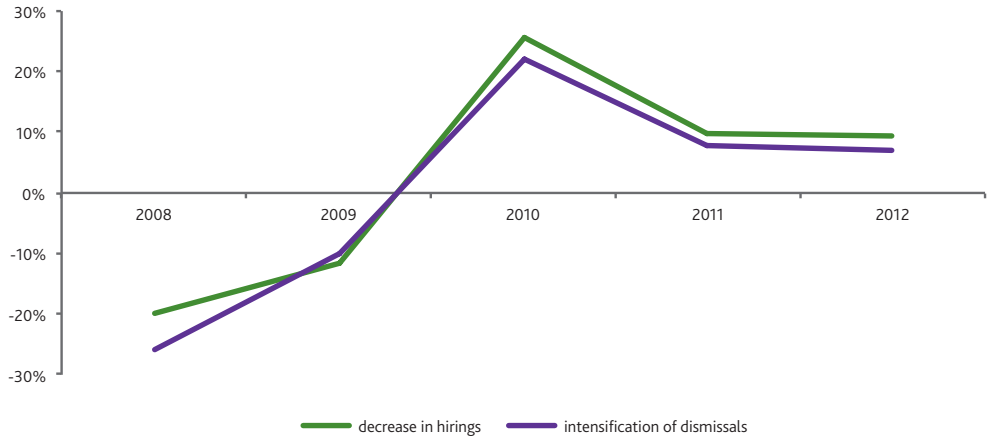
Notes: Spells of significant unemployment increase are defined as an increase in the unemployment rate by 20% over four consecutive quarters.

Source: Own elaboration based on Eurostat, EU-LFS, the OECD and national statistical offices data.

However, in times of a deteriorating situation in the labour market, adjustments are completely different - in the U.S. they occur primarily via a decrease in hirings and job opportunities for the unemployed, while in Europe via an increase in layoffs and higher risk of inflow into unemployment. This was particularly the case during the Great Recession of 2008-2012 (see Table I.1), when a rise in intensity of inflows into unemployment (layoffs) was the dominant source of increase in unemployment in most countries. This applies particularly to the first wave of the crisis - only in Ireland, Spain, Lithuania and Latvia unemployment growth in 2008-2009 resulted mainly from a decrease in the probability of outflow from unemployment (hirings). In the other countries, the main response of firms was to intensify layoffs.

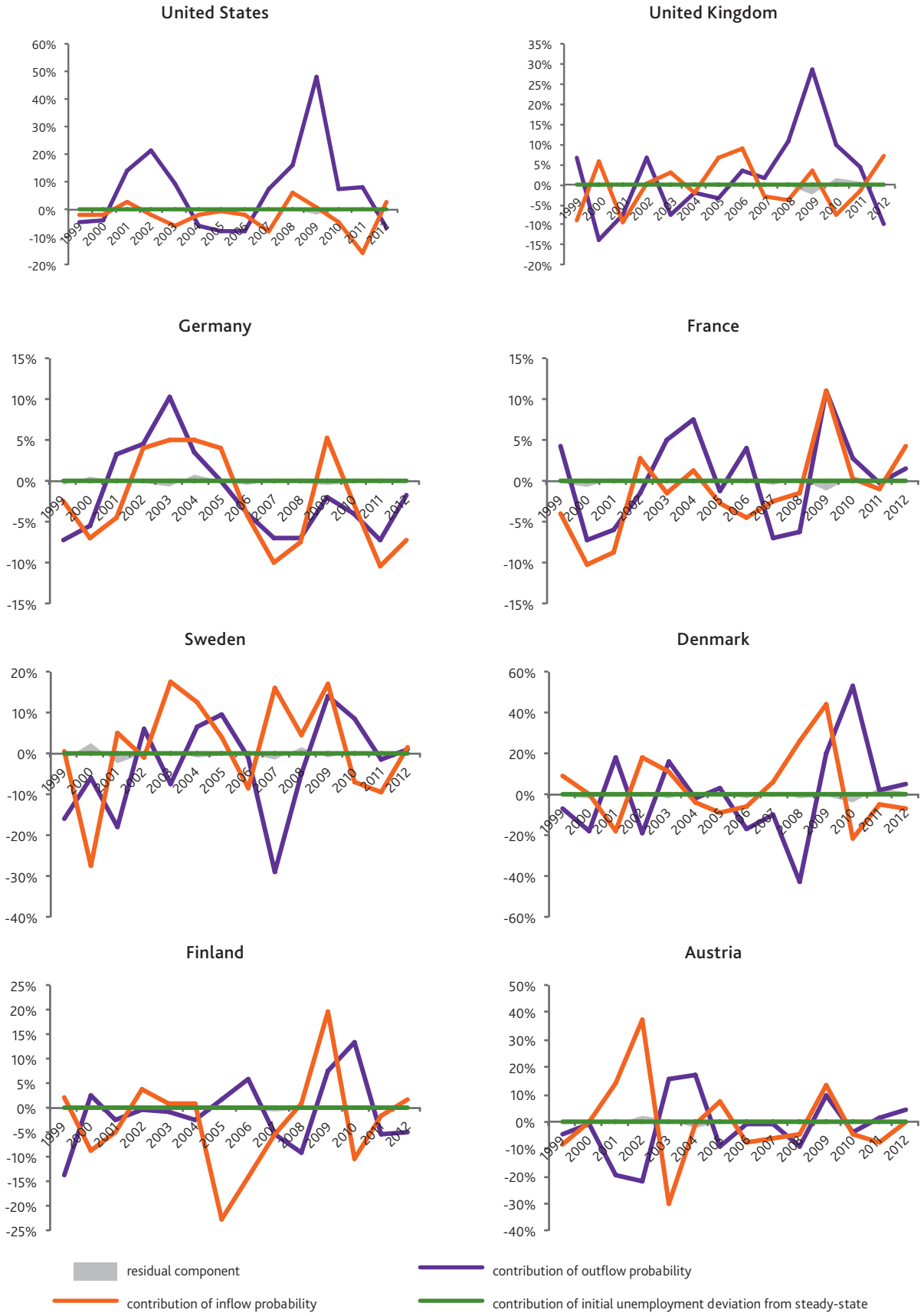
In the second wave of the Great Recession the situation changed: in only some countries (Portugal, the Netherlands, Slovenia, Greece, Cyprus) layoffs were still a major force behind the increase in unemployment rate; the rest of the EU countries entered a phase in which the increase in unemployment was due primarily to a diminished frequency of hirings (outflows from unemployment). Changes in the weight of both factors was evident in several countries, particularly in Ireland, Poland and Slovakia, where the primary impulse for the increase in unemployment in 2008-2009 was the increased intensity of layoffs (inflows into unemployment), and the increase in unemployment in 2010 was mainly due to a significant decrease in opportunities of finding a job for the unemployed. It is worth noting that in the GIIPS group, particularly affected by the second wave of the recession, the increase in layoffs continued to dominate the decrease in hirings in 2011-2012, with the exception of Ireland, which exhibited a typical Anglo-Saxon model of labour market flows, with the dominant role of fluctuations in hirings. In contrast, in Germany the increasing likelihood of

Figure I.21 **Change in the share of long-term unemployed in countries where the increase in unemployment in the second wave of the crisis was due to a decrease in hirings vs. countries where the rise in unemployment was induced by an increase in layoffs, 2008-2012**



Source: Own elaboration based on Eurostat data.

Figure I.22. **The contribution of fluctuations in the inflow to and outflow from unemployment to the total change in unemployment rate in selected EU countries and the United States, 1999-2012**



Source: Own calculations based on data from Eurostat, OECD and national statistical offices.

Figure I.22 - cont. **The contribution of fluctuations in the inflow to and outflow from unemployment to the total change in unemployment rate in selected EU countries and the United States, 1999-2012**

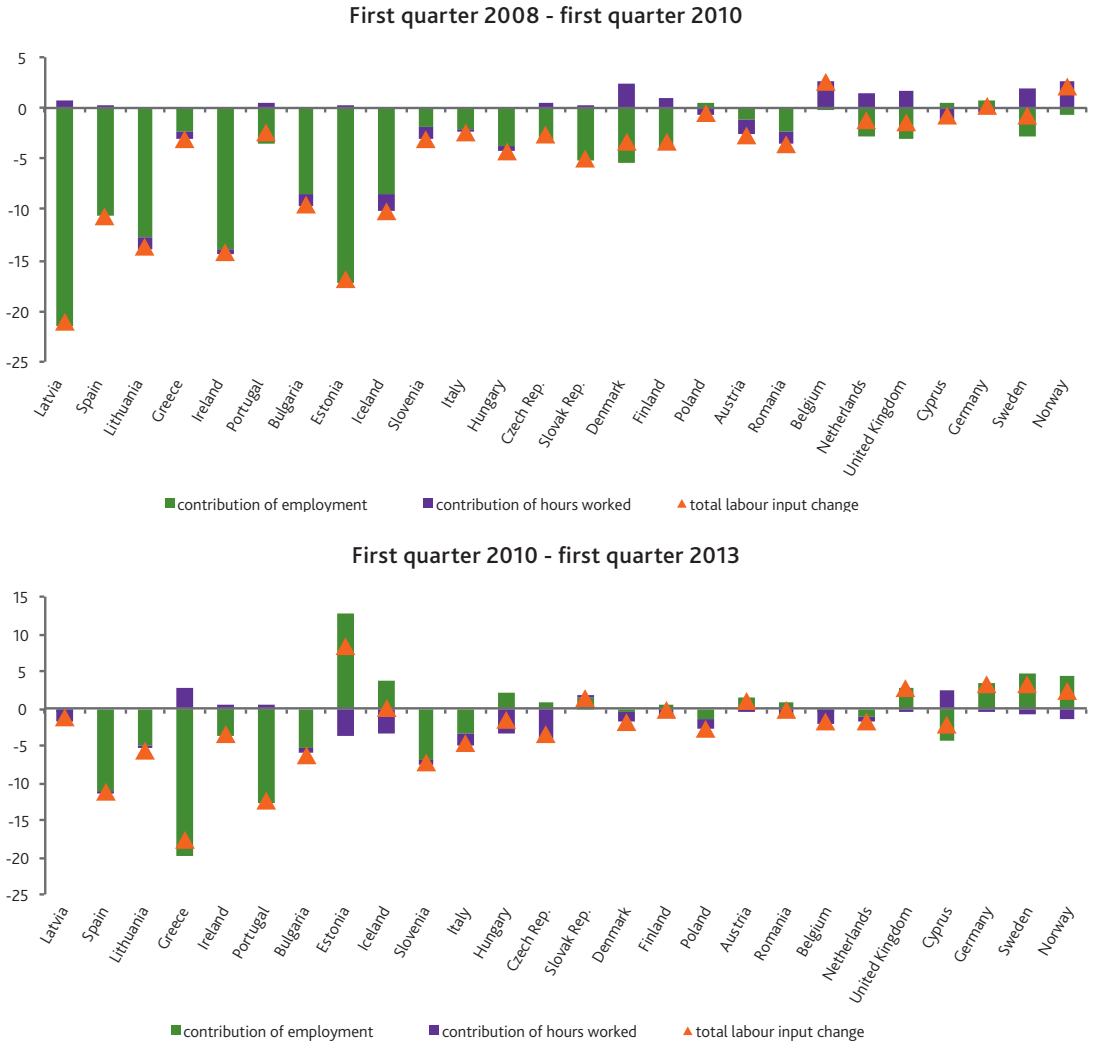
Source: Own calculations based on data from Eurostat, OECD and national statistical offices.

outflows from unemployment has been offsetting the increasing risk of losing jobs throughout the Great Recession, keeping unemployment at a stable level.

Thus, depending on the country, the dominant source of changes in the unemployment rate in the Great Recession was either an increase in the intensity of layoffs or a decrease in hirings. The differences in this respect were important for the evolution of the structure of unemployment in terms of its duration. If the decline in hiring is the dominant factor, one can expect stronger growth in the share of long-term unemployed than when the increase in the unemployment rate is mainly due to intensification of layoffs and the inflow of new unemployed. In fact, in countries which during the second wave of the crisis experienced rising unemployment mainly due to lack of hirings, an increase in the share of long-term unemployed was slightly higher than in countries where the increase in the unemployment rate was caused by the intensification of layoffs.

Labour markets' adjustment to the Great Recession occurred not only on extensive margin (changes in the number of employed, unemployed and inactive), but also on intensive margin (the average number of hours worked per worker), thus affecting the total labour input (total number of hours worked) in European economies via two channels. To some extent there was a trade-off between adjustments on these margins – in countries experiencing greatest employment declines, changes in hours worked were of secondary importance, while in countries relatively little affected in terms of employment, the significance of hours worked adjustments for a change in total labour input was comparable to that of changes in employment (Poland, Denmark, the United Kingdom, Belgium, Germany, Sweden). However, one should be careful in drawing conclusions about causality; on one hand, the reduction of hours worked could have mitigated declines in employment and could have been a symptom of labour hoarding, while on the other hand, the layoffs could have occurred mainly among part-time workers, resulting in an increase in the average number of hours worked.

Figure I.23 **The contribution of changes in the number of employed and in the average hours worked to changes in total labour input (in %) in European countries in 2008-2010 and 2010-2013**

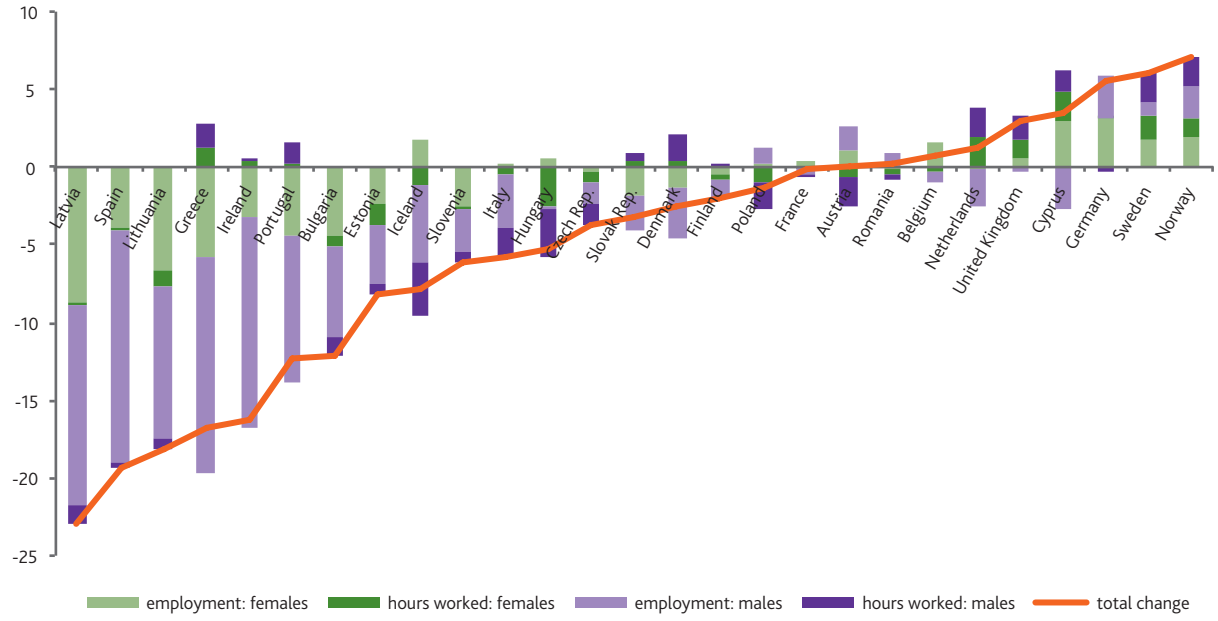


Notes: The ranking of countries in terms of the cumulative change in labour input in 2008-2012.

Source: Own elaboration based on data from the LFS, Eurostat.

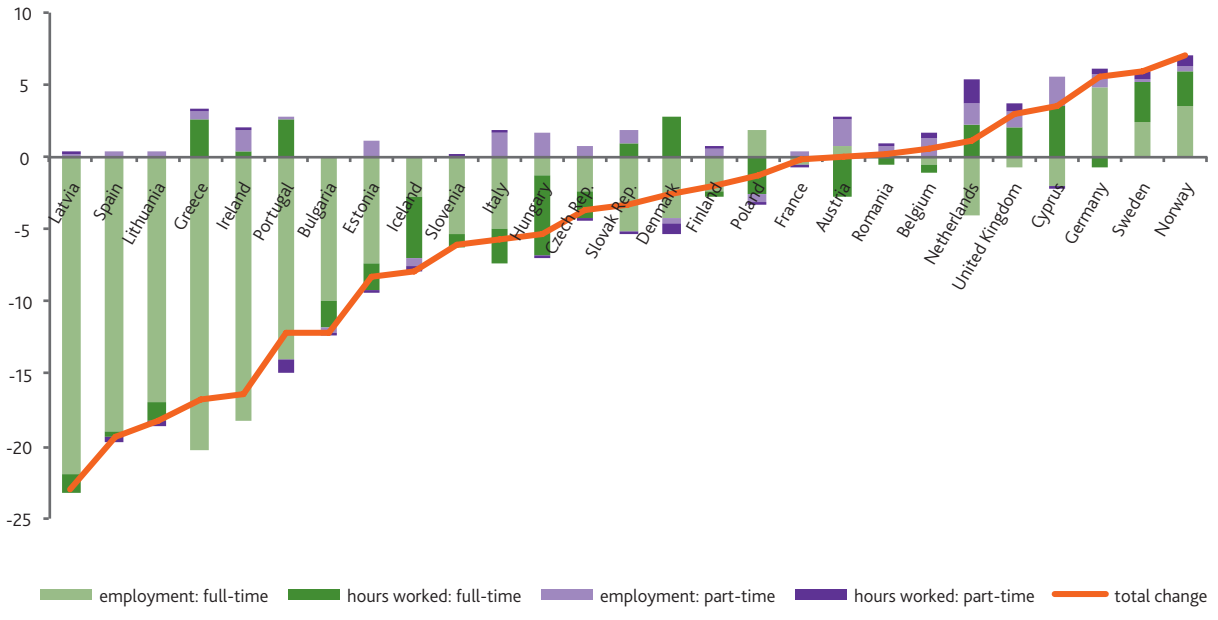
The first wave of the crisis (2008-2010) affected most strongly labour markets in the Baltic States, and Spain, Ireland, Bulgaria and Iceland; in Greece the drop in employment was relatively low. During this period, in the countries with the highest employment rates (Denmark, Germany, the United Kingdom, Sweden, Belgium), the average hours worked increased. Of particular note is Belgium, where the average hours worked grew while the employment rate did not change. The second wave of the crisis (2010-2012) labour markets in Greece, Spain, Portugal and Cyprus were the most affected. Severe employment contractions in Greece and Cyprus were accompanied by an increase in average hours worked. On the other hand, the labour markets in Estonia and Iceland, which collapsed in the first wave of slowdown, experienced a strong recovery, accompanied by declining average hours worked. In countries with high labour market participation (Sweden, Norway, the United Kingdom, Germany), the employment rate increases were accompanied by decreases in average hours worked. While in Germany the

Figure I.24. **The contribution of changes in employment and average hours worked to the change in total labour input (in %) by gender in European countries in 2008-2012**



Source: Own calculations based on LFS, Eurostat data.

Figure I.25. **The contribution of changes in employment and average hours worked to the change in total labour input (in %) by form of contract (full-time, part-time) in European countries, 2008-2012**



Source: Own calculations based on LFS, Eurostat data.

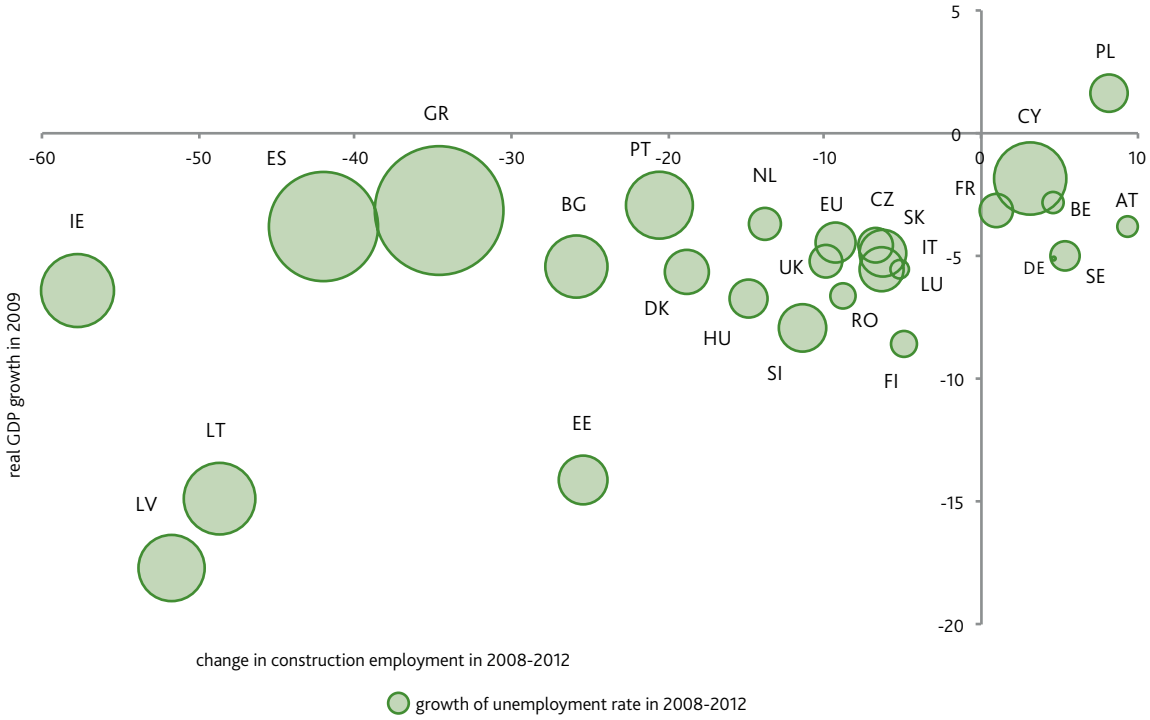
government supported the reduction of hours worked as a part of a policy to counteract the effects of the crisis (cf. part III), the actual changes in average hours in both phases of the recession were rather small (see Figure I.23). It is worth noting that while in Poland the level and the rate of employment in 2012 exceeded the 2008 value, overall labour input declined due to a decline in the average number of hours worked.

In most European countries, the crisis-induced decline in employment affected women and men symmetrically. Only in Iceland, Belgium and Cyprus was an increase in female employment accompanied by a decrease in male employment. For both males and females, the change in employment was more important for the change in the total labour input than the change in hours worked, although among women a decrease in hours played relatively bigger role, particularly in the countries of Central and Eastern Europe: Lithuania, Estonia, Hungary and Poland. Unlike women, the hours worked among men in Poland grew during the crisis. In Germany, a decline in average hours worked occurred only among men (see Figure I.24). Figure I.25 shows that the decline in average number of weekly hours worked for a large part of the EU resulted from an increase in the share of part-time workers in total employment. Part-time employment increased in almost all European countries, whereas average weekly hours worked were relatively stable among part-time workers. However, in some countries a significant part of the decline in overall average hours worked resulted from a decrease in the number of hours worked by individuals who retained their form of employment contract, mostly those employed full-time. However, only in the Baltic States and Hungary the average hours worked declined from above to below 40 hours. In Poland, rising full-time employment was accompanied by a decrease in the average hours worked of full-time workers, mainly by reducing overtime, as the average hours worked by full-time employees decreased from 41.4 to 40.2 hours in 2008-2012.

To summarise the multidimensional consequences of the crisis for the European labour markets, we look at the link between the size of speculative bubble in the housing market and the scale of adjustment in the labour market. For this purpose Figure I.26 juxtaposes the depth of the downturn in 2009, the size of the speculative bubble in the housing market and the changes in the unemployment rate over the 2008-2012 period. It should be noted that changes in unemployment rate were not strongly related to the depth of the recession during the first wave of the crisis; instead, they were rather correlated with the deterioration of the situation in the construction sector. The largest increase in unemployment was experienced by economies in which employment in construction dropped the most. This group includes the Baltic States, Ireland, Spain, Greece, Portugal and Bulgaria. This means that the bursting of the housing bubble induced strong structural adjustments that were not fully absorbed by other sectors of the economy in the following few years, causing a significant and relatively enduring rise in the unemployment rate. Germany was a completely different case, as it was affected by a deep recession at the turn of 2008 and 2009, but it was one of the few countries that did not experience a construction bubble burst and simultaneously reached a noticeable drop in unemployment during the recovery from the crisis. In other EU countries that were hit by the recession but also avoided the collapse of the construction sector, increases in unemployment did occur, but were much weaker than in the GIIPS and the Baltic States. On this basis it can be concluded that the situation in the labour market was to a larger extent influenced by the occurrence of macroeconomic imbalances which proved unsustainable in the longer term, rather by the depth of a downturn itself.

The consequences of the burst of the construction sector bubble for the labour market were most likely impossible to avoid. However, in this chapter we have pointed out that the responses of the countries most affected by the collapse of the construction sector were very diverse. The Baltic States and Ireland, in contrast to southern European countries, responded to the downturn by a strong adjustment of wages. Although wage flexibility did not protect these economies from a significant increase in unemployment rate, it seems that it did limit its size; after a certain period, further rises in unemployment were inhibited (Ireland), or the changes reversed and unemployment gradually decreased (the Baltic States). In Southern Europe, where labour markets are characterised by greater rigidities, unemployment increased steadily in the first and second wave of the crisis, and the growth of unemployment was mainly due to the increased number of layoffs. The behaviour of labour markets in Southern Europe, with high quantitative adjustment and limited wage adjustment, generated feedback that reinforced negative phenomena during the second wave of the crisis. A further rise in unemployment rates (particularly record-high in Greece and Spain) and the lack of prospects for a rapid change in the trend, resulted in the collapse of private consumption, which in turn was a major factor behind the declines in GDP during the second wave of the Great Recession (see decompositions in Figure I. 8 and Annex).

Figure I.26. **Comparison of changes in the unemployment rate in 2008-2012 (in percentage points), real GDP growth in 2009 (%) and changes in employment in the construction sector in the 2008-2012 period in the EU countries (%)**



Notes: The sizes of the bubbles in the Figure correspond to the change in the unemployment rate in 2008-2012. The larger the diameter of the bubble, the greater the recorded increase in the unemployment rate.

Source: Own elaboration based on Eurostat data.

3 DIFFERENCES IN THE NATURE OF THE CRISIS ACROSS THE EU AND OECD

3.1 THEORETICAL INTRODUCTION

This chapter is devoted to a formal analysis and identification of sources of the cyclical fluctuations in the main macroeconomic variables, including the labour market variables, in selected European countries. It is built upon the Chapter 1 discussion of the transmission channels of the crisis. One of the tools available for such an analysis is a Dynamic Stochastic General Equilibrium (DSGE) model. The basic model of this class is made up of two representative economic agents - households and companies that maximise a certain objective (utility from consumption or income) under their specific budgetary constraint. The agents interact in the labour and goods markets where wages and prices of consumer goods are established. It is worth noting that in models of this class, equations describing an indirect or direct evolution of the main macroeconomic variables are the result of rules governing the behaviour of economic actors; the model is therefore based on microfundamentals. It is not necessary to resort to arbitrary assumptions about the functional equations, so the results obtained using this model are more reliable than, for example, the results of multi-equation models.

For the purposes of the following analysis, we use a DSGE model that is much more complex than the basic version described in the previous paragraph. Its design is based on, inter alia, the work of Antosiewicz, Bukowski and Kowal (2011a, 2011b) and we add to it a number of elements which allow us to take into account a range of potential sources of macroeconomic disturbances, i.e. shocks. A description of the elements of the model, a set of included shocks, and the estimation procedure are described in Box I.3. In the next section we apply the model to identify the macroeconomic shocks that contributed to the (cyclical) fluctuations around the trend of the basic variables in selected European economies. We are interested in both the differences between countries and between particular spells of downturn and recovery, with particular attention paid to the Great Recession. In the next section we also look at differences between countries in ability to absorb macroeconomic shocks. For this purpose, we conduct simulations involving application of shocks identified in one country to a model representing a reference economy.

Box I.4. The DSGE model of the labour market.

In this chapter, we use an elaborated DSGE model, whose design is based on, inter alia, the work of Antosiewicz, Bukowski and Kowal (2011a, 2011b). It contains a number of elements which allow us to take into account a number of potential sources of macroeconomic disturbances, i.e. shocks. The main features of the model include:

a) Inclusion of an extensive labour market block with a search-and-match mechanism and on-the-job search (job search conducted by workers);

b) Labour market flows between employment, unemployment and inactivity;

c) Endogenous labour market participation;

d) Endogenous job destruction rate;

e) Heterogeneity of economic actors;

f) This is a model of a small open economy;

g) In the structure of production basic goods and final consumption, investment, government, and intermediate consumption goods are distinguished;

h) Price rigidities on the side of firms and households;

i) Private banking sector and monetary sector (central bank using the Taylor rule) are included.

The elaborated structure of the model allows taking into account aggregate technological shocks (productivity shocks) affecting the efficiency of the production of basic goods and final goods; foreign demand shock; monetary shock influencing the interest rate; job destruction shock, public consumption shock, matching efficiency shock, labour supply shock, labour demand shock (job destruction shock), bargaining power of workers shock.

The properties of each DSGE model are determined by two factors: internal structure, i.e. the exact form of all model equations, and the values of all parameters. To perform the analysis for ten or so countries, we create a separate model for each country that will reflect the characteristics of that economy as much as possible. National models are based on the same mathematical structure, but for each of them we obtain country-specific parameters during the estimation procedure. By using the same mathematical structure, we are able to conduct a comparative analysis between different countries. The parameters of the models, labelled as *Γ*, are estimated using time series of the main macroeconomic variables and statistical moments calculated from them. An estimation procedure is to maximise the fit of the model to empirical statistical moments, which formally can be written as:

$$\hat{\Gamma} = \arg\max L(\Gamma)\ L(\Gamma) = \sum_i \log pdf^{\{P_i\}}(\Gamma_i) + \sum_j \log pdf^{\{M_j\}}(M_j(\Gamma))$$

Where Γ_i is the *i*-th parameter of the model, $pdf^{\{P_i\}}$ and $pdf^{\{M_j\}}$ are *a priori* distributions of parameters and statistics of the model, and $M_j(\Gamma)$ represent the moments implied by the model.

The subjects of interest are the short-and medium-term properties of the economy. The first step in this analysis is calculation of the trend and the cyclical component of each time series. The Hodrick-Prescott filter is a tool commonly employed in such decompositions, as it does not just assume a deterministic trend but also takes into account its changes. Fluctuations in the cyclical component of basic macroeconomic variables are at the centre of the analysis throughout the chapter – we examine the relative size of their oscillations, and correlations between the series of different variables.

Source: Own elaboration.

3.2 ANALYSIS OF HISTORICAL DECOMPOSITIONS

In a single step (for each country separately), the decomposition procedure is to calculate predictions for all variables of the model, assuming that the economy was affected by only one shock. This step is repeated for each shock; aggregation of partial results gives a prediction for the entire model. Evaluation of the ability of the model to reflect the evolution of economies (measure of the quality of historical decomposition) is obtained as follows: for each shock *i* its impact on the variability of each of the variables z_j observed in the model is determined according to the formula:

$$k_j^i = \frac{cov(HD_j^i, z_j)}{var(z_j)},$$

where HD_j is a series of deviations from the trend for the variable *j* implied by the *i*-th shock. The sum of across all shocks (the sum of coefficients k_j^i) represents the total capacity of the model to reproduce the historical variability of a given variable. This coefficient and partial coefficients can take any value. When it is greater than 1, it means that the entire model or a single shock implies greater variation than the variation actually observed for a given variable. Thus defined measure allows assessment of the relative importance of different types of disturbances in the cyclical fluctuations of the main variables over the last two decades. The period of analysis includes at least two spells of acceleration and stagnation of economic growth in each country. Figures I.27-I.31 present predictions generated by the model for selected shocks (productivity and foreign demand shocks) against the actual evolution of the cyclical component of the analysed variables. Tables I.2 and I.3 compile the contributions of the selected shocks to the historical evolution of particular variables. In both tables the last column presents the sum across all shocks (including those not presented in the table), which is a measure of the quality of fit of the historical decomposition of the entire model to the actual data.

The model identifies two main determinants of fluctuations in GDP, namely the productivity shock and the external demand shock. Over the entire period, the impact of productivity shocks (which suggest internal causes of GDP fluctuations) was dominant in Estonia, Greece and Spain. Shock in foreign demand played a greater role in Denmark, France, Sweden and the U.K. Interestingly, for the former group of countries, foreign demand shock was uncorrelated with GDP or even had a negative contribution (i.e. stabilised the fluctuations of GDP) until the mid-2000s. During the last economic expansion in 2004-2007 period, and during the Great Recession (especially its first wave), the external demand shock was one of the factors strengthening the fluctuations in GDP. This model also explains a large part of fluctuations in private consumption and investment. Similarly to GDP, the main determinants of these GDP components in all the analysed countries are productivity shock and external demand shock; private consumption was additionally significantly affected by the job destruction shock.

Table I.2. **Fit of the model to basic macroeconomic variables and contributions of selected shocks to predicted evolution of the variables in the selected EU countries (%)**

	Foreign demand shock	Productivity shock	Bargaining power shock	Labour demand shock	Labour supply shock	Government spending shock	Job destruction shock	All shocks
GDP								
Czech Republic	60	47	1	-1	-5	-5	3	96
Germany	52	28	1	1	-2	-3	5	82
Denmark	55	26	3	-2	-4	-1	6	79
Estonia	36	60	3	-1	-3	-1	5	97
Spain	33	70	5	4	-6	-7	8	109
France	75	53	2	-3	-8	-9	3	108
Greece	24	52	6	2	-6	11	14	105
Hungary	62	27	1	1	1	13	5	94
Ireland	37	28	4	1	-2	-4	12	97
Poland	45	44	5	2	-9	5	10	102
Sweden	41	33	1	-2	-1	2	4	76
United Kingdom	60	31	1	0	-4	1	1	90
Private consumption								
Czech Republic	8	44	2	1	-5	2	5	62
Germany	31	17	-4	2	-7	-4	37	78
Denmark	24	78	-5	-2	-5	-1	17	97
Estonia	29	41	1	0	-4	0	15	75
Spain	17	34	1	4	-6	-6	15	68
France	24	80	-3	-4	-10	-3	14	91
Greece	11	53	0	1	-5	-6	18	71
Hungary	3	-6	0	0	0	1	5	57
Ireland	27	14	-3	1	-2	-1	28	68
Poland	25	30	4	8	-9	-9	36	86
Sweden	42	76	-10	-5	-5	-8	17	105
United Kingdom	41	49	-2	0	-5	-4	11	91
Investment								
Czech Republic	35	68	2	0	-4	0	5	105
Germany	34	90	4	0	0	-8	4	123
Denmark	24	68	3	0	-1	-3	5	94
Estonia	16	41	1	0	-1	3	2	62
Spain	15	73	2	2	-1	1	4	94
France	38	89	2	-1	-3	-30	3	96
Greece	12	30	2	0	-3	24	6	72
Hungary	29	16	2	0	1	3	3	76
Ireland	16	29	3	0	0	4	4	82
Poland	20	74	2	1	-3	13	5	110
Sweden	29	67	2	-1	-1	11	5	111
United Kingdom	29	83	1	0	-2	-8	2	104

Source: Own calculations based on the DSGE model.

Tabela I.3. **Fit of the model to labour market variables and the contributions of selected shocks to predicted evolution of these variables in the selected EU countries (%)**

	Foreign demand shock	Productivity shock	Bargaining power shock	Labour demand shock	Labour supply shock	Government spending shock	Job destruction shock	All shocks
Wages								
Czech Republic	19	68	8	-2	-2	-2	-3	89
Germany	-26	31	104	0	-5	1	-11	92
Denmark	-45	-3	108	10	19	7	-13	81
Estonia	54	0	-14	1	-2	1	21	64
Spain	-11	-4	17	0	3	0	-5	3
France	-2	5	95	1	-2	1	2	89
Greece	-5	7	12	0	2	1	1	20
Hungary	11	1	21	1	-2	1	6	79
Ireland	-29	-21	110	-1	3	-2	-22	56
Poland	6	4	4	2	-1	1	4	21
Sweden	-16	82	83	-15	3	-6	-27	96
United Kingdom	18	39	36	3	-9	2	3	88
Participation rate								
Czech Republic	-13	-5	-2	-2	118	-3	-16	77
Germany	5	11	1	-1	54	-2	3	67
Denmark	1	5	3	3	25	2	3	42
Estonia	16	11	7	3	-14	3	19	51
Spain	-1	-4	0	0	60	0	0	55
France	-14	-14	-4	5	118	6	-12	88
Greece	-3	3	-2	0	61	1	-3	57
Hungary	-3	27	1	0	54	0	1	64
Ireland	9	7	7	3	-2	7	28	78
Poland	-21	-9	-4	7	124	5	-23	80
Sweden	9	14	5	2	0	1	25	54
United Kingdom	15	4	8	2	43	1	2	74
Employment rate								
Czech Republic	31	24	5	7	-22	8	51	93
Germany	17	20	7	6	-1	10	44	100
Denmark	13	12	10	2	-3	2	26	59
Estonia	16	29	8	0	-5	0	27	74
Spain	5	35	4	4	-3	1	9	56
France	21	22	4	7	-13	9	35	78
Greece	0	7	7	4	4	7	20	59
Hungary	10	30	5	3	10	4	20	71
Ireland	10	9	8	3	-1	7	32	85
Poland	15	17	13	9	-13	6	34	85
Sweden	14	17	8	6	-3	2	34	78
United Kingdom	30	18	10	6	-6	3	17	78

Tabela I.3 - cont. **Fit of the model to labour market variables and the contributions of selected shocks to predicted evolution of these variables in the selected EU countries (%)**

	Foreign demand shock	Productivity shock	Bargaining power shock	Labour demand shock	Labour supply shock	Government spending shock	Job destruction shock	All shocks
Unemployment rate								
Czech Republic	18	12	3	3	25	4	27	86
Germany	13	12	6	6	11	11	42	101
Denmark	13	7	7	0	27	0	24	77
Estonia	10	17	5	0	12	0	16	58
Spain	2	22	2	2	24	1	5	57
France	18	18	3	1	34	2	21	93
Greece	8	4	11	3	29	5	24	91
Hungary	24	-6	5	5	8	9	34	91
Ireland	6	3	4	2	12	4	23	67
Poland	11	7	5	4	38	3	18	87
Sweden	11	10	7	7	16	3	31	83
United Kingdom	19	13	4	3	33	2	12	88
Risk of outflow from employment								
Czech Republic	12	-1	-9	-6	17	-8	64	68
Germany	13	10	-28	-18	27	-33	120	91
Denmark	7	0	-19	22	11	15	57	91
Estonia	9	1	-13	4	10	4	55	71
Spain	2	26	-6	10	24	3	24	82
France	15	18	-22	7	30	9	48	92
Greece	7	17	-31	-4	29	-6	81	102
Hungary	23	-6	-11	-6	22	-10	87	90
Ireland	15	9	-22	-8	33	-17	80	92
Poland	11	19	-37	6	6	4	85	95
Sweden	5	3	-16	1	1	0	91	86
United Kingdom	3	8	3	17	14	10	33	88
Chance of inflow to employment								
Czech Republic	10	9	22	15	12	19	-32	54
Germany	7	5	22	25	0	47	-36	71
Denmark	3	1	22	38	7	26	-30	68
Estonia	1	2	9	4	3	4	-2	23
Spain	3	10	21	20	15	6	-26	49
France	8	0	10	29	13	35	-29	64
Greece	1	5	32	15	9	25	-30	59
Hungary	7	-3	11	15	6	25	-21	45
Ireland	7	13	53	18	4	38	-61	68
Poland	8	-1	40	54	31	33	-89	77
Sweden	4	-3	41	57	7	22	-57	74
United Kingdom	8	4	23	35	8	19	-7	91

Source: Own calculations based on the DSGE model.

This is due to the fact that the job destruction shock is important for the evolution of employment and unemployment, which in turn affects household incomes and therefore private consumption. For many countries that shock proved to be more important during the Great Recession than in previous spells of economic slowdown.

During the Great Recession the negative productivity shock strongly contributed to the decline of GDP in Spain, Ireland and Estonia. In these economies it was the strongest negative productivity shock throughout the analysed period. Interestingly, all these economies experienced a housing market bubble before the crisis and the violent consequences of its bursting. In contrast, foreign demand shock explained variations in GDP better during the Great Recession in Denmark, France, the United Kingdom and the Czech Republic (see Figure I.27). For most countries, the strength of the foreign demand shock was unprecedented in the considered period (both in terms of the positive contribution just before the crisis and negative during the crisis). This conclusion coincides with the earlier observation that the crisis had caused the biggest collapse in international trade in the past few decades. During the second wave of the crisis, the negative impact of foreign demand shock receded, and the declines in GDP were primarily due to the negative productivity shock.

Poland was also affected by the relatively deep shock to foreign demand, which was the main factor behind the slowdown during the first wave of the crisis. However, this was mitigated by internal impulses, and therefore the adjustment of GDP was moderate. Therefore, the situation during the Great Recession differed from the crisis in the late 1990s/early 2000s, when the slowdown in the Polish economy was mainly due to internal causes (interestingly, the force of the productivity shocks during the Russian crisis and the Great Recession were comparable). From the fourth quarter of 2011, deviation of the cyclical component of GDP below the trend was associated with a negative domestic productivity shock in Poland.

In comparison with other countries, Greece is visibly different; first it benefited from a positive foreign demand shock, and later, when most of the European economies were in deep recession, it resisted strong output falls thanks to the positive contribution of the productivity shock. However, the positive productivity shock quickly turned into a deep negative shock, causing a continued decline in GDP.

Figure I.28 shows that in some EU countries fiscal policy was consistently pursued in a countercyclical manner, helping to alleviate also the Great Recession – examples include the Czech Republic (although in this country the contribution of fiscal

Figure I.27. **Historical decomposition of the cyclical component of GDP and contribution of productivity shock and foreign demand shock to cyclical component of GDP in selected EU countries (in %), 1996-2012**

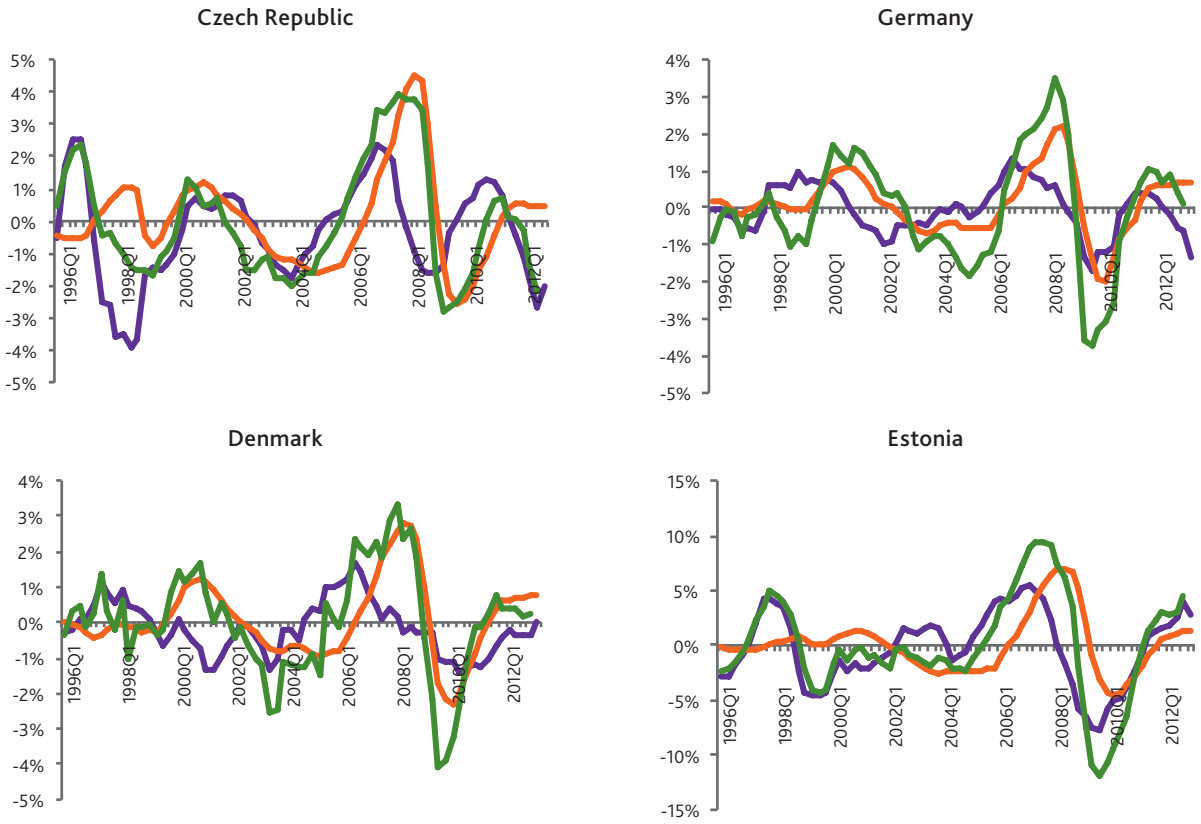
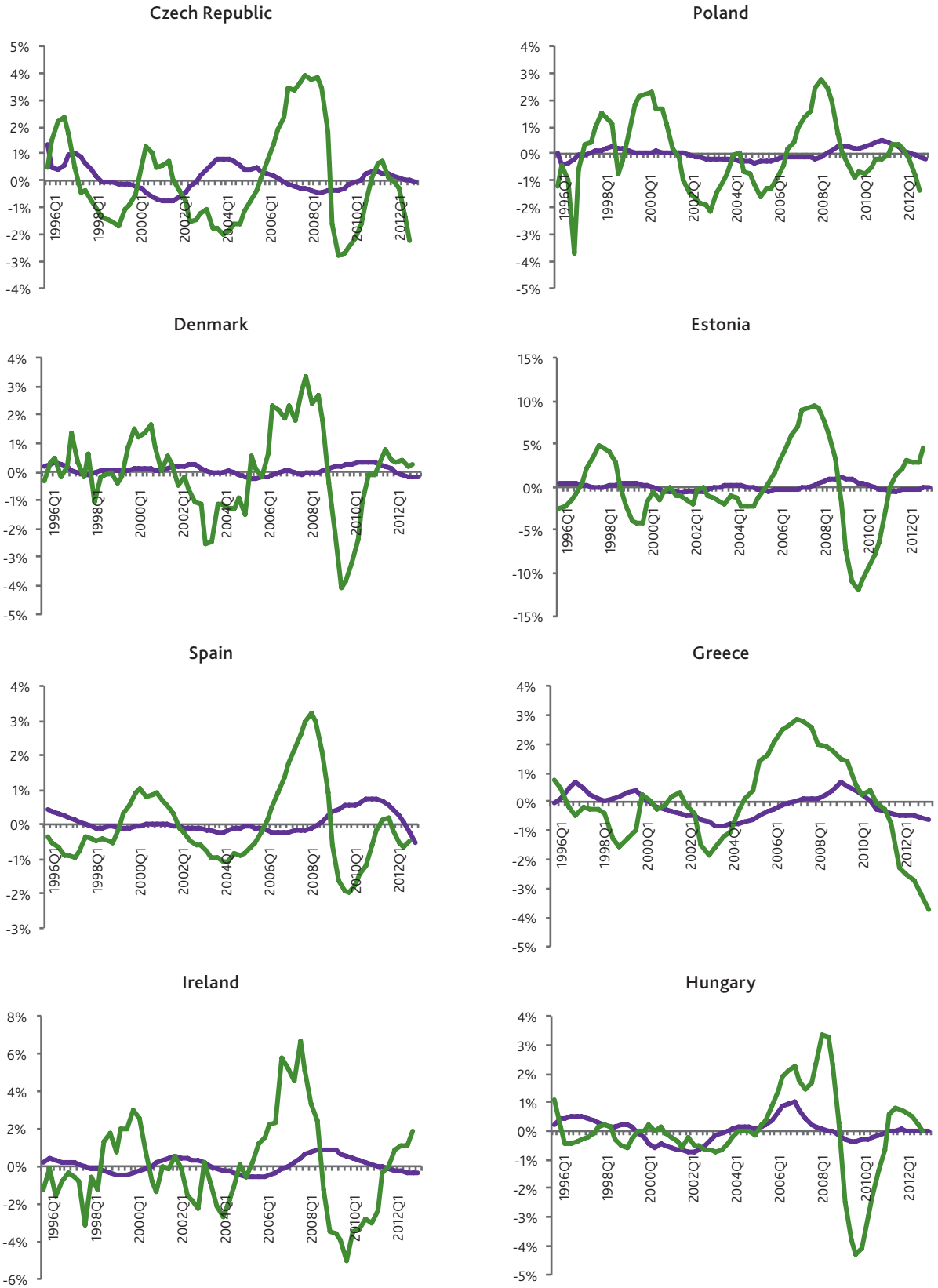


Figure I.27 - cd. **Historical decomposition of the cyclical component of GDP and contribution of productivity shock and foreign demand shock to cyclical component of GDP in selected EU countries (in %), 1996-2012**

Notes: Purple line - the contribution of productivity shock, orange line - the contribution of foreign demand shock, green line - the actual cyclical fluctuations of GDP.

Source: Data - Eurostat, decomposition - own calculations based on the DSGE model.

Figure I.28. **Historical decomposition of the cyclical component of GDP and contribution of government spending shock to cyclical component of GDP in selected EU countries (in %), 1996-2012**



Notes: Purple line - the contribution of government spending shock, green line - the actual cyclical fluctuations of GDP.

Source: Data - Eurostat, decomposition - own calculations based on the DSGE model

loosening mitigating the drop in GDP was lower than during the downturn after the 2002-2006 crisis), Estonia and Sweden (where the role of fiscal policy in the fluctuations of GDP was minuscule) and Ireland. In the United Kingdom, Germany and France fiscal policy was acyclic in nature, and the contribution of government spending shocks to fluctuations in GDP was negligible (which is why we skip these countries and Sweden in Figure I.28). In Poland, for most of the last fifteen years, fiscal policy has been pro-cyclical, with the exception of the period 2009-2012 when the fiscal loosening contributed to the reducing of slowdown by about 0.5% of GDP per year. Fiscal policy was also pro-cyclical in Hungary, where fiscal loosening significantly contributed to the boom in the second half of the previous decade; at the same time it induced the relatively early consolidation of public finances which in turn contributed to the decline in GDP during the Great Recession. Greek fiscal policy was pro-cyclical; from the beginning of 2011 fiscal contraction has been contributing to a decline in GDP to an increasing extent. In Greece and Spain, the negative contribution of government spending to changes in GDP in 2012 was the strongest among the analysed countries. However, it should be noted that the impact of the government spending shock in all countries was small compared with the two previously discussed shocks, which suggests a relatively minor significance of changes in fiscal policy for cyclical fluctuations in GDP. We came to a similar conclusion when analysing the contributions of government consumption to changes in economic growth in chapter 1 (see Figure I.8).

The fit of our model's prediction to the main variables of the labour market is also quite high, and ranges from 64% for the average (real) wage to 82% for unemployment. In contrast to the macroeconomic variables, productivity shocks were not the main determinants of evolution of labour market indicators. The employment and unemployment rates were mainly determined by the job destruction shock. Job destruction shocks explained at least half of the volatility in employment in the Czech Republic, Spain, France and Poland. Job destruction shocks explained at least half of the volatility in employment in the Czech Republic, Spain, France and Poland. Noticeable, but smaller impact was also exerted by foreign demand shocks. It can be concluded that the volatility of employment in European countries was affected mainly by labour demand-side factors, but in the case of the unemployment rate labour supply shock was also important.

The rise in unemployment during the Great Recession resulted from an overlap of the foreign demand and job destruction shocks (Poland, Denmark, France, the United Kingdom, the Czech Republic, Estonia and Hungary). The negative job destruction shock was avoided by Germany and Greece (actually alleviation of job destruction mitigated the changes in unemployment in these countries in the first phase of the Great Recession). In 2011-2012, the impact of foreign demand shock receded and some countries (Sweden, France and the United Kingdom) experienced a recovery in foreign demand, and this shock even began to decrease unemployment.

Figure I.29. **Historical decomposition of fluctuations of unemployment rate and contribution of job destruction shock and foreign demand shock to fluctuations of unemployment rate in selected EU countries (in %), 1996-2012**

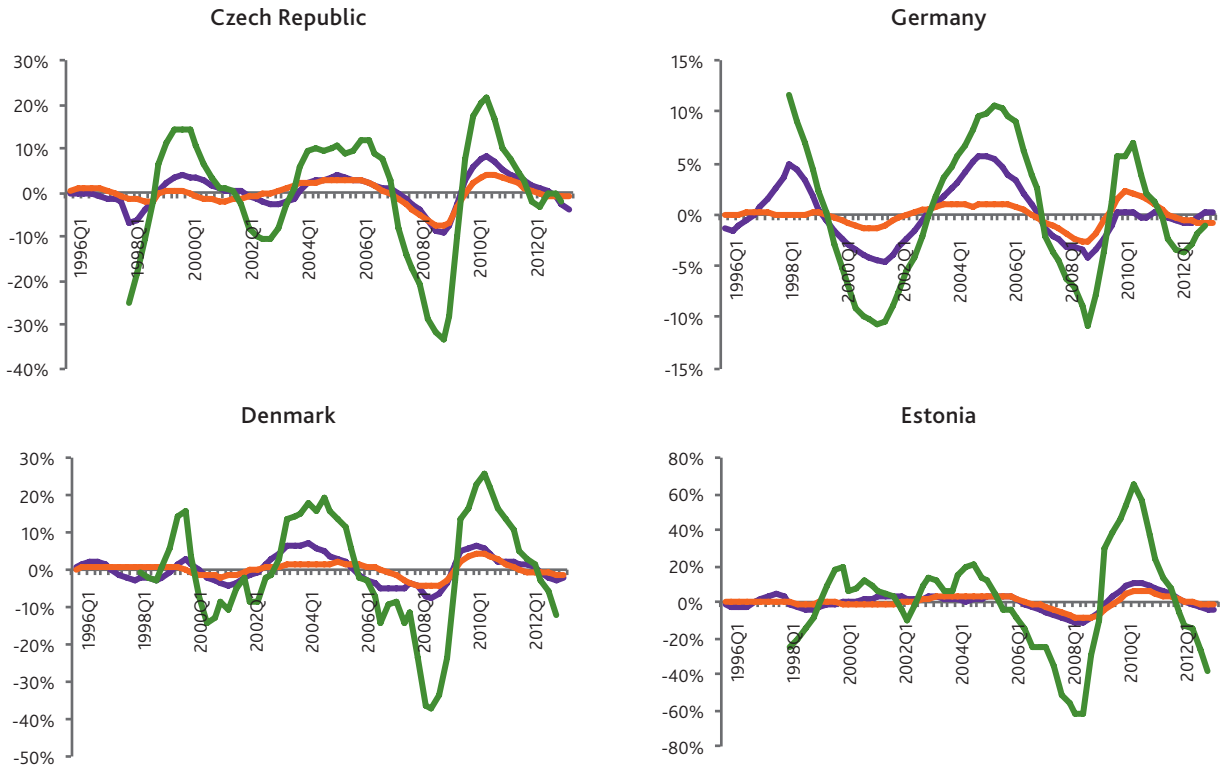
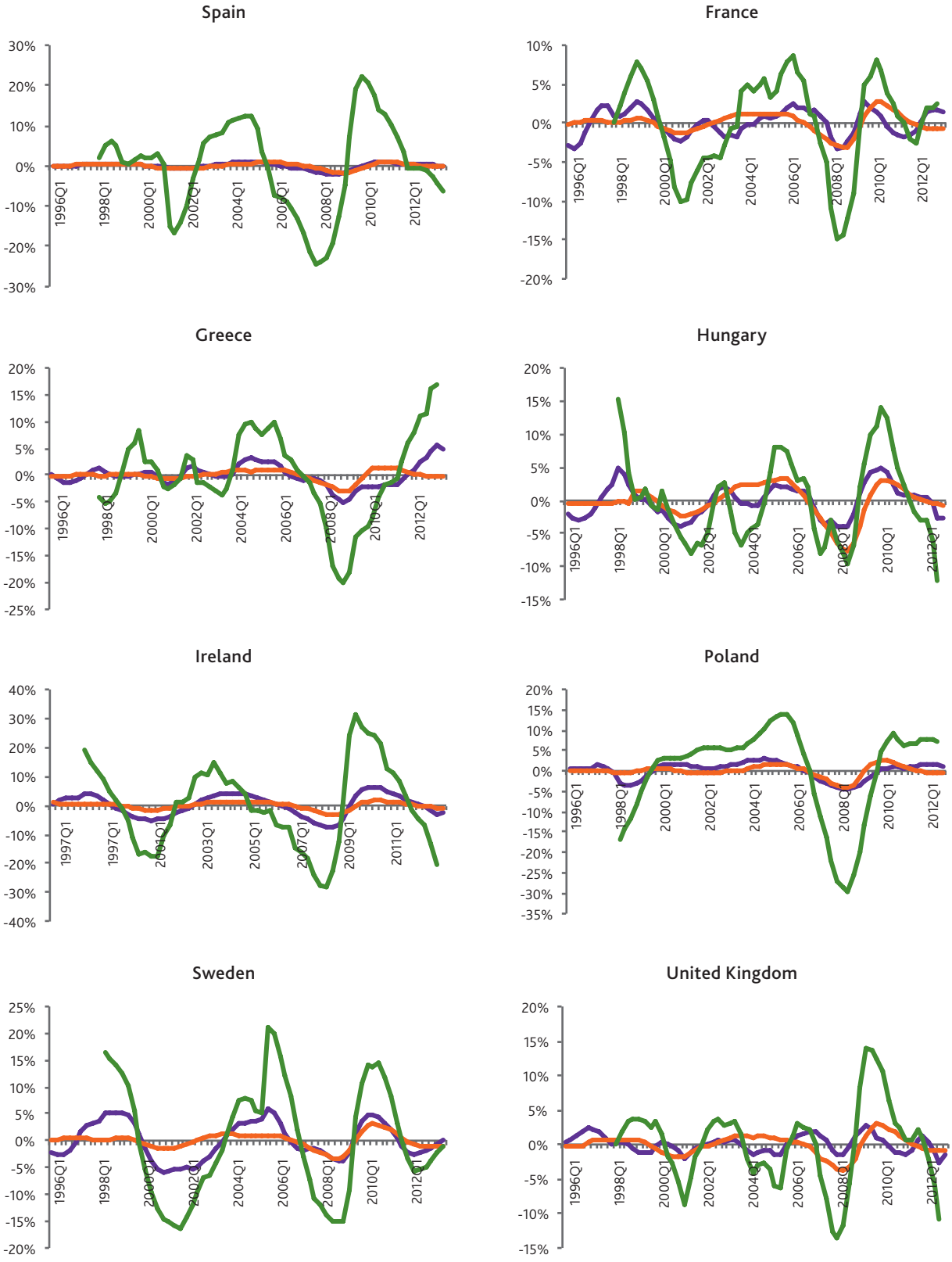


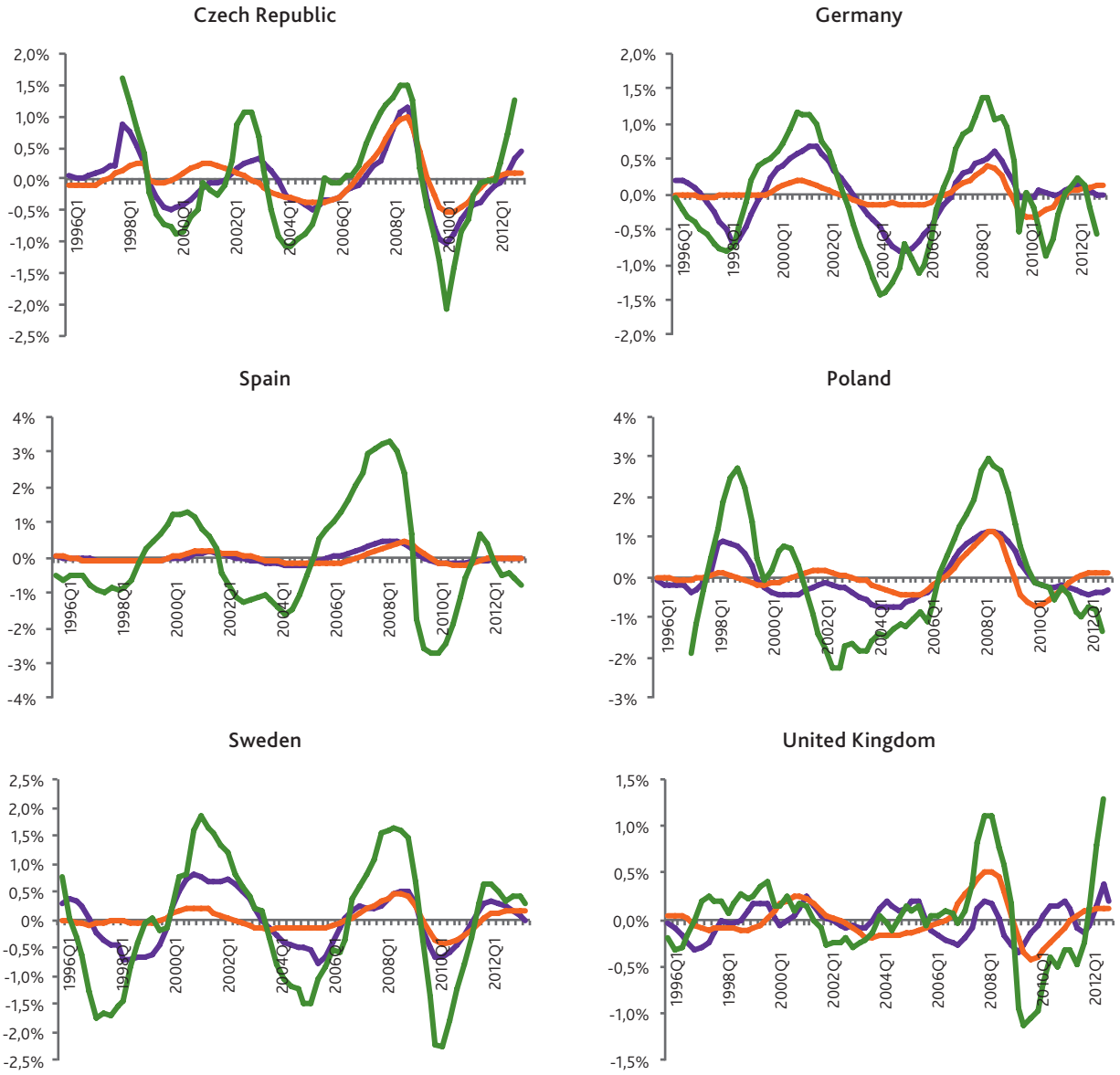
Figure I.29 - cont. **Historical decomposition of fluctuations of unemployment rate and contribution of job destruction shock and foreign demand shock to fluctuations of unemployment rate in selected EU countries (in %), 1996-2012**



Notes: Purple line - the impact of job destruction shock, orange line - the impact of foreign demand shock, green line - data.

Source: Data - Eurostat, decomposition - own calculations based on the DSGE model.

Figure I.30. **Historical decomposition of fluctuations of employment rate and contribution of job destruction shock and foreign demand shock to fluctuations of employment rate in selected EU countries (in %), 1996-2012**



Notes: Purple line - the impact job destruction shock, orange line - the impact of foreign demand shock, green line - data.

Source: Data - Eurostat, decomposition - own calculations based on the DSGE model.

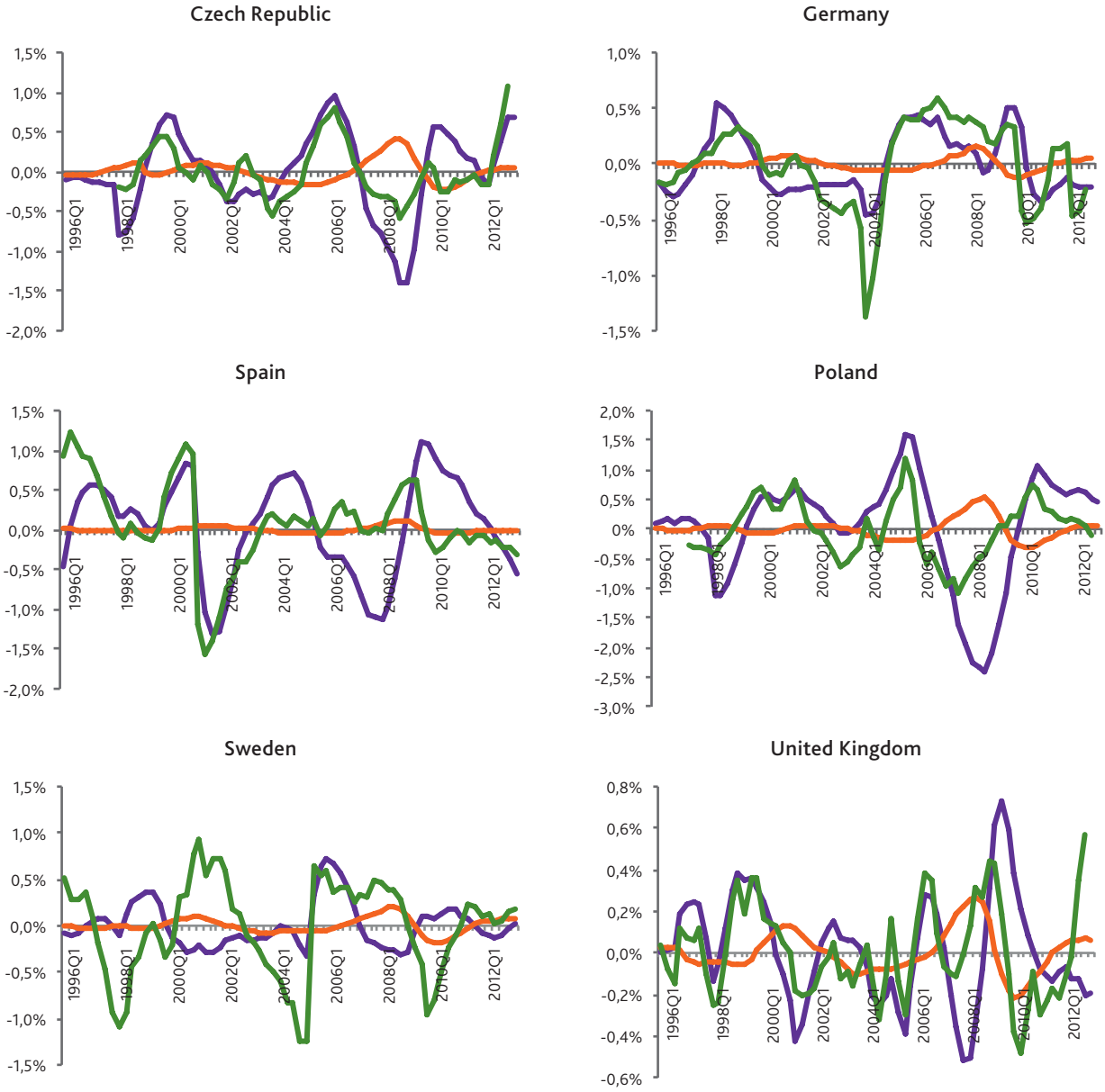
The impact of the job destruction shock in the second wave of the crisis was more diverse. In Hungary, the United Kingdom and Sweden it contributed to a decrease in unemployment, yet in Greece unemployment began to increase significantly due to such shock. In a very similar way, but with an opposite sign, both shocks influenced the rate of employment in the economy.

Fluctuations of inflows to employment were influenced by the greatest number of factors (see Table I.3).[13] The largest parts of the variation (27%) are explained by labour demand shocks, whereas the matching efficiency shock and bargaining power shock played a visible, but smaller role. Foreign demand and labour supply shock also contributed to variation of inflows. In contrast, outflows from employment (layoffs) were determined primarily by variations in the propensity of companies to fire workers (job destruction shocks), which is associated with their predictions about the future development of the economic situation. An important contribution, though several times smaller, was also found for disturbances in foreign demand.

13 We do not present decompositions of labour market flows; they are available on request.

The labour market participation rate was influenced mainly by the labour supply shock (associated with inflows to or outflows from the active population, e.g. as a result of migration, changes in retirement age). It should be noted, however, that there were some exceptions. In Estonia, Ireland and Sweden, this shock had a zero or even negative contribution to the decomposition of labour market participation, and its role was taken over by the productivity and foreign demand shocks. It can therefore be assumed that in these countries the fluctuations of participation rate resulted from changes in the general level of economic activity, the situation in the labour market and wages; labour supply grew in good times and fell when the chances of (well-paid) employment were lower. In turn, the following countries: Poland, France and the Czech Republic, experienced very strong labour supply shocks, which would imply the much greater volatility of labour market activity than observed in the data. The impact of this shock was reduced by job destruction shocks affecting labour supply in the opposite direction (faced with a decreasing size of workforce, companies decided to restrict the firing of workers).

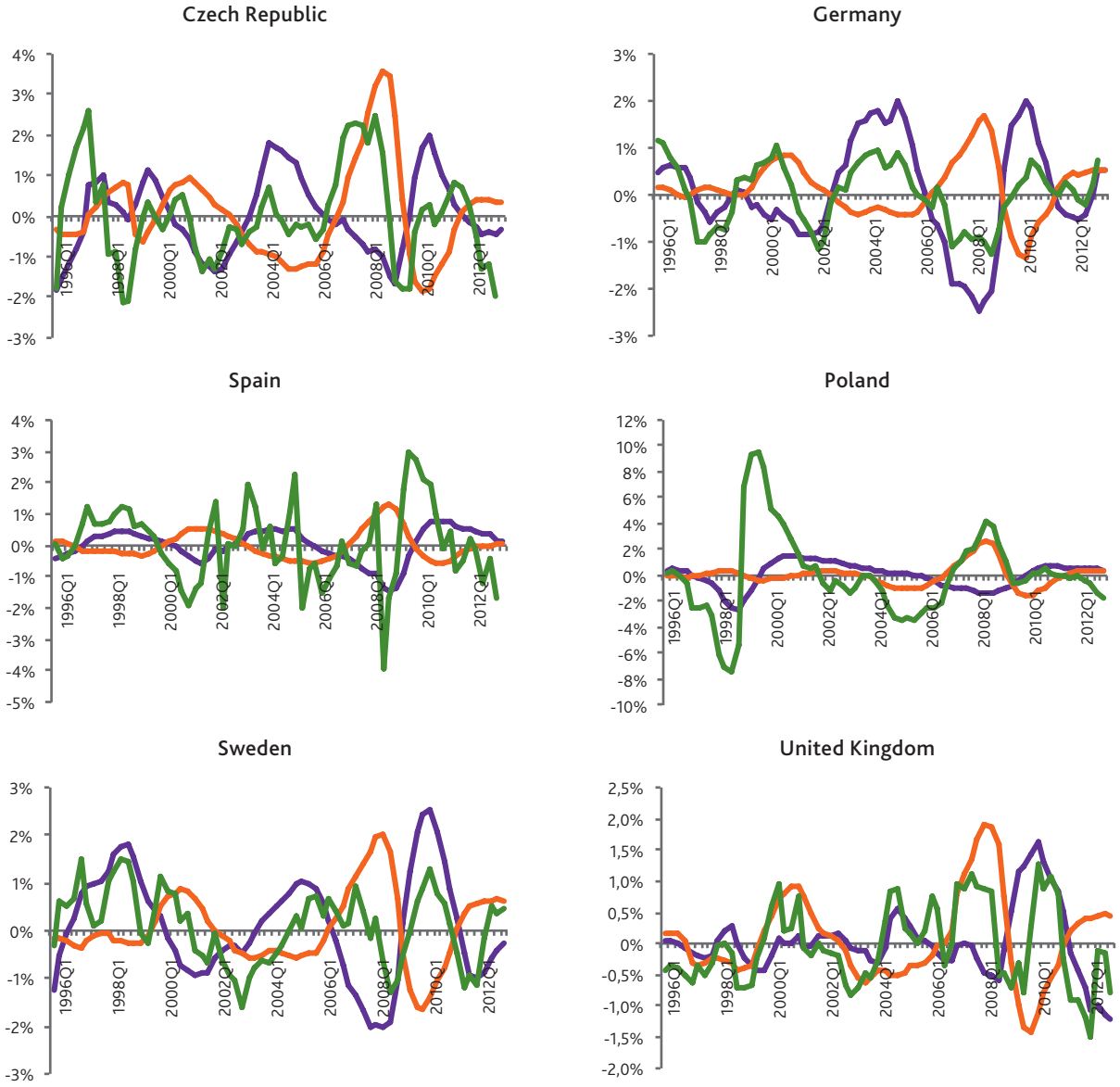
Figure I.31. **Historical decomposition of fluctuations of participation rate and contribution of labour supply shock and foreign demand shock to fluctuations of employment rate in selected EU countries (in %), 1996-2012**



Notes: Purple line - impact of labour supply shocks, orange line - impact of foreign demand shock, green line - data.

Source: Data - Eurostat, decomposition - own calculations based on the DSGE model.

Figure I.32. **Historical decomposition of fluctuations of participation rate and contribution of bargaining power shock and foreign demand shock to fluctuations of employment rate in selected EU countries (in %), 1996-2012**



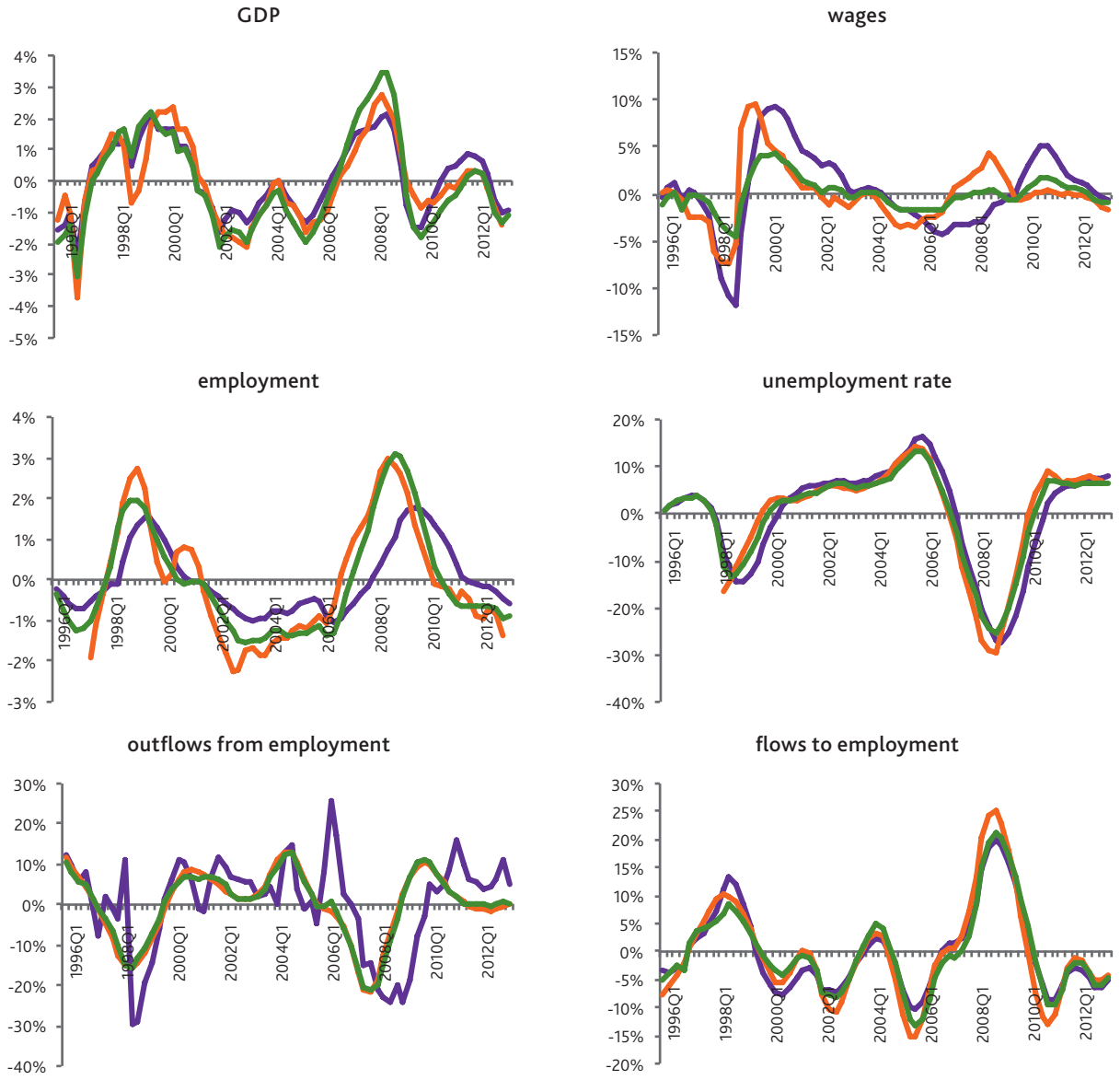
Notes: Purple line - impact of bargaining power shock, orange line - impact of foreign demand shock, green line - data.

Source: Data - Eurostat, decomposition - own calculations based on the DSGE model.

In the case of (average real) wages, the main driver of the cyclical fluctuations in most countries turned out to be the changing bargaining power of workers.[14] It is worth noting that the contribution of this factor was strongest in Germany, but it cannot simply be defined as wage pressure. Both in 1999-2003 and 2007-2009 this factor was conducive to a reduction in workers' compensation below its trend, and at the same time these were the periods of unemployment being below its trend and participation rate being above its trend. Therefore, we can say that these shocks were lessening wage pressure during periods of exceptionally low unemployment resulting, inter alia, from positive foreign demand shocks. A similar effect, but with lower force, was also observed in Denmark and Sweden. In contrast, in the Czech Republic, impulses from wage bargaining were not strong enough to offset the pressure on wages resulting from large fluctuations in foreign demand, in particular those above the trend. In Poland, there was a certain inertia in the impact of wage bargaining – after several years of no wage pressure it occurred in 2009-2011, yet as soon as in 2012 the impact of bargaining power shock was negligible.

14 In countries where this shock was not significant, i.e. in Poland, Spain and Greece, the model did not identify any other sources of fluctuations; for them this variable is not explained by the model.

Figure I.33. **Comparison of the Poland's capacity to absorb macroeconomic shocks against Germany, 1996-2012**



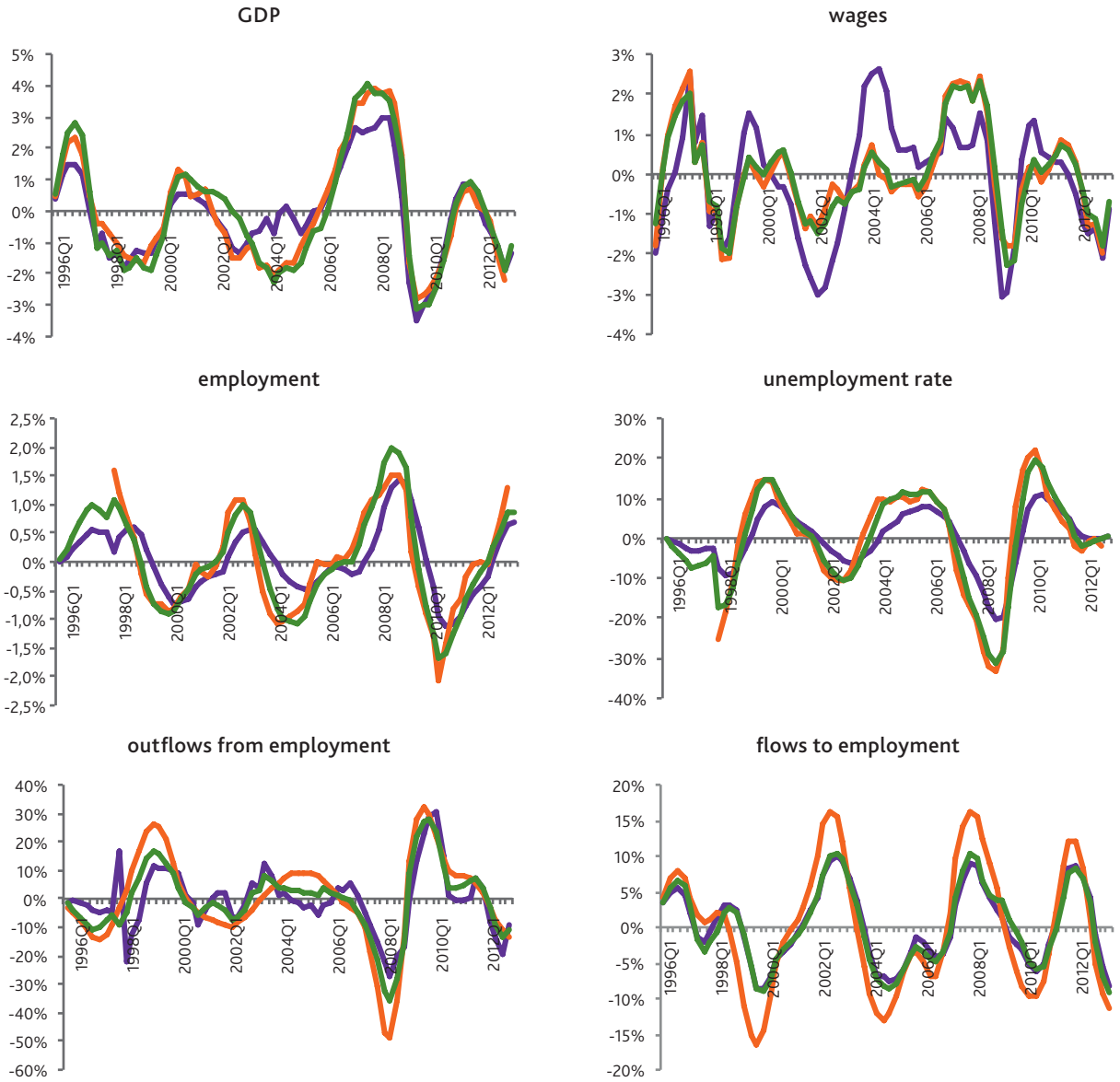
Notes: Purple line - decomposition of the German model, orange line - empirical data for the analysed country, green line - decomposition for the analysed country.

Source: Own calculations based on Eurostat data and the DSGE model.

3.3 COMPARATIVE ANALYSIS

In the previous section we identified the shocks which were responsible for cyclical fluctuations in the main macroeconomic variables for selected countries in the Great Recession, and more broadly, over the past two decades. In this section we try to assess to what extent the behaviour of a given economy, relative to other economies, resulted from country-specific shocks which affected it and to what extent from differences in the ability to absorb them. Importantly, these differences are captured in the model in parameters which were estimated for each country and differed between countries. In this section we perform simulations comparing the responses of selected economies (Poland, the Czech Republic, the United Kingdom, Spain, Greece, and Sweden) with the response of the German economy to the same shocks. Germany was identified as the reference country because it is the largest EU economy and its labour market was extremely resistant to the Great Recession. This choice is further supported by the fact that over the past two decades the cyclical fluctuations of the main variables in Germany have been lower than those in other EU countries. The simulations rely on applying shocks estimated for a given country to a model parameterised for the German economy. As a result we obtain a hypothetical path that an economy would have taken had it reacted to the shocks as the German economy would have reacted. Comparing the scale of deviation of the cyclical component for thus simulated variables to the original decomposition (i.e. showing how a given economy reacted to the identified shocks), we are able to determine to what extent fluctuations in the country resulted from the

Figure I.34. **Comparison of the Czech Republic's capacity to absorb macroeconomic shocks against Germany, 1996-2012**



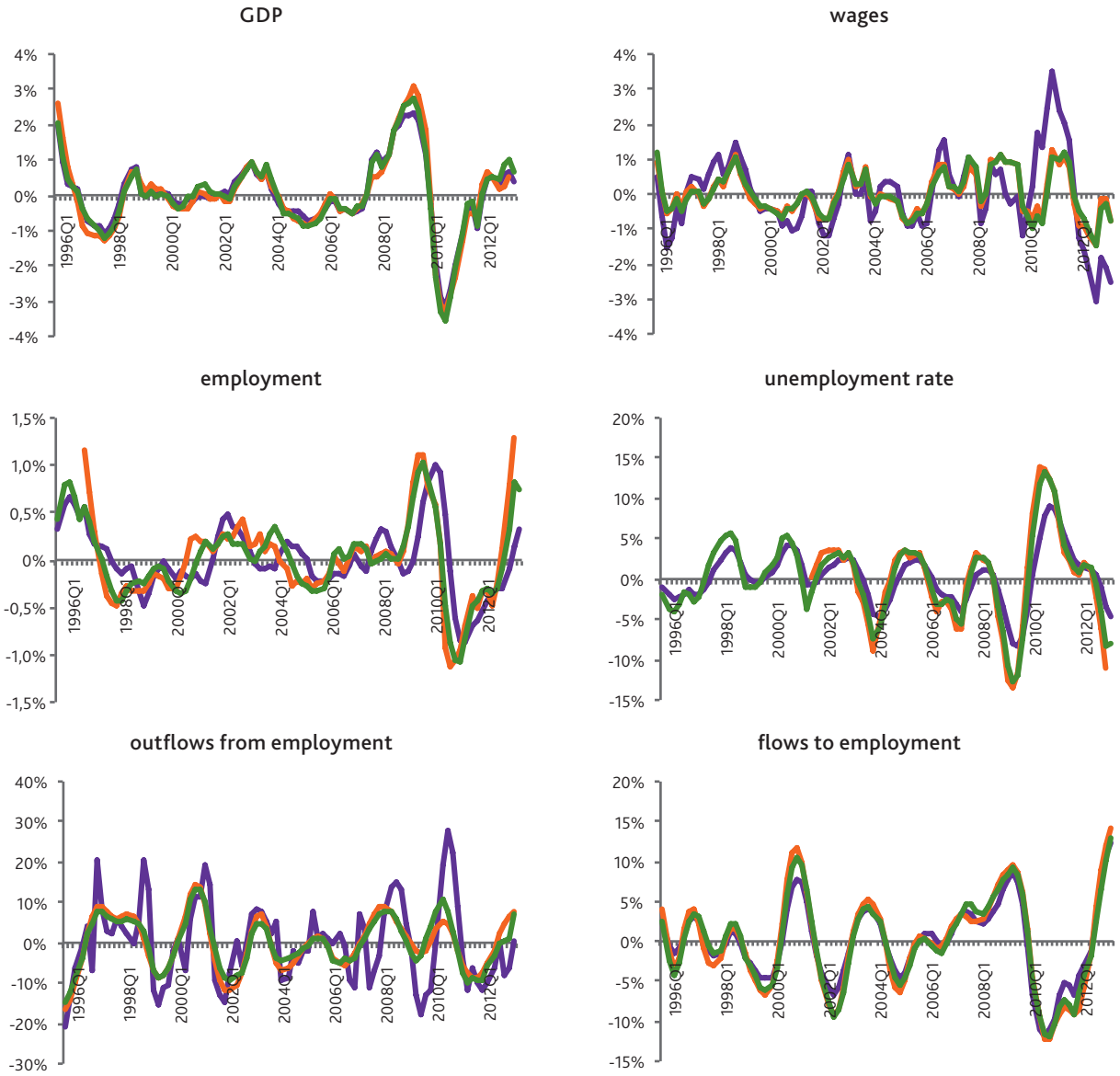
Notes: Purple line - decomposition of the German model, orange line - empirical data for the analysed country, green line - decomposition for the analysed country.

Source: Own calculations based on Eurostat data and the DSGE model.

disturbances and to what extent from the properties of the economy. Figures I.33-I.38 present the actual changes in the analysed variables in the selected countries (their cyclical component), changes predicted by the model for the country, and predictions for this country implied by the model with German economy parameters.

On the basis of this analysis it can be concluded that the German economy exhibited the highest stability among the analysed countries. This is evidenced mainly by predictions of cyclical fluctuations of GDP obtained from simulations using the model with parameters of the German economy. For the U.K. and Sweden, hypothetical fluctuations in GDP were almost identical, but for the rest of countries studied, including Poland, were lower than implied by the models specific to these countries. This means that if these countries had reacted to the shocks affecting them as the German economy would have, they would have experienced smaller amplitude of fluctuations in GDP. Moreover, it turns out that the responses of the labour markets are more diverse. Only in the case of the U.K. the response of employment and the unemployment rate would have been the same as in Germany. In other countries, the labour markets were more vulnerable to shocks. Interestingly, in the case of Sweden and Spain, there was some trade-off between the adjustment of wages and employment in comparison to the German economy. In other countries, employment and unemployment fluctuations would have been stronger while the hypothetical wages would have behaved in the same way as in the German economy.

Figure I.35. **Comparison of the United Kingdom's capacity to absorb macroeconomic shocks against Germany, 1996-2012**



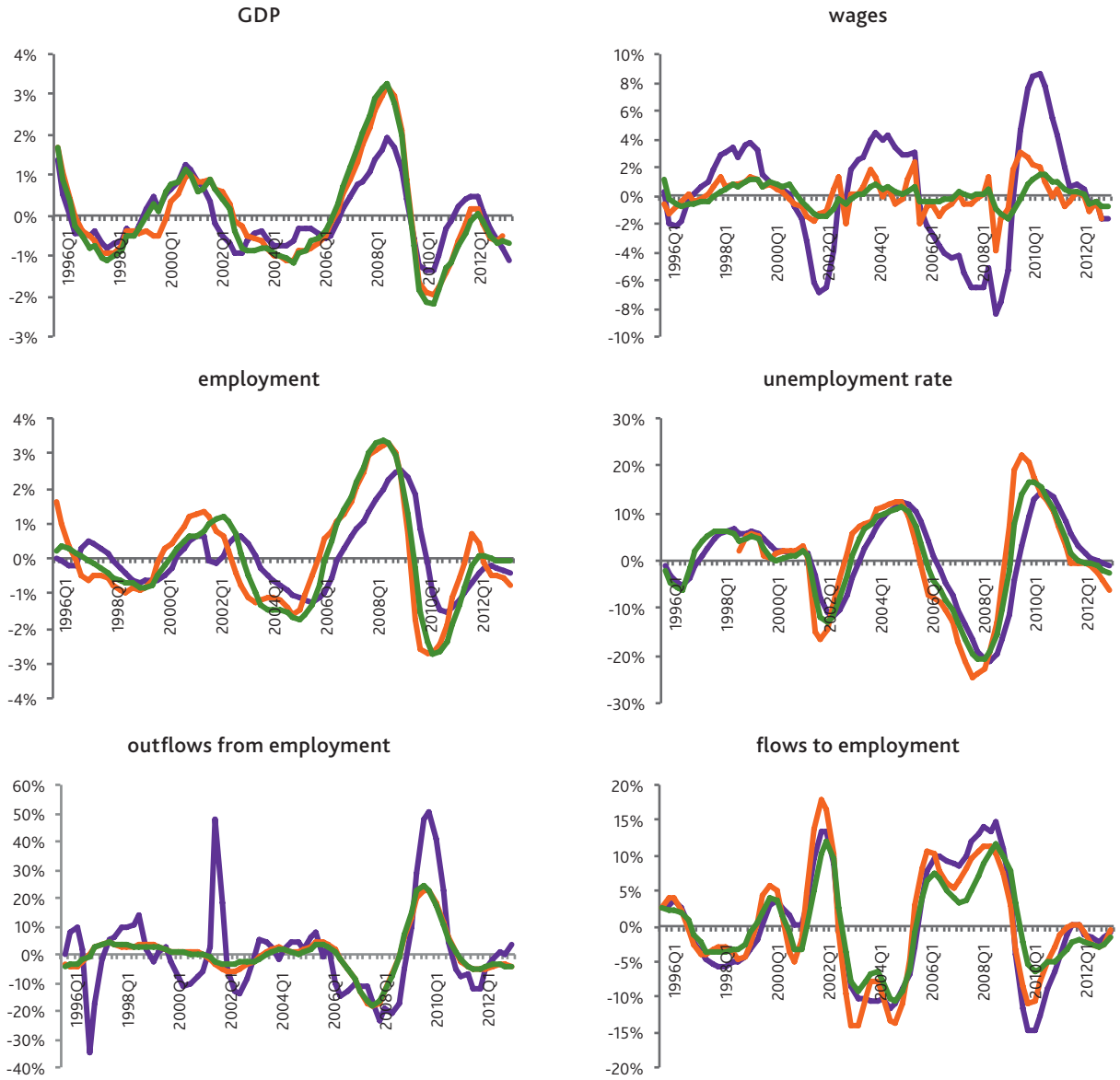
Notes: Purple line - decomposition of the German model, orange line - empirical data for the analysed country, green line - decomposition for the analysed country.

Source: Own calculations based on Eurostat data and the DSGE model.

The simulations show that Poland had a similar ability to absorb macroeconomic shocks as Germany in relation to output and wages. Figure I.33 shows the similarity in predictions of both models – parameterised for both Poland and Germany – in the behaviour of GDP and wages as a result of the shocks that affected Poland. Slightly different conclusions can be drawn from the simulation for labour market indicators. Although both models imply similar fluctuations of unemployment rates and flows to employment (and close to those observed in reality), applying the German model to shocks identified in Poland resulted in a much lower variability of employment rate than that actually observed. The German model implies also different evolution of outflows from employment (layoffs), especially during the Great Recession. This means that if the Polish economy had functioned in the German manner, the Polish economy would have had a lower volatility of the labour market while maintaining the same GDP growth trajectory.

The reaction of the Czech economy to disturbances driving GDP fluctuations was a little different from the German's economy, mainly with regard to responses to foreign demand shocks; it was more sensitive to them. These were the shocks that were behind the boom of 2006-2007, and if the Czech Republic had responded to those as Germany had, its GDP would have been about 1% lower in 2006. However, in the Great Recession the Czech Republic would have behaved similarly to Germany, because the main factor was the (internal) productivity shock, and in this regard the responses of the two

Figure I.36. **Comparison of Spain's capacity to absorb macroeconomic shocks against Germany, 1995-2012**



Notes: Purple line - decomposition of the German model, orange line - empirical data for the analysed country, green line - decomposition for the analysed country.

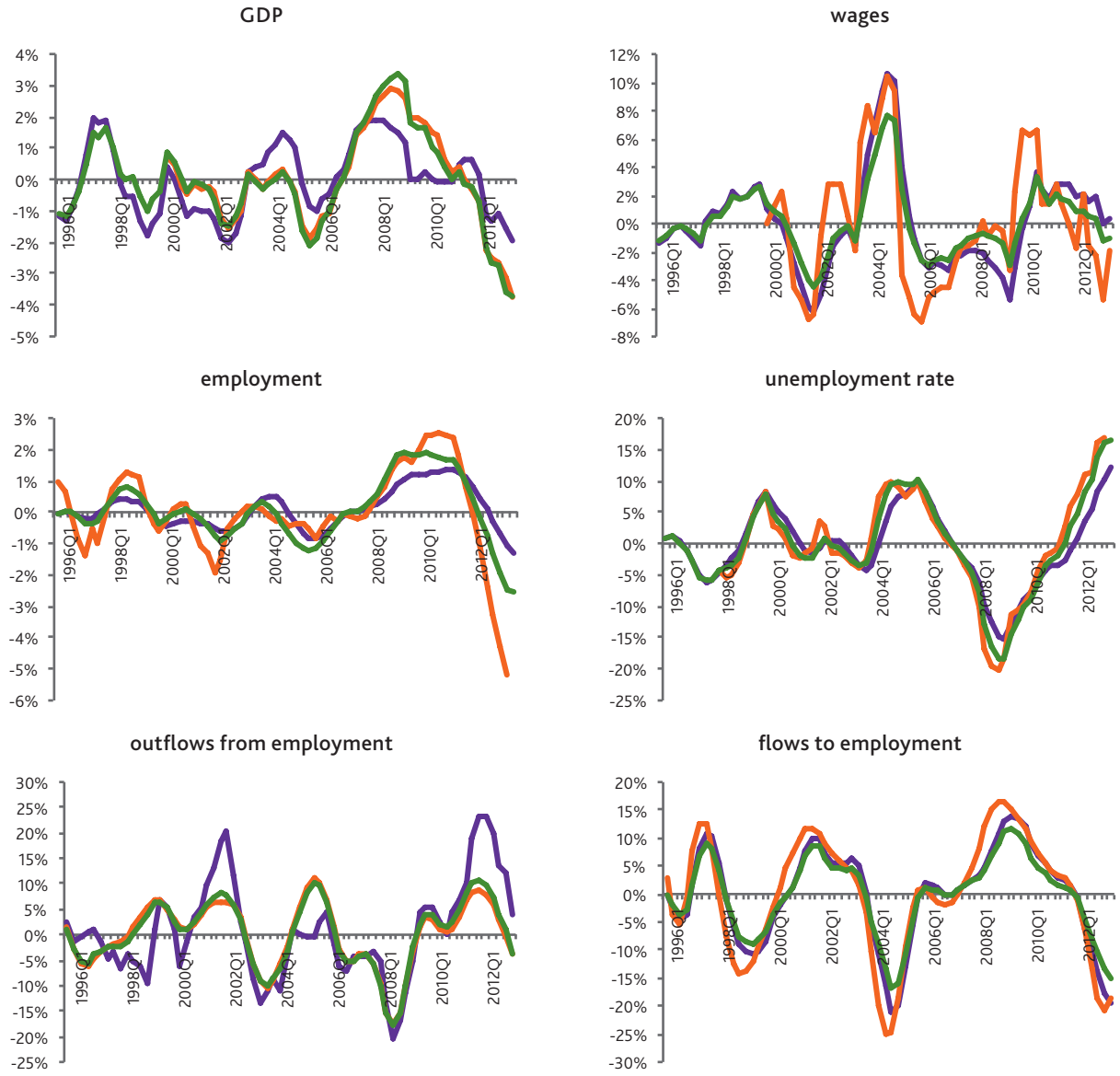
Source: Own calculations based on Eurostat data and the DSGE model.

economies were similar. Relatively small differences exist in the functioning of the labour market; nonetheless, if Germany had been subjected to shocks of the same strength as the Czech Republic, fluctuations in employment and unemployment rates would have been lower.

The United Kingdom showed the greatest number of similarities to Germany among all the analysed economies. The predictions for all variables are almost identical for both models. Significant differences occurred only in the response of wages before and during the Great Recession. It turns out that the German economy would have had stronger adjustments in wages in response to the recent crisis. The differences in behaviour of the labour markets between the U.K. and Germany can also be seen in the case of outflows from employment.

Our simulations show that the Spanish economy fared worse with the absorption of shocks than the German economy. The consequence of the higher sensitivity of the Spanish economy to foreign demand shocks is the clearly stronger deflection of GDP above the long-term trend in the period 2006-2008 than in the reaction of the model parameterised for Germany. However, after 2009, even German absorption mechanisms would not have allowed Spain to avoid a slowdown – the German economy would not have coped much better with such strong internal shocks. In this respect, Spain resembles the Czech Republic, but in the case of adjustments in the labour market it lags behind Germany even more. In the German economic reality, shocks that affected the Spanish economy would have had less effect on changes in unemployment and employment, but would have led to much larger fluctuations

Figure I.37. **Comparison of Greece's capacity to absorb macroeconomic shocks against Germany, 1996-2012**



Notes: Purple line - decomposition of the German model, orange line - empirical data for the analysed country, green line - decomposition for the analysed country.

Source: Own calculations based on Eurostat data and the DSGE model.

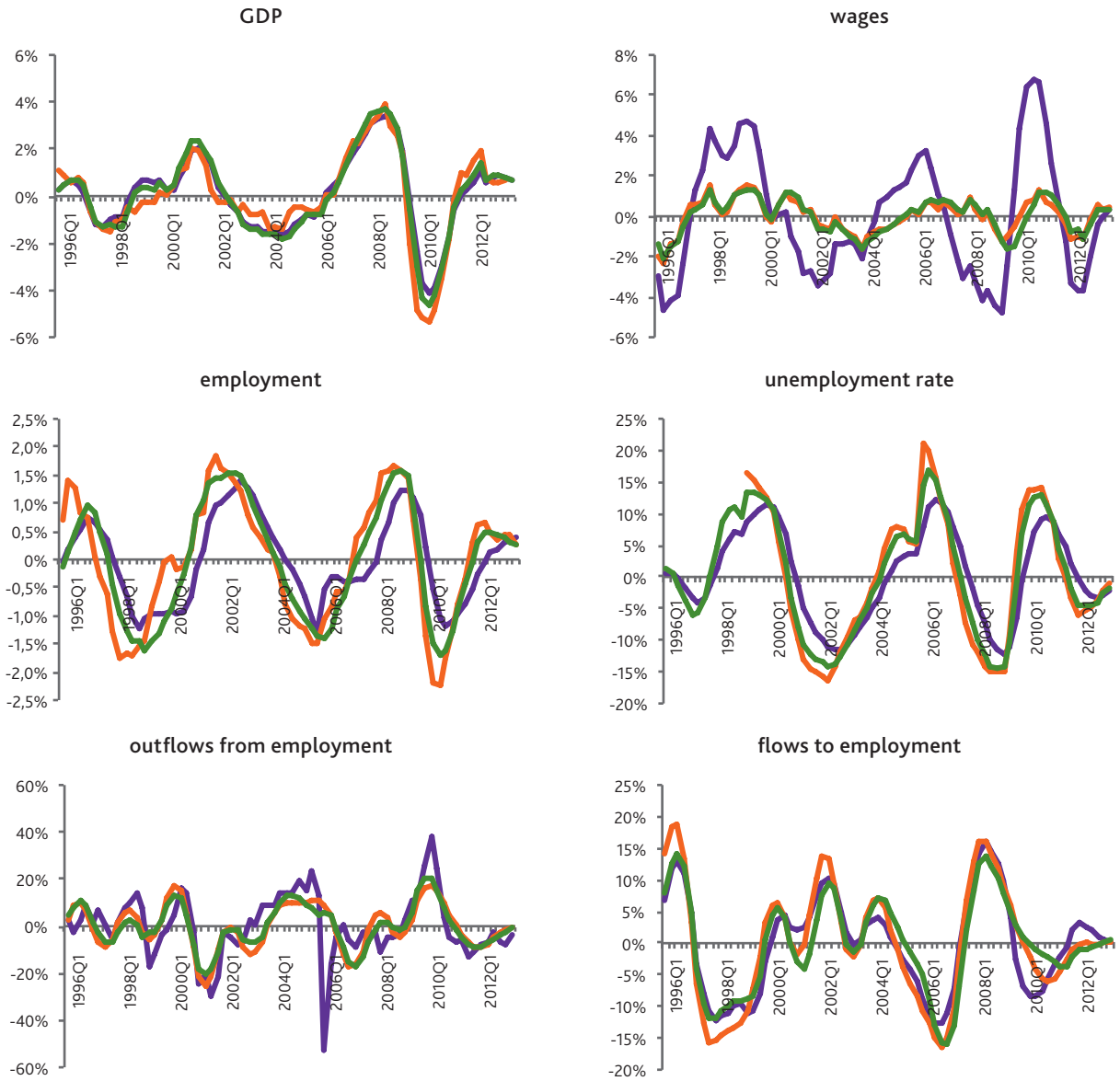
in wages. This means that compared with Germany, Spain had much higher wage rigidities and a greater role of quantitative adjustments in the labour market.

Notes: blue line - decomposition of the German model, red line - empirical data for the analysed country, green line - decomposition of the analysed country. Source: Own calculations based on Eurostat data and the DSGE model.

The Greek economy coped with the absorption of shocks worse than Germany. In Germany, the Greek shocks would have resulted in a decline of GDP by 50% lower than that recorded in Greece. In addition, the labour market in Germany had a greater resistance to external shocks; the expected decline in employment would have been significantly lower, with a similar evolution of wages. A similar path of wages in both models indicates a noticeable wage adjustment in Greece. The simulation results for Greece may seem quite surprising; however, they indicate that the strong turbulence affecting the country was due to the nature and severity of the shocks, which would have also produced noticeable consequences in the German economy.

Sweden coped with the external shocks very much like Germany when it comes to the evolution of the output. Absorption of shocks by the labour market somewhat resembled the situation in Spain. As in the case of the Spanish shocks, the German economy would have reacted to the Swedish shocks with a much stronger adjustment of wages and weaker adjustment of employment and unemployment.

Figure I.38. **Comparison of Sweden's the to absorb macroeconomic shocks against Germany, 1996-2012**



Notes: Purple line - decomposition of the German model, orange line - empirical data for the analysed country, green line - decomposition for the analysed country.

Source: Own calculations based on Eurostat data and the DSGE model.

SUMMARY

The first part of this edition of the report is devoted to the causes, course and macroeconomic effects of the Great Recession caused by the *subprime* financial crisis in the United States in 2008. In the first chapter we present the course of the Great Recession with a focus on the macroeconomic aspects. The first wave was associated with the burst of the bubble in the housing market, the crisis of the financial markets, and the impact that these events had on the real economy. The second wave was a consequence of the deep deterioration in public finances of the EU countries, and the declining growth in private consumption. We show that the spread of the Great Recession across the whole world was in part a consequence of the transnational financial markets and banking systems. Another channel of propagation for the crisis was the globalisation of production processes. The Great Recession caused a dramatic but short-lived collapse of international trade on a scale not recorded in last 50 years.

In 2009, all EU countries experienced a downturn. Poland is not an exception because, although it retained a positive growth rate, it fell far below its long-term trend and the economy was in a state of negative output gap. The first wave of the crisis was felt less in the Southern European countries (Greece, Spain, Portugal), with the strongest declines in GDP taking place in the Baltic countries. After a period of temporary growth at the turn of 2011/2012, the European Union re-entered a recession. A characteristic feature of the second wave of recession was the reversed hierarchy of economies most affected by the downturn. This time, the strongest declines in output occurred in the GIIPS countries, while both the United States and the Baltic economies maintained a stable rate of growth.

We argue that the differences in the course of the Great Recession in different countries are largely the result of the different strengths of the mechanisms of contagion. Economies which were most affected by the bursting of the speculative bubble in the housing market, i.e. the United States, Ireland, Spain and the Baltic states, were more affected by the initial collapse, especially when it came to the consequences for the labour market. On the other hand, in the countries of continental Europe, particularly in Germany, Austria and Finland, the recession resulted to a greater degree from a decrease in foreign demand. In all countries the major factor in the economic downturn in 2009 was the decline in investment. The depth of the slowdown stemmed from differences in consumption which in some countries fell while in others it continued to grow, and the heterogeneous impact of net exports. Consumer spending of the government acted counter-cyclically, although it did not play any greater role in reducing the scale of contraction. In the second wave of the crisis, declining consumption was a major factor behind the shrinking of GDP.

In the second chapter we focus on the labour markets. The adjustments on the labour markets of developed countries were not clearly associated with differences in the GDP growth rate and factors behind GDP slowdown – especially when compared with previous crises, the Great Recession was characterised by unconventional transformations on labour markets. The typical path where an economic slump is followed by a simultaneous decline in employment and an increase in productivity was experienced in the United States, but only in a few European countries – Hungary, Spain, Denmark, Finland, the Netherlands and the United Kingdom. In other countries a decline in employment was followed by a decline in productivity (the Baltic States) or labour hoarding, when companies try to maintain employment at the cost of labour productivity, and perhaps a reduction in hours worked. The hours worked did decline in a number of economies, but it was not clearly associated with the policies meant to encourage a reduction in hours worked. The crisis was most critical for the construction industry and in many countries for financial intermediation as well, which shows the sectoral nature of the sources and transmission of the crisis. However, its effects were also largely influenced by wage adjustments. The Baltic countries, where wages distinctly fell, were able to begin reversal of the sharp increase in unemployment as early as 2010. Although GIIPS countries were most affected by the economic slowdown, they showed relatively weak wage adjustment, with exception of Ireland where wages declined. It is not surprising, therefore, that in 2010-2012, compared to the rest of Europe, the main cause of rising unemployment in Greece, Italy, Portugal and Spain was the increasing number of layoffs, which had been dominant in other EU countries back in 2008-2009. In other countries that after 2010 failed to reduce unemployment, including Poland, the dominant reason for this situation were the decreasing job opportunities for the unemployed. A positive aspect of the changes in the labour markets over the past few years have undoubtedly been structural processes observed in the form of increasing labour supply, particularly in the medium-developed and developing countries. In Poland, this made it possible to increase employment despite the increase in unemployment, and in 2012 across the OECD, the number of employees returned to the 2008 level, despite a significant rise in unemployment.

In the third chapter we use the DSGE macroeconomic model to identify the shocks behind the economic downturn and changes in the labour markets in different countries, and to assess the relative importance of the differences in the shocks and absorption mechanisms for the heterogeneity of the evolution of some European economies, including Poland. The model showed that the most important causes of GDP contraction in the EU were negative productivity shocks (e.g. in Spain, Ireland and Estonia) and foreign demand shocks

(e.g. in Denmark, France, the United Kingdom and Sweden). For most countries, the impact of foreign demand shock – both positive during the boom of 2000s and negative in the crisis – was definitely more significant than during previous business cycles. Poland, too, was affected by a deep foreign demand shock, but positive internal impulses eased the foreign demand shock and so the adjustment of GDP was moderate. However, after 2011, economic growth dipped below the trend due to internal factors. Volatility of employment in European countries was influenced mainly by demand-side factors – in addition to the aforementioned shocks, a crucial role was also played by the job destruction shock, affecting the minimum marginal productivity level at which the hiring of employees ceases to be viable for companies. Our simulations also indicate that EU countries are more sensitive to external shocks than the German economy. Therefore, if the countries affected by the crisis, especially via the international trade channel, had showed the resistance of the German economy, they would have experienced lower fluctuations in GDP and especially lower fluctuations in unemployment and employment. However, since the crisis was mainly due to internal productivity shocks, such as those that were experienced by Greece, even the German economy would have been badly affected by them. Importantly, the case of Spain was different – as its wage adjustments were much lower than in Germany, it experienced much larger fluctuations in employment.

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Employment in Poland 2012 Part II

The Great Recession and inequalities

Iga Magda, Monika Potoczna, Maciej Lis

INTRODUCTION

The purpose of the this part is to deepen the analyses presented in Part 1 of the Report, by showing diversified effects that the crisis exerted upon specific socio-demographic groups on the labour market. Identifying individuals that are most sensitive to negative outcomes of the business cycle fluctuations, such as for e.g. long-term unemployment, is of core significance in the context of planning adequate labour market policy support.

In the first chapter we are going to analyse different impacts that the crisis had upon women and men at various ages, by investigating how the economic fluctuations affected their employment, unemployment and labour force participation. We also pose a question whether the scale and distribution of impacts of the Great Recession upon various socio-demographic groups were different, or similar to those of the past crises. For this purpose, we have conducted a detailed analysis of the employment/unemployment changes among young and older people during the Great Recession, as compared to cyclical changes occurring in these groups in the past, and versus prime-age workers.

In the next chapter we are investigating whether, and to what extent, different impacts of the crisis on specific socio-demographic groups could be explained by the sectoral nature of the Great Recession, as defined in Part One. Apart from analyzing correlations between sectoral structure of employment according to age group and gender, we also consider specific occupations and skills.

The last chapter contains an analysis of the selected topics which are relevant in view of persistency of the effects of the crisis. First of all, we study how business cycle fluctuations affected income inequalities, especially among the employed. We have also described the situation of young people, who are neither employed, nor in education or training. Moreover, we have also described the changes occurring in the case of the long-term unemployed, and assessed their chances to return to employment. The chapter ends with the Summary.

1 THE GREAT RECESSION AT THE MARGINS OF THE LABOUR MARKET

1.1 DIFFERENT IMPACTS OF ECONOMIC CRISES UPON DIFFERENT KINDS OF WORKERS

The impacts of crises tend to distribute themselves unevenly among various socio-demographic groups. For example young employees are more susceptible to business cycle fluctuations, due to the shorter duration of their employment. Similarly, higher flexibility of labour supply can be observed in the case of women, whose specific human capitals, due to interruptions in their careers, tend to be lower than those of men, which can make them more prone to unemployment risk during the recession. On the other hand, older workers are often more expensive for their employers, due to the growing gap between their productivity and seniority-related wage increases, which may make their employers willing to dismiss them in the first place (Gielen & van Ours 2006). However, during the crisis the reasons for dismissals in the case of young vs. older workers are different. While in the case of young people, employment are highly sensitive to business cycle fluctuations, in the case of older workers it depends rather on structural factors, making them less exposed to unemployment risk due to the disruption of their employer's business activity.

However, the crisis itself does not imply that each worker will face higher unemployment risk. Companies hiring people with high specific human capital i.e. that are considered irreplaceable, or with high seniority, may sometimes prefer to retain such workforce, despite the temporary economic slowdown (i.e. "labour hoarding", cf. Part 1).

The historical data concerning the past crises allow us to formulate a number of empirical findings (the so-called stylized facts) concerning the groups that are most sensitive to crises (OECD 2009). During an economic downturn, the risk of unemployment affects mostly:

- Individuals working in any industries that rely on external funding, which tends to be reduced during the recession,
- Individuals working in any sectors where high specific human capital is not needed, and where recruitment costs are low,
- Construction and industrial workers, due to the lower demand for durable goods and real properties during the crisis,
- Individuals employed in any industries dominated by trade unions and collective wage negotiations, due to the fixed nature of their wages,
- Immigrants, due to the pro-cyclical nature of migrations and more acute discrimination during the crisis,
- Young and older workers,
- Poorly educated individuals,
- Those employed based on fixed-term contracts, due to weaker legal protection.

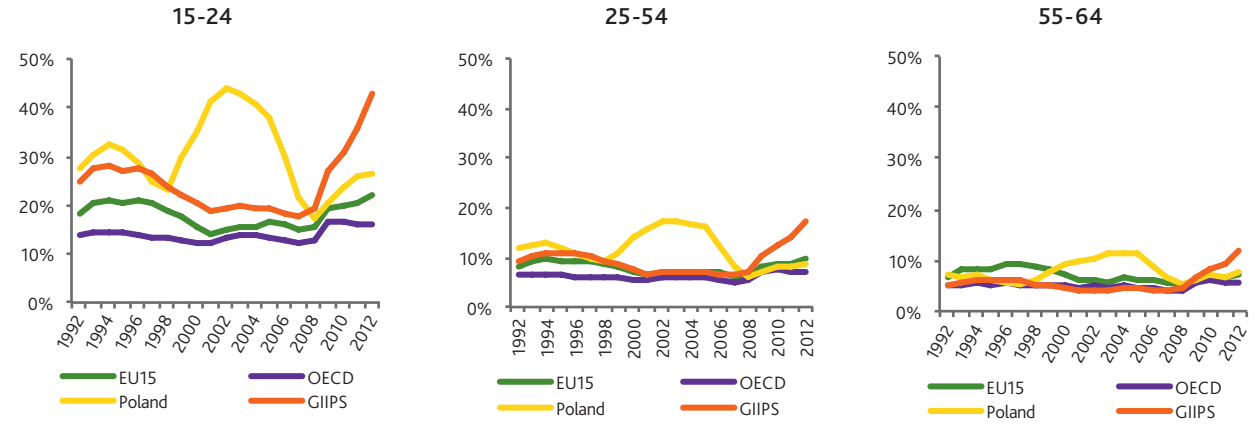
Based on the historical data, no significant gender-related differences in terms of the impacts of crises were reported (OECD 2009). Men tend to engage more frequently in occupations that are susceptible to labour fluctuations, but, on the other hand, the costs of replacement are lower in the case of men, as compared to women (in the same industry). Moreover, in terms of their susceptibility to business cycle fluctuations the self-employed do not differ much from the average.

Nevertheless, the outcomes of the Great Recession differ from those of the past crises in terms of their distribution within the population. First of all, the unemployment rates among men increased more than in the case of women (The European Commission, 2011). This does not imply, however, that the Great Recession was gentle on women. The impacts of economic crises upon women on the labour market are mostly manifested by the decreases in their labour market participation, rather than by the growth of the unemployment rate (Choudhry, Marelli & Signorelli 2010), and in some countries by the growth of the hidden unemployment rate (Richardson 2009). In line with the stylized facts, the increases in the absolute unemployment rate in the case of young people were higher than in the case of prime-age workers. However, in the case of older people, the changes that occurred during the Great Recession were different than those reported during the past crises – as older workers were those whom the Great Recession affected the least. Interestingly, the level of employment in the case of those aged 54-65 and 65 and more increased between q2 of 2008 and q2 of 2010 (The European Commission, 2010). All these changes will be discussed in more detail further in this part.

1.2 IMPACT OF THE CRISIS UPON DIFFERENT AGE GROUPS

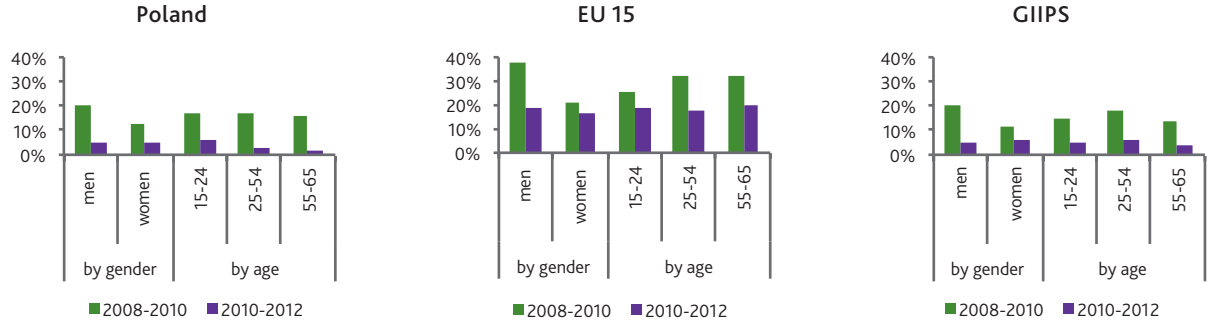
Both in Poland, and in EU 15, OECD, GIIPS countries and the US, the unemployment rates in all age groups started to grow in 2008 (cf. Figure II.1). Their most dynamic increase was reported in 2008-2001, and in the next two years, the growth substantially slowed down. During the second wave of the crisis, the dynamics of changes of the unemployment rate in Poland and the EU 15 slowed down by more than a half in all the analysed age and gender groups (cf. Figure II.2). An exception were GIIPS countries, where the unemployment rates in 2008-2012 grew consistently.

Figure II.1. **Unemployment rates in 1992-2012 according to age groups**



Source: Own calculations based on OECD data.

Figure II.2. **Cumulative rate of change in the case of unemployment rates in 2008-2012 in the selected countries**



Source: Own calculations based on OECD data.

In both analysed periods, just like in previous years, the unemployment rate was markedly higher among young people,[1] while in the case of older ones it was either lower or comparable to the level reported in the case of prime-age workers. In 2010 in Poland, the unemployment rates in the case of the young, prime-age and older people amounted to: 24%, 8% and 7%, respectively, and approximated the figures reported in the EU 15 (i.e. 20%, 9%, 7%, respectively).

Nevertheless, the relative unemployment rate increase was not the highest in the case of young people. During the first wave of the crisis in Poland the age did not substantially differentiate the unemployment rate changes. However, in the following period (2011-2012) the unemployment rate in the case of young people in Poland used to grow more rapidly than in the remaining age groups. In GIIPS countries, during the first wave of the crisis, unemployment rates in the case of young people used to grow less rapidly than in other age groups. Meanwhile, during the second wave, the patterns of the unemployment rate changes did not show any age-related differences (cf. Figure II.2).

At the same time, young people were the group in which employment rate decreases during the crisis were the largest. In 2008-2012 the employment rate in this group fell down substantially: (from 34% to 21%) GIIPS, (from 33% to 28%) NMS9, and (from 51% to 46%) the US. The least acute employment rate decreases occurred among older people, while in Poland and the EU their employment even used to grow during the crisis. During the second wave of the crisis, the employment rates among those aged 55-64 also increased in OECD and NMS9 (by 2 percentage points in 2010-2012). An insignificant dropdown was reported in GIIPS countries (by 3 percentage points in total in 2008-2012) (cf. Figure II.3).

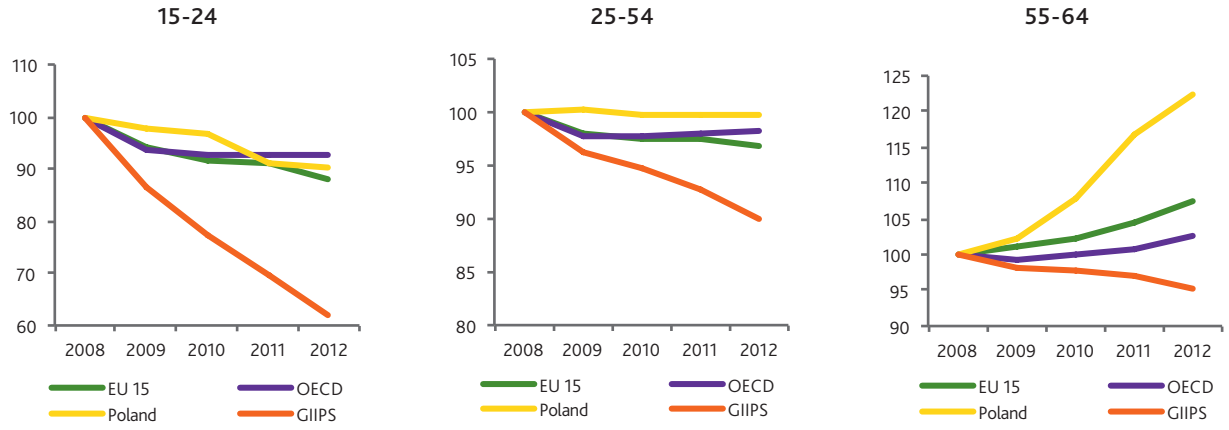
In Poland, the employment rate of young people amounted to 27% in 2008 (i.e. the lowest number among all the analysed countries) and dropped down to 25% in 2012. In 2008-2010 Poland also reported stable employment rates among prime-age workers. In the case of older people, the employment rates increased significantly from 32% in 2008 to 39% in 2012.[2]

However, in the majority of the EU countries, the increase in the number of older workforce was accompanied by the

1 For the purpose of Part 2, such terms as young, prime-age and senior workers shall respectively denote individuals aged: 15-24, 25-54, 55-64, in accordance with the methodology presented in the report entitled: *Employment in Europe* (The European Comission, 2010). Unless stated otherwise, all data presented in this subchapter has been derived from OECD database.

2 The employment rate of 32% reported in 2008 was the lowest among the analysed group of countries. The highest figure (62%) was reported in the US, and the respective rates in the case of the EU 15 and NMS9 countries amounted to 47% and 46%, respectively.

Figure II.3. **Employment rate changes in 2008-2012 in specific age groups (2008=100)**



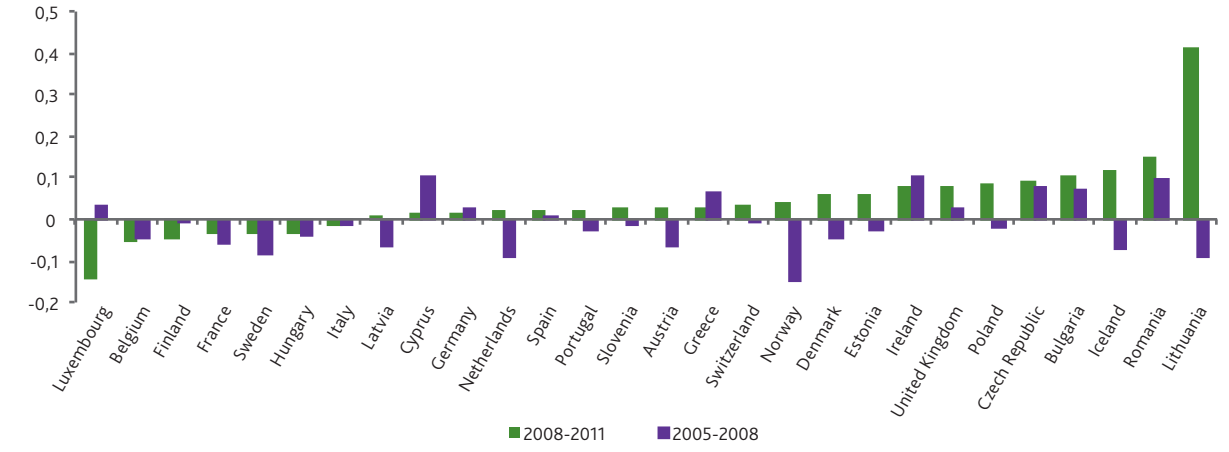
Source: Own calculations based on OECD data.

growing unemployment risk. As a consequence, the employment rate growth in this group did not result from staying at the same workplace, but from taking up new employment. Hence, the situation changed from that reported in 2005-2008 when the growing employment rate among people aged 55-64 was accompanied by the increasing workplace stability. The crisis did not suppress the employment rate growth in the case of older workforce, but made them more likely than before to search for new jobs, rather than extend their careers at their current workplaces (cf. Figure II.4).

Significant employment rate declines in the case of young people, accompanied by relatively low increases in the unemployment rates signalise the decrease of the participation rates. In fact, during the crisis the labour market outflows of young people intensified, and their entries into the labour market became less frequent (The European Commission, 2010). During the Great Recession, in the EU 15 and OECD the inactivity rates in the case of young people grew (labour force participation rate increased from 49% in 2008 to 47% in 2012, in both cases). On the other hand, in Poland, the labour participation rate stayed above the level reported in 2008. Nevertheless, the participation rates of young people are substantially lower in Poland as compared to the EU 15 and OECD – in 2008 in Poland the participation rate of people aged 15-24 was 33%, which was by 12 percentage points lower than the EU 15 figure.

It should be noticed that the changes in the labour market status of older people in Poland due to the recent crisis were completely different than those caused by the earlier crises (i.e. the so-called Russian crisis, and the subsequent economic slowdown). In 1997 – 2005 the labour market participation rate of older individuals decreased insignificantly, whereas during the Great Recession it increased by 9 percentage points from

Figure II.4. **Changing unemployment hazard ratios among people aged 55+ and 25-54 in 2004-2008 and 2008-2011**[3]



Source: Own calculations based on LFS, Eurostat data.

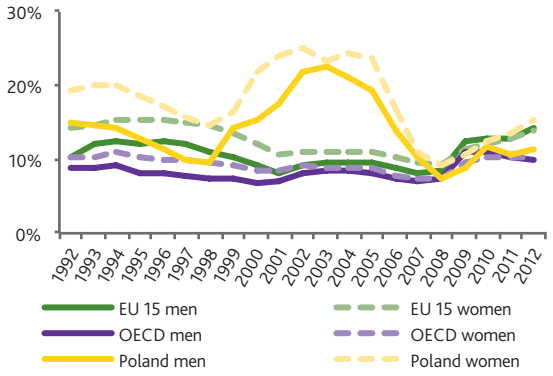
3 The evaluation of the shock impacts on workplace stability has been based upon a historical model taking into account individual ratios of specific workplaces (i.e. proportional hazard, or Cox model (Cox 1972)).

Box II.1. Individuals aged 25-29 on the labour markets in Poland, the EU and OECD

In the public debate devoted to labour market participation of young people the issue of raising the upper age margin of the policy beneficiaries to 30 years is now being discussed. Hence, a question arises whether the actual situation of people aged 25-29 on the labour market is really comparable to that of those aged 15-24.

The unemployment rates among individuals aged 25-29 are almost by a half lower than of those aged 15-24, both in Poland and in the EU 15 and OECD countries (cf. Figure II.1). During the Great Recession, the relevant unemployment rates in this group in the EU 15, OECD countries and Poland were not substantially diversified, and at the same time, stayed at a comparable level as in the case of the remaining prime-age workers.

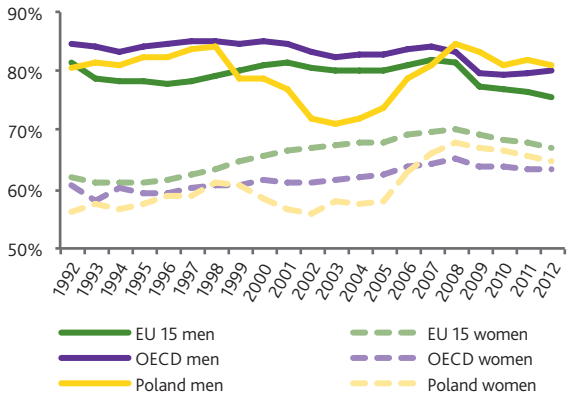
Figure II.5. **Unemployment rates among people aged 25-29 by gender**



The employment rate of individuals aged 25-29 is significantly higher than of people aged 15-24. In Poland in 2012, 73% of people aged 25-29 were employed, while such rate among those aged 15-24 was only 25% (in the EU 15 such rates respectively amounted to 71% and 37%, and to 72% and 40% in the OECD). During the Great Recession the employment rates reported in the analysed countries decreased both among women and men, thus reflecting the general tendency observable among the individuals aged 29-54.

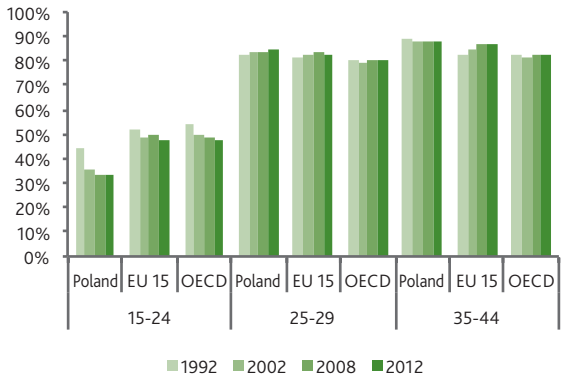
The labour participation rate of people aged 25-29 is also significantly different than of those aged 15-24, and quite comparable to the figure reported for prime-age people (Figure II.7). This regularity did not change during the Great Recession, both in the case of Poland and the EU 15 and OECD countries.

Figure II.6. **Employment rate of people aged 25-29, by gender**



Source: Own calculations based on OECD.

Figure II.7. **Labour market participation rate of people aged 25-29, by gender**



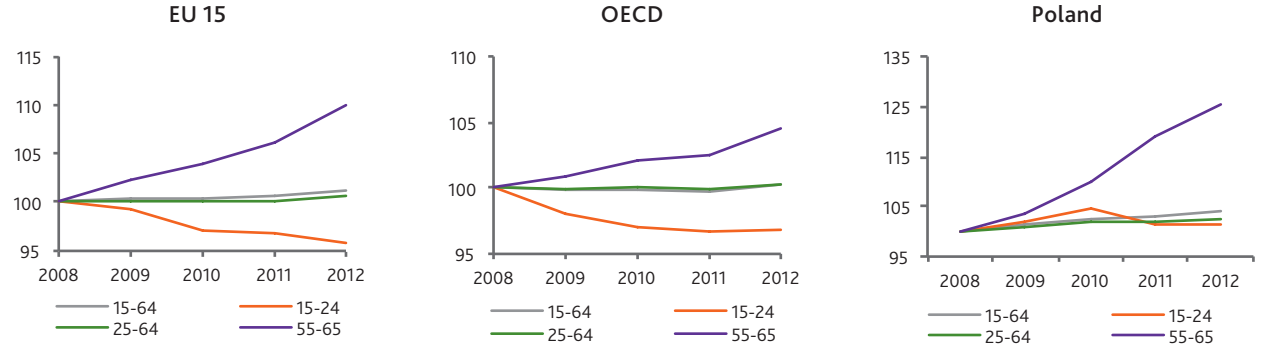
Source: Own calculations based on OECD.

Source: Own eleboration.

the initial 33% reported in 2008. The growing labour market participation of older people was also reported in the EU 15 and OECD, but such increases were less substantial than in Poland (cf. Figure II.8).

The diversification of the changes of labour market statuses of specific age groups upon international scale has been illustrated below (Table II.1.). The changes of the unemployment rate of older people were most diversified (during the first wave of the crisis the standard deviation of the unemployment rate in this group was by 30% higher than among young people, and by nearly 20% higher than in the case of prime-age individuals). During the second wave of the crisis, the correlations between age groups were similar, but the scale of diversification was lower by a half. The extents of changes in the unemployment rates among men and women also differed substantially among the EU countries

Figure II.8. **Changes in the labour market participation rate in 2008-2012 in specific age groups (2008=100)**



Source: Own calculations based on OECD.

Table II.1. **Descriptive statistics of the relative changes of unemployment, participation and employment rates in the selected European countries in 2008-2012**

Gender	total	total	total	men	women	total	total	total	men	women
Age group	15-24	25-54	55-64	15-64	15-64	15-24	25-54	55-64	15-64	15-64
Years	relative change 2008-2010					relative change 2010-2012				
unemployment rate										
minimum	-20%	-6%	-16%	-11%	-15%	-38%	-37%	-57%	-44%	-35%
median	36%	49%	44%	53%	33%	8%	-2%	2%	-3%	4%
mean	54%	69%	62%	78%	45%	11%	8%	14%	9%	8%
maximum	173%	224%	294%	251%	174%	69%	97%	117%	115%	73%
standard deviation	50 p.p.	58 p.p.	71 p.p.	63 p.p.	46 p.p.	26 p.p.	31 p.p.	37 p.p.	35 p.p.	24 p.p.
country which reported the minimum value	Luxemburg	Luxemburg	Luxemburg	Luxemburg	Luxemburg	Estonia	Estonia	Estonia	Estonia	Estonia
country which reported the maximum value	Estonia	Lithuania	Estonia	Lithuania	Estonia	Portugal	Greece	Greece	Greece	Greece
employment rate										
minimum	-33%	-11%	-19%	-18%	-9%	-36%	-13%	-14%	-14%	-13%
median	-11%	-3%	0%	-4%	-2%	-1%	0%	4%	0%	1%
mean	-13%	-3%	1%	-6%	-2%	-4%	0%	4%	0%	1%
maximum	0%	3%	16%	2%	5%	30%	7%	13%	14%	13%
standard deviation	9 p.p.	4 p.p.	7 p.p.	5 p.p.	3 p.p.	13 p.p.	4 p.p.	7 p.p.	5 p.p.	5 p.p.
country which reported the minimum value	Ireland	Latvia	Latvia	Latvia	Latvia	Greece	Greece	Greece	Greece	Greece
country which reported the maximum value	Switzerland	Luxemburg	Luxemburg	Luxemburg	Malta	Estonia	Lithuania	Poland	Estonia	Malta
participation rate										
minimum	-18%	-2%	-10%	-4%	-2%	-14%	-2%	-7%	-2%	-2%
median	-3%	0%	3%	-1%	1%	-1%	1%	4%	1%	1%
mean	-4%	0%	4%	-1%	1%	-1%	0%	4%	0%	2%
maximum	5%	3%	16%	2%	5%	10%	5%	14%	3%	13%
standard deviation	5 p.p.	1 p.p.	5 p.p.	2 p.p.	2 p.p.	5 p.p.	1 p.p.	5 p.p.	1 p.p.	3 p.p.
country which reported the minimum value	Ireland	Bulgaria	Latvia	Ireland	Norway	Slovenia	Belgium	Greece	Slovenia	Croatia
country which reported the maximum value	Poland	Lithuania	Luxemburg	Luxemburg	Malta	Estonia	Malta	Poland	Hungary	Malta

Note: The following 29 countries have been selected: Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

Source: Own calculations based on OECD.

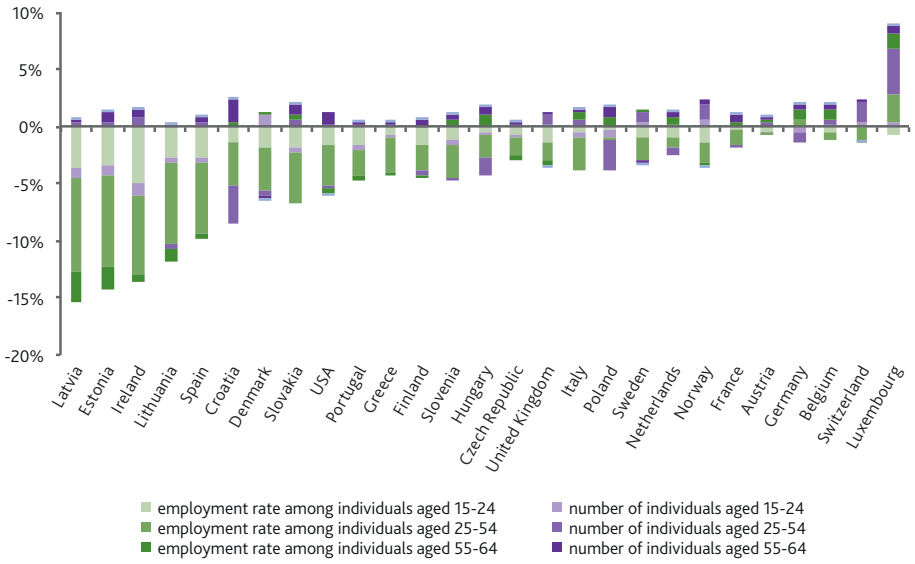
Box II.2. Decomposition of the change in the workforce headcount

Changes of the workforce headcount in a given population between a given moment of time (*t1*) and the base moment (*t0*) can be decomposed into constituents related to the subpopulations' size changes (*A*), employment rate changes in specific subpopulations (*B*) and residuals component (*R*). The decomposition can be transcribed as follows:

$$\Delta Z = Z_{t1} - Z_{t0} = \sum_i \alpha_{t1,i} P_{t1,i} - \sum_i \alpha_{t0,i} P_{t0,i} = \underbrace{\sum_i \alpha_{t0,i}(P_{t1,i} - P_{t0,i})}_{A} + \underbrace{\sum_i P_{t0,i}(\alpha_{t1,i} - \alpha_{t0,i})}_{B} + \underbrace{\sum_i (P_{t1,i} - P_{t0,i})(\alpha_{t1,i} - \alpha_{t0,i})}_{R}$$

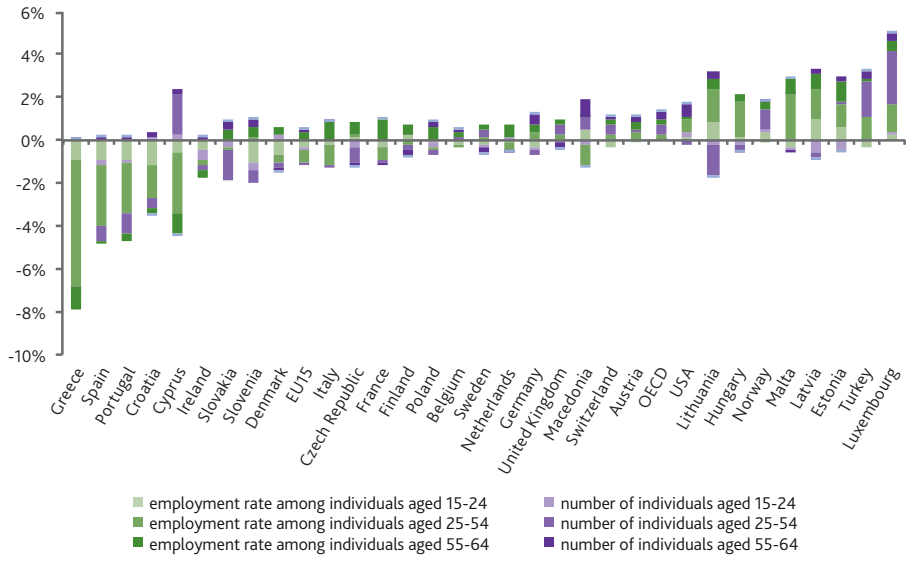
where:
Z_{tj} – workforce headcount during period *j*,
$\alpha_{tj,i}$ – employment rate during *j* period in population *i*,
$P_{tj,i}$ – *i* population's headcount during *j* period.

Figure II.9. **Decomposition of the workforce headcount changes in 2008-2010**



Source: Own calculations based on OECD data.

Figure II.10. **Decomposition of the changes of the number of the employed in 2010-2012**



Source: Own calculations based on OECD data.

Source: Own eleboration.

– i.e. the diversification was higher among men both during the first and the second wave of the crisis. The average relative changes of the employment rates were lower than in the case of the unemployment rates, which confirmed the relevance of the labour market outflows. In the analysed countries, the most heterogeneous of all changes were those of the employment rates of young people. In the further paragraphs we are going to focus on one of the possible causes of diversification of the impacts of the crisis across specific age groups in different countries, namely, on the sectoral nature of economic changes.

The hitherto analysis has focused on the relative responses of specific demographic groups to the Great Recession. The following summary describes how the changes of the overall employment and unemployment rates are distributed among specific groups. For this purpose, the changing number of workers has been decomposed into constituents resulting from the changes of the subpopulation headcount and the employment rate (for more detailed description of the decomposition process please see Box II.2). The analysis has confirmed that in most countries the employment rates during the first wave of the crisis dropped down mainly due to the decreases among prime-age individuals, and young people. In the case of older people, the general tendency to lengthen one's participation period prevailed, which lead to an increase in the employment rate (cf. Figure II.9). The changing headcounts in the analysed age groups were less relevant in the context of the changing workforce headcounts, than the changes in the employment rates in such groups, except for Poland, Germany, Luxembourg and Switzerland. In Poland and Germany, the shrinking populations of young and prime-age individuals substantially contributed to the overall decrease in the employment rates.

During the second wave of the crisis, the participation of older individuals continued to positively affect the employment rates, and the role of this group also increased (Figure II.10). The improved labour market status of prime-age workers was a major determinant of the transition from the initial decrease to the increase in the employment rate in-between the waves of the crisis. However, the employment rate of young people still continued to decrease which negatively impacted the employment rate overall.

In Poland, during both analysed periods, the labour market avoided substantial employment dropdowns mainly thanks to the people aged 55-64. Both demographic changes, and the growing participation of older people used to positively affect the overall employment rate. However, in this respect, Poland was not an exception to the rule, as similar phenomena also occurred in France, Italy, Slovakia, the Netherlands, Hungary, Croatia, Slovenia and Austria.

Box II.3. Impacts of the Great Recession upon women and men in various age groups, as compared to the past crises

The negative impacts of the Great Recession upon the labour market in Poland were much less acute than those of the past crises. During the Russian crisis, the unemployment rates in Poland were much higher than during the Great Recession, across all age groups and genders. A similar situation was reported in the Czech Republic and Slovakia where in the years 2000-2005 the unemployment rates were the highest of all over the past 20 years. Nevertheless, during the recent recession, the unemployment rate in the Czech Republic closely approximated the one reported during the Russian crisis – i.e. the difference being 1.5 percentage point only. Neither Slovakia, nor Poland approximated the unemployment rates reported during the previous slowdown, in none of the age groups. In particular, the unemployment rate young people in Poland amounted to 44% in 2002 and only to 26% during the recent crisis (2011). In the case of Denmark, Ireland and the UK, the last time when the unemployment rates had approximated the current level was in 1992-1994 i.e. after the banking crisis in Sweden and Finland. In Germany, the highest unemployment rates over the past 20 years were reported in 2005 – at that period the unemployment rate was 11%, i.e. by 4 percentage points higher than the current figure.

In Spain, prime-age women experienced higher unemployment in 1994 (29%) which differed from the recent rates by 9 percentage points In the UK, the recent crisis mostly affected young people, whereas in the remaining age groups the highest unemployment rates were reported in 1993. Meanwhile, the women in Ireland were less struck by the recent crisis than by the situation in the mid-1990s, especially those in their prime age or older. In Denmark, the crisis mostly affected young men, whereas in the remaining groups the highest unemployment rates were reported in 1992-1993. Meanwhile, in the Czech Republic the most affected group were older people. In Hungary, higher unemployment rates were reported in 1993 for older women and prime-age men (10% in 1993 as compared to 12% in 2010).

Thus, the differences between the highest unemployment rates recorded over the past 20 years and those reported during the recent crisis did not exceed 5 percentage points in all analysed groups, apart from Poland, where such difference was 11 percentage points. Compared to the Russian crisis and the economic slowdown in the years 2001-2002, the recent labour market disturbances in Poland are of a smaller scale. The current crisis is definitely more acute than other economic downturns reported over the past 20 years, only when seen from the perspectives of the US, GIIPS countries and the Baltic States.

Source: Own elaboration based on OECD data.

Figure II.11. **Unemployment rates during the Great Recession according to gender**

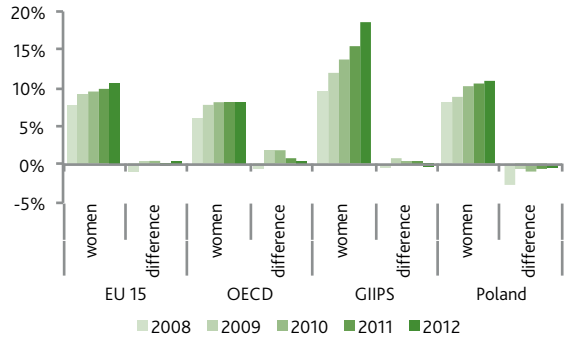
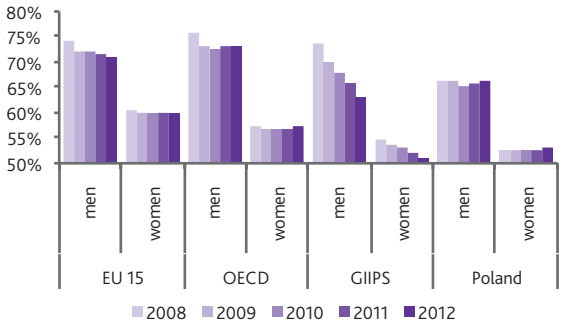


Figure II.12. **Employment rates during the Great Recession according to gender**



Source: Own calculations based on OECD data.

1.3 DIFFERENCES BETWEEN WOMEN AND MEN

The recent crisis affected men to a larger extent than women. During the first wave of the crisis, the unemployment rate of men increased more substantially than among women both in Poland, and the EU 15 and OECD (cf. Figure II.11). Meanwhile, during the second wave of the crisis the changes among men and women were comparable in all countries, apart from Poland (cf. Figure II.11, Figure II.12), where the differences remained greater. As a consequence, the gap between employment rates of women and men narrowed down from the initial 17.7 percentage points in 2000 to 11.6 percentage points in 2011 in the EU 27 (Lewandowski, et al. 2013).

Among European countries, a unique situation was observed in Germany where in 2008-2010 the growing unemployment rate among men was assisted by the unemployment decrease among women (cf. Figure II.13). During the second wave of the crisis the labour market situation in the Baltic States improved significantly (although during the earlier periods such countries reported some of the highest unemployment increases, both in the case of men and women, cf. Figure II.14).

The analysis of impacts of the crisis upon women and men in different age groups has also shown a large diversification among countries. Although, initially, the growth of unemployment among young women had been higher than in the case of older ones in all the EU countries, apart from the Baltic States, over the subsequent period such changes became much

Figure II.13. **The dynamics of changes of unemployment rates of women and men in selected European countries, 2008-2010**

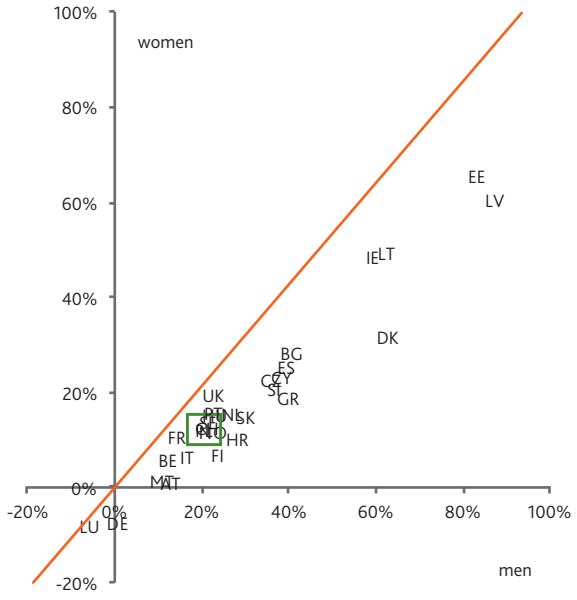
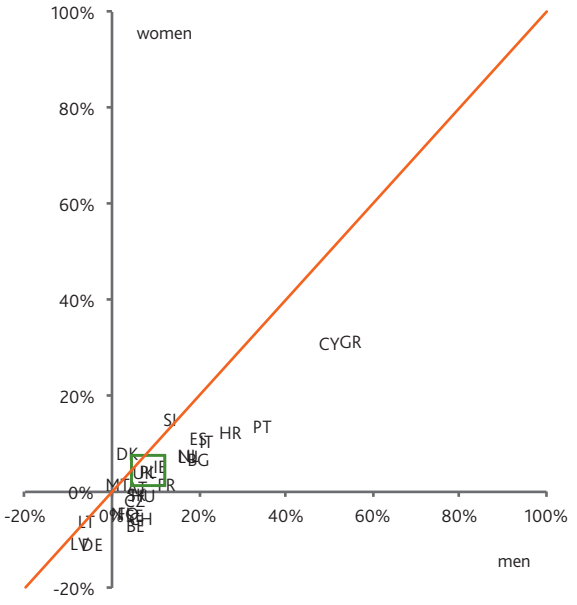


Figure II.14. **The dynamics of changes of unemployment rates of women and men in selected European countries, 2010-2012**



Note: Poland has been marked with a square.

Source: Own calculations based on OECD data.

Figure II.15. The dynamics changes of unemployment rates of younger and older women in the selected European countries, 2008-2010

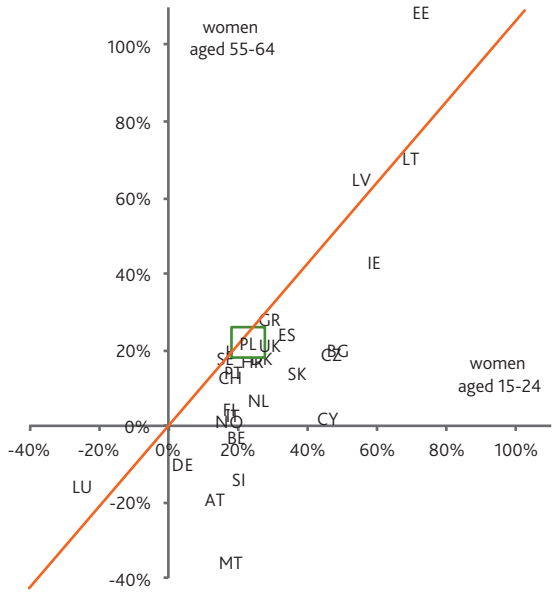
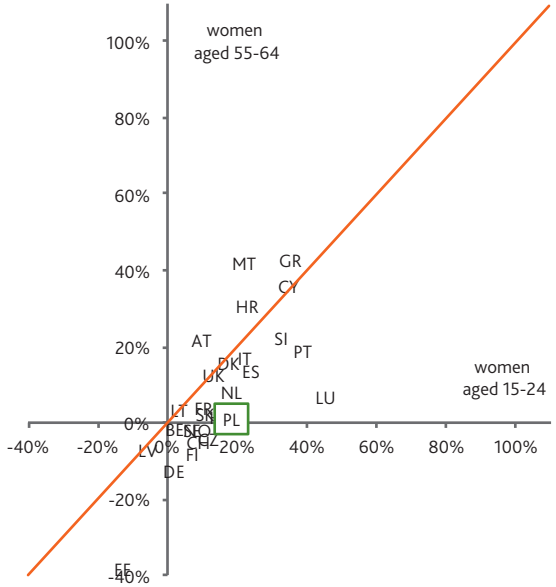


Figure II.16. The dynamics of changes of unemployment rates of younger and older women in the selected European countries, 2010-2012



Note: Poland has been marked with a box.

Source: Own calculations based on OECD data.

Figure II.17. The dynamics of changes of unemployment rates of younger and older men in the selected European countries, 2008-2010

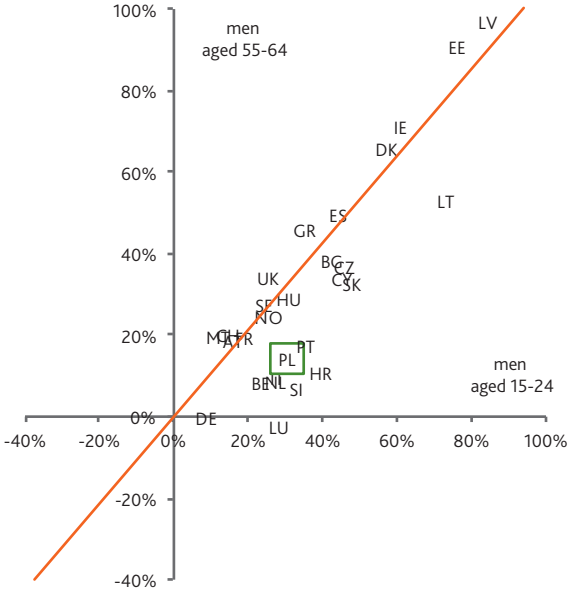
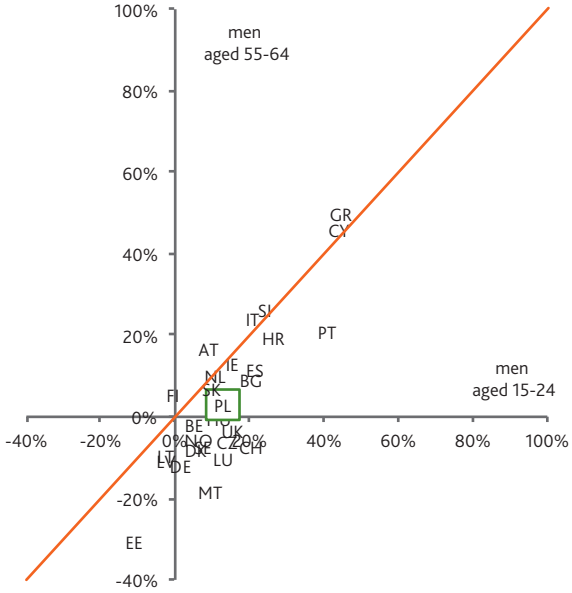


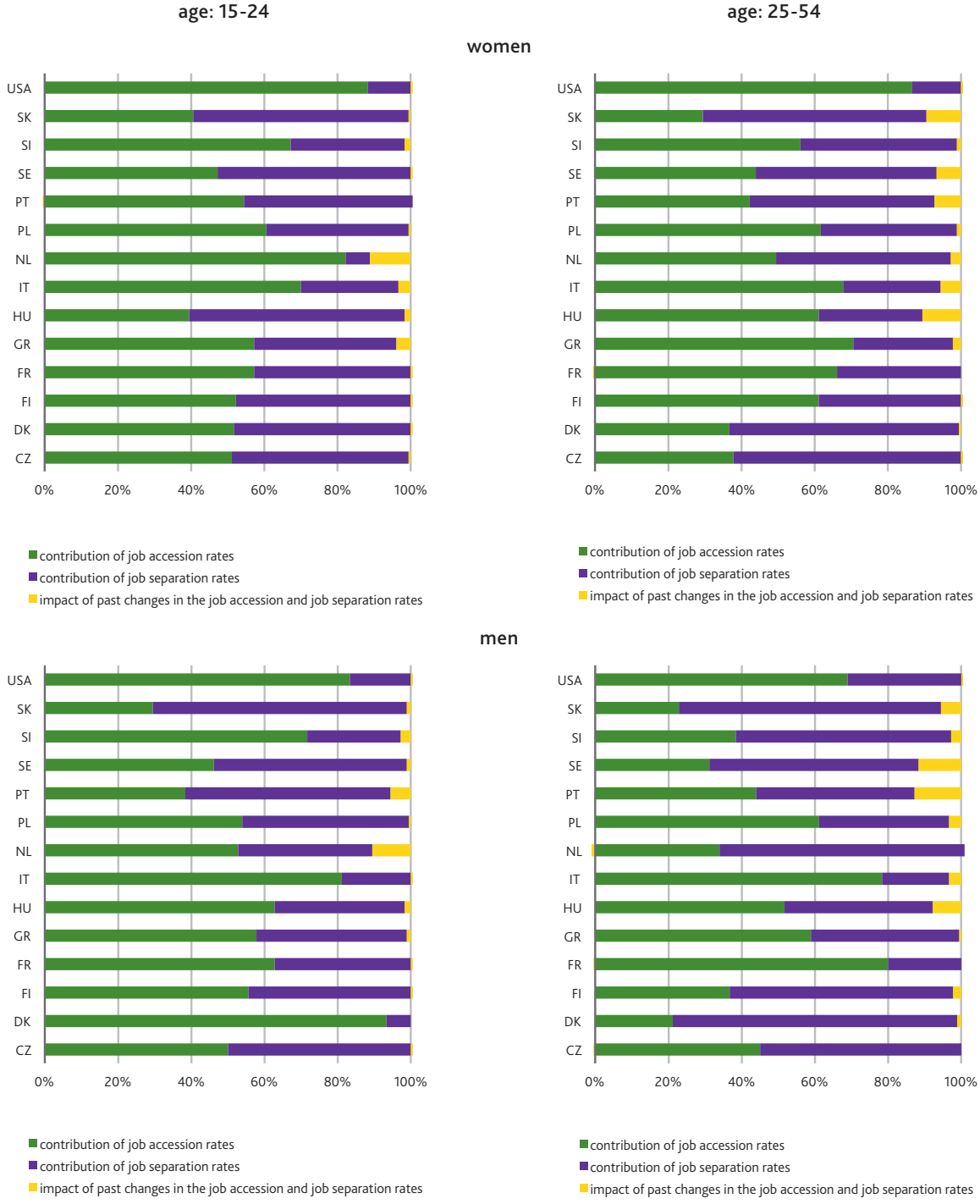
Figure II.18. The dynamics of changes of unemployment rates of younger and older men in the selected European countries, 2010-2012



Note: Poland has been marked with a box.

Source: Own calculations based on OECD data.

Figure II.19. **Decomposition of unemployment rate changes among women and men in the selected countries**



Source: Own calculations based on OECD data. The analysis has covered the following periods: the US: 1980-2012; CZ, FI, GR, IT, PT, SK: 1998-2012; DK, HU: 1999-2012; PL: 2000-2012; NL, SI: 2002-2012; SE: 2007.

more complex. In Poland, as opposed to the majority of the EU countries, the increase in unemployment affected older women more than younger ones. Meanwhile, during the second wave of the crisis, the further unemployment rate increases occurred among younger women only (cf. Figure II.15, Figure II.16).

In the case of men, the crisis more affected the labour market situation of young people, than of those in their prime-age (The European Commission, 2010). The unemployment rates of young and older men changed similarly (cf. Figure II.17). The highest increase in the unemployment rate both in the case of older and young men was reported in 2008-2010 in Latvia, Estonia, Ireland, Denmark, Lithuania, Spain and Greece. During the second stage of the crisis, the highest unemployment rate growth was observed among young men in Greece and Cyprus, and among older men in Portugal. In Poland, during both waves

Box II.4. Changing unemployment rates and the role of job accessions and separations

The study of the labour market flows and their impacts on the unemployment rate changes based on macroeconomic data was initiated in an article by Shimer (2007). The methodology of decomposition of the unemployment rate changes presented therein aims at determining the relative role of inflows (approximate firing), and outflows from (approximate hiring) unemployment in shaping of the total unemployment rate. The method takes into account the commonly available aggregated employment, unemployment rates, and numbers of the unemployed who have remained out of work for less than 1 month. It has been further developed by Elsby et al. (2008) and adapted to the European context, where the mean unemployment period is significantly longer than in the US, and the share of the unemployed who have remained out of work for less than 1 month is relatively low, which makes the standard method inaccurate. The methodology of decomposition presented in this chapter has been derived from an article by Elsby et al. (2008). The inflows into and outflows from unemployment have been assessed based on the data concerning the numbers of the unemployed, taking into account variable unemployment periods (i.e. less than 1 month, 1-3 months, 3-6 months, 6-12 months, over 12 months) according to age and gender, as published by OECD, as well as the basic data concerning labour force (i.e. the economically active, the unemployed, the quarterly unemployment rate). The presented contribution of hirings accounts for those changes in the unemployment rate that stem from the changing conditional probability of unemployment outflow (hirings) while the contribution of layoffs stems from either growing or decreasing conditional probability of inflow to unemployment (dismissals).

Source: Own eleboration.

of the crisis, the unemployment growth was more radical among young men than among older ones, which, just like in Spain, was attributable to their more intense inflow into unemployment (Baranowska-Rataj & Magda 2013).

Indeed, the roles of inflows, and outflows from unemployment in the context of its overall changes differed substantially between young and prime-age individuals, and the extent of such differences has been presented in Figure II.19. The figure shows the results of the decomposition of the unemployment rate changes among individuals aged 15-24 and 25-54 in the selected OECD countries (for more detailed methodological information please see Box II.4. Changing unemployment rates and the role of job accessions and destructions). Due to the fact that the number of studies devoted to the importance of job creation and destruction processes in view of unemployment rate changes have already been conducted (e.g. *Employment in Poland 2010,* IBS/CRZL 2011), such aspects have not been analysed in this paper. However, the gender and age group differences observed in the context of the proportions between job creation vs. destruction processes, are quite interesting. In most countries, higher unemployment rates are reported for young women, due to the fact that the probability of finding employment in their case is lower than for prime-aged ones. At the same time, however, in Hungary, Greece, France and Finland, the unemployment rate changes in case of women aged 15-24 have been significantly more often caused by the changing unemployment hazards than in the case of women aged 25-54. In Poland, no significant differences between younger and older women have been observed as far as the effects of job creation and destruction processes upon the overall unemployment rate changes are concerned.

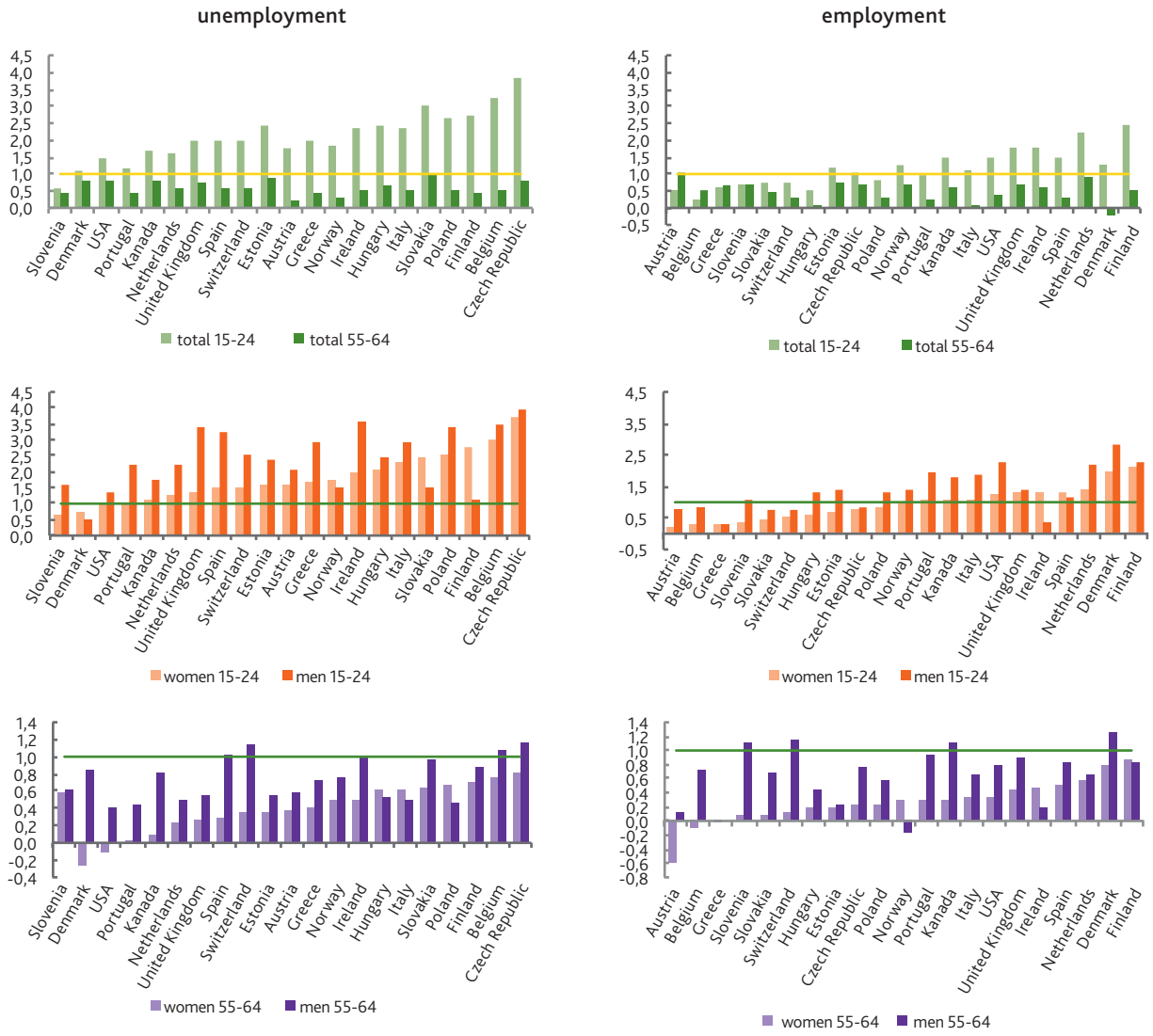
Also in the case of men, there occur substantial differences regarding the factors that contribute to unemployment rate changes. Again, in the overall majority of countries, unemployment rates of young men are linked to their poorer chances to find employment. However, in Portugal, Poland, the Netherlands and France, the impacts of employment rate differences upon the unemployment changes are greater for men aged 25-54, whereas in the case of the younger ones, the unemployment risk is a relatively more important factor.

1.4 SENSITIVITY OF YOUNG AND OLDER PEOPLE LABOUR MARKET SITUATION TO BUSINESS CYCLE

Relatively lower or comparable unemployment rate growths among young people (as compared to prime-age individuals) in 2008-2012 contradicted the typical perceptions of this group's labour market status as highly sensitive to business cycle fluctuations. The analysis of flexibility of unemployment and employment rates among young and older people, as opposed to the prime-age group, as presented in this chapter, allows us to determine how the fluctuations of employment and unemployment rates of particular age groups reported during the Great Recession, diverted from long-term trends.

The unemployment rate of young people is more sensitive to business cycle changes, than of those in their prime-age (Figure II.20). Poland, the Czech Republic, Slovakia and Hungary, have reported the greatest flexibility of unemployment changes in this group, as compared to people aged 25-54. An unemployment rate change by 1% in the case of prime-age individuals is accompanied by a 2% change of the same measure among

Figure II.20. **The unemployment and employment rate flexibility in the selected subgroups versus the prime-age group:**



Note: The vertical axis shows flexibilities derived from logarithmic regression of the unemployment and employment rates of young and older people, versus the same indicators for the prime-age group; quarterly rates in 2002-2012, minus trend.

Source: Own calculations based on OECD data.

young people. High flexibilities have been also observed in Scandinavia and southern Europe. In all countries, unemployment rates of older people are less sensitive than those of people aged 25-54.

In terms of employment rate, the youngest workers are also more sensitive to business cycle changes, although the differences between age groups are substantially smaller than in the case of unemployment. In some countries, changes of young people employment rate are less sensitive to cyclical changes than those of people aged 25-54 (Greece, Belgium, Austria, Slovenia). In the Nordic countries with more flexible labour markets, employment rates of young people are more flexible than those of the prime age group. A similar situation can be observed in Spain, where large numbers of young people are employed based on fixed-term contracts (Baranowska-Rataj & Magda 2013).

In most countries, young men are more susceptible to labour market fluctuations than young women. However, in the countries with high labour market participation of women i.e. Finland, Norway and Denmark, women react more flexibly to overall unemployment changes. The employment flexibility of young men is also higher than in the case of young women.

The employment rate of women aged 55-64 fluctuates to much lesser extent than that of men at the same age in nearly all countries. The exceptions are: Denmark, Estonia, Finland and the Netherlands, where no gender differences occur. Unemployment rates in the case of women are also less sensitive, but gender differences are not that prominent.

2 THE GREAT RECESSION IN SPECIFIC SECTORS

Part 1 of the report presents impacts of the crisis upon specific sectors, and its substantially higher influences upon employment rates in construction and non-market services sectors. The following chapter shows to what extent impacts of business cycle changes upon employment of women and men in different age groups, with different skills or professional backgrounds, can be explained by the sectoral differences.

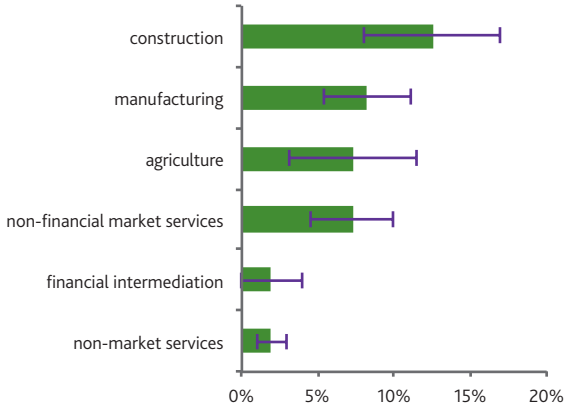
2.1 WOMEN AND MEN AT DIFFERENT AGES AND THE SECTORAL NATURE OF THE RECESSION

The sector which reported most severe employment contraction during the crisis was construction. Employment rates also dropped in manufacturing, but the very tendency commenced some time before the Great Recession. The aforementioned two sectors are the most masculinised branches of economy – in all analysed European countries the respective shares of male workforce in construction and manufacturing exceed 90% and 60% respectively. Moreover, in construction the share of men aged 15-24 is definitely higher than in other sectors. On average, 12% of all construction workforce in all European countries are young men. In the case of manufacturing, agriculture and non-financial services, the shares of young men are lower, and constitute ca. 8% of all workforce.

The lowest numbers are employed in the area of non-market services and financial intermediation – 2% (Figure II.21). During the crisis, the shares of young people employed in the construction sector decreased in most countries – substantial growths were only reported in Sweden, Norway and Switzerland (Figure II.22), which affected the overall employment and unemployment changes in this group.

During the crisis, relatively lowest employment changes were reported in the services sector, and the structure of workforce in that sector was dominated by women, which was yet another reason why their employment situation deteriorated less severely. In all European countries, the share of women in market services is comparable to that of men, but in non-market services their share is higher. In the year 2000, the average share of female workforce in non-financial market services in the 29 European countries accounted for 43%, in financial intermediation - 54% and in non-market services - 63%.[4]

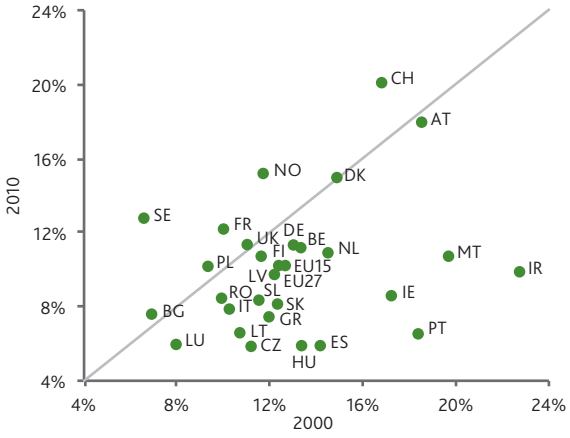
Figure II.21. **Mean share of men aged 15-24 in specific sectors' workforce in European countries in 2000**



Note: Average calculated for 29 European countries. Standard deviations have been marked with error bars.

Source: Own calculations based on Eurostat data.

Figure II.22. **Percentage of young men in construction sector workforce in 2000 and 2010 in European countries**



Source: Own calculations based on Eurostat data.

4 Surprisingly, despite the fact that the Great Recession was largely attributable to financial markets' decline, shrinking customers' deposits and investment capitals, unwillingness to take risk on the part of entrepreneurs and growing distrust towards Interbank market leading to credit activity dropdown, such phenomena did not result in any substantial changes in employment in the financial services sector, apart from selected countries (such as, in particular, the Baltic States).

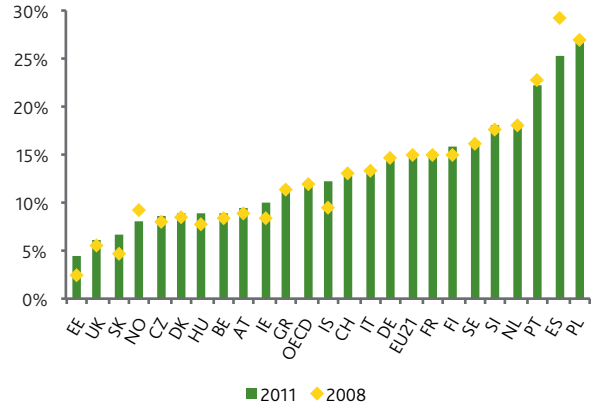
Box II.5. Flexible forms of employment during the Great Recession

Fixed-term employment contracts

There are strong differences among European countries in terms of the workforce employed via fixed-term employment contracts. In 2012, the lowest share of such contracts was reported in Estonia (below 5%) and the highest one (27%) in Poland. In Spain and Portugal, the incidence of such contracts is nearly as high as in Poland i.e. 25% and 22%, respectively. In 2008-2012 the largest absolute changes were reported in the countries whose labour markets were severely struck by the crisis i.e. in Estonia, Iceland and Ireland, where the shares of workforce employed based on fixed-term contracts increased. An exception to the rule was Spain where such share dropped down from the previously reported high level (Figure II.23).

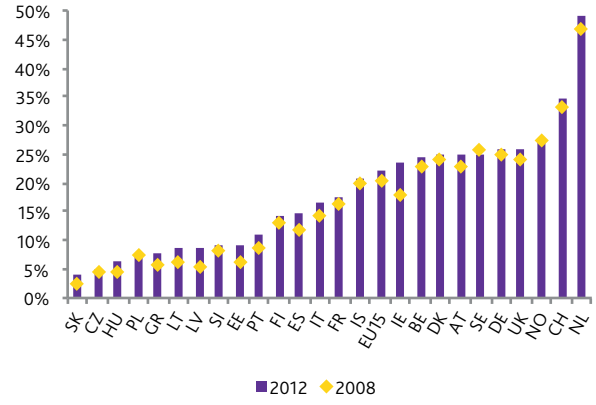
Fixed-term employment contracts are much more widespread among young people than among prime-age and older workers. In 2011 in the EU 21[5] the shares of workforce employed based on fixed-term contracts among individuals aged 15-24, 25-54 and 55-64 were 44%, 12%, and 7%, respectively. Among young people, the share of fixed- term contracts increased in the EU21 from 42% in 2008 to 44% in 2012. The largest relative change took place in Estonia, where the shares of workforce employed based on fixed-term contracts increased from 4 to 13% among young women and from 7% to 14% among young men. Poland distinguishes itself among other countries by the high share of such contracts among people aged 55-64 – in 2001 it was 19% which was more than twice as high as the EU 21 average (7%).

Figure II.23. **Share of workforce employed based on fixed-term contracts among hired workers in the selected countries in 2008 and 2011**



Source: Own calculations based on OECD data.

Figure II.24. **Share of workforce employed on a part-time basis among workers at a productive age in 2008 and 2012**



Source: Own calculations based on Eurostat data.

In the Polish context, we should also take into consideration the changing numbers of workforce employed on terms and conditions uncovered by the Labour Code. The numbers of people obtaining income from self-employment and civil contracts have started to rapidly grow since 2008 and 2009. This phenomenon is contrary to those observed during the economic recovery of 2005-2008 when employment based on labour contracts grew, and the share of more flexible employment forms remained stable (Figure II.25, Figure II.26).

The sectoral differences within the employment structure also explain, to some extent, the different impacts of the crisis upon various age groups, and in particular, the growing employment of older workers. In the EU 15 older men are most frequently employed in manufacturing and services, while older women get their jobs in non-market services and non-financial market services.

The proportion of older men employed in manufacturing in the EU 15 has been growing systematically over the past 15 years, whereas the proportion of older women did not change substantially (Figure II.29. The structure of industrial workers in the EU 15 in 1995-2012 according to gender and age). During the Great Recession these processes accelerated, which was due to the decreasing numbers of male workforce aged 15-24 and 25-49, with simultaneous increase in the number of older workers. In Poland, the share of older men

5 The EU21 include all countries which had become EU Member States before 2004, and the Czech Republic, Poland, Slovakia and Hungary.

Box II.5. Flexible forms of employment during the Great Recession

Figure II.25. The numbers of workers attaining income from a single source: labour contract (left axis) vs. other sources (right axis) in Poland in 2011

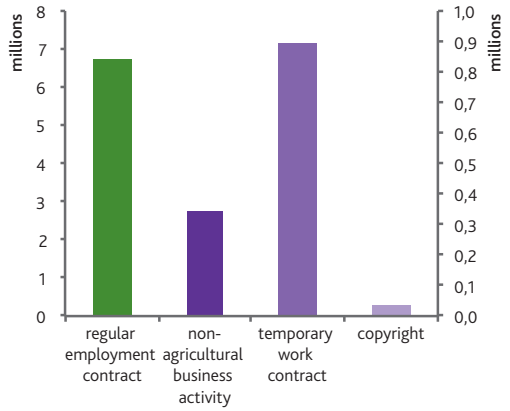
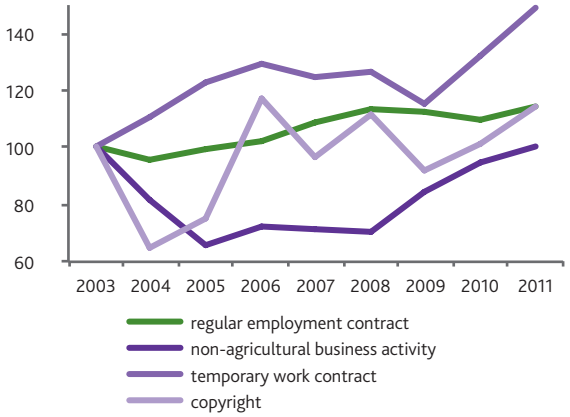


Figure II.26. The changing numbers of workers attaining income from a single source in Poland (2003=100)



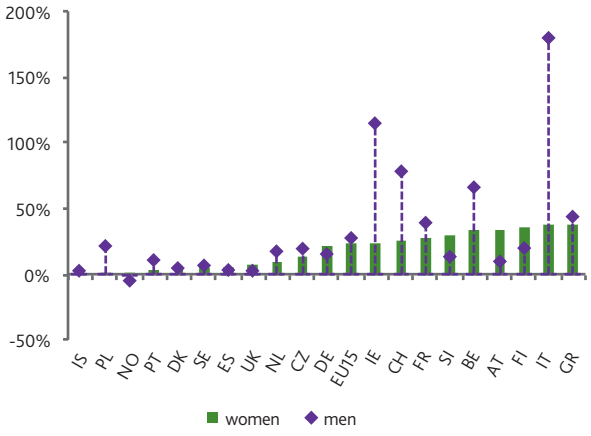
Source: Own calculations based on the document entitled: Settlement of income taxes levied on natural persons in 2003-2011, the Ministry of Finance.

Part-time employment

In 2012 in the EU 15 one-fifth of all productive-age workers were employed on a part-time basis. However, there was a considerable diversification in this respect – the lowest shares were reported in CEE – Slovakia, the Czech Republic, Hungary and Poland - below 10%, and the highest in Scandinavia and Continental Europe - the Netherlands (ca. 50%), Switzerland, Norway, the UK, Germany, Austria, Denmark (ca. 25-30%). In the analysed countries in 2008-2012 the significance of part-time employment increased (insignificant decrease was reported in Poland and Sweden only). The highest absolute decrease in the number of working hours (and, implicitly, the increase in the number of part-time contracts) was reported in those countries whose labour markets were affected by the crisis the most – Ireland, Lithuania, Latvia, Estonia, Spain, Greece (Figure II.24), which prevented dropdowns of employment rate and the unemployment rate growth.

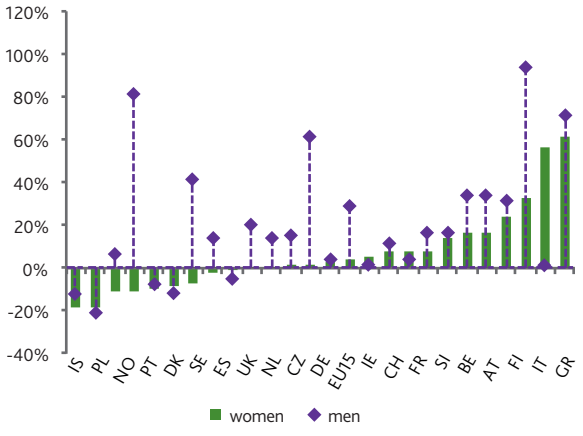
Working on a part-time basis is definitely more popular among women than among men. The difference is observable both in the case of older and young women, but its extent is smaller in the case of people aged 15-24. In this case, in 2008-2012, the shares of part-time employment increased both among women and men (Figure II.27). Meanwhile, in the case of older people, no uniform country or gender-related patterns were observed (Figure II.28). Interestingly, in Ireland, where the share of part-time male workforce increased considerably, both among young and older people, no significant changes were observed among women.

Figure II.27. Relative change in the part-timer workers share among workers aged 15-24 according to gender



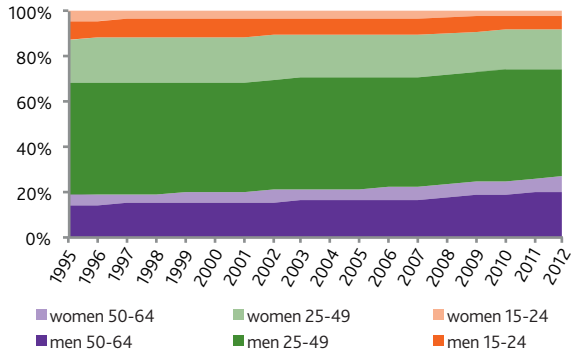
Source: Own calculations based on Eurostat data.

Figure II.28. Relative change in the part-timer workers share among workers aged 50-64 according to gender



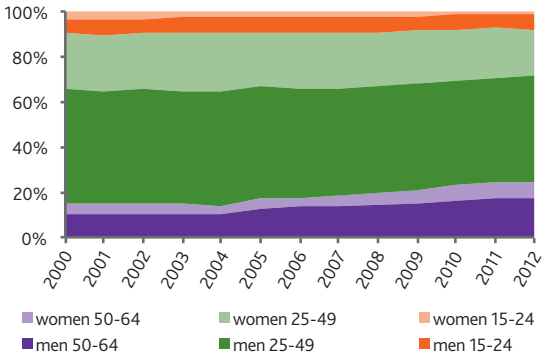
Source: Own calculations based on Eurostat data.

Figure II.29. **The structure of industrial workers in the EU 15 in 1995-2012 according to gender and age**



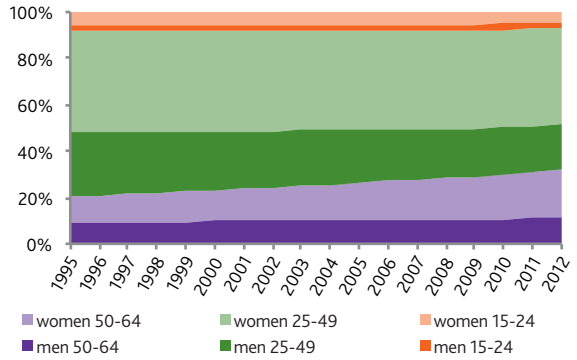
Source: Own calculations based on Eurostat data.

Figure II.30. **The structure of industrial workers in Poland in 2000-2012 according to gender and age**



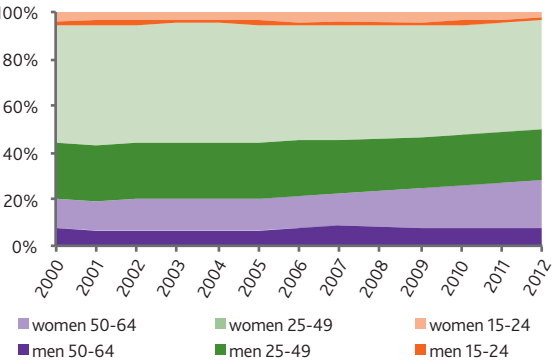
Source: Own calculations based on Eurostat data.

Figure II.31. **The structure of non-market services workforce in the EU 15 in 1995-2012 according to gender and age**



Source: Own calculations based on Eurostat data.

Figure II.32. **The structure of non-market services workforce in Poland in 2000-2012 according to gender and age**



Source: Own calculations based on Eurostat data.

employed in manufacturing also increased (Figure II.30). The structure of industrial workers in Poland in 2000-2012 according to gender and age). However, this increase was not accompanied by the decrease in the number of workforce from the remaining age groups.

Meanwhile, the share of women aged 50-64 in the services sector has been successively increasing, mainly in non-market services. In the EU 15, in the years 1995-2011 this share nearly doubled – from ca. 10% to ca. 20% (Figure II.31), while the share of older men remained stable. The change pattern in the case of employment in the non-market services sector in Poland is similar to that in the EU 15 countries (Figure II.32).

2.2 SECTORAL NATURE OF THE RECESSION IN THE CONTEXT OF DIFFERENT SKILLS AND OCCUPATIONS

Over the past dozen years or so the structure of employment according to occupation has been gradually polarising in developed countries. A long-term decreasing trend has been observed in the case of skilled manual workers, accompanied by a growing share of highly skilled non-manual workers (Figure II.34).[6] In 1995 and 2012 the shares of skilled manual workers in the EU 15 countries accounted for ca. 30% and 20%, respectively, while those of highly skilled non-manual workers increased from 35% to 42%. The shares of other groups did not change substantially during the analysed period. Interestingly, in Poland such processes look similar, provided that farmers are categorised as skilled manual workers. Although qualifying farmers as elementary occupation workers does not significantly affect the statistics in the EU, it does in Poland, to a large extent (Figure II.35). In fact, the share of skilled manual workers in Poland did not decrease, apart from agricultural sector. Interestingly, while the employment statistics in Poland do not show any decrease in the demand for skilled manual workers, such changes are reflected by the job vacancies, which point to the unsatisfied demand for skilled manual workers, that has been decreasing systematically in 2007-2012 (Figure II.33).

During the recent crisis the demand for clerical workers used to develop as intensely as it had been before the Great Recession.

6 According to Whelan (2011), where in the Classification of Occupations and Specialisations the workers have been divided into major occupational groups i.e. highly skilled non-manual workers 1,2 and 3, lower skilled non-manual workers 4 and 5, skilled manual workers 6,7,8, elementary occupation workers

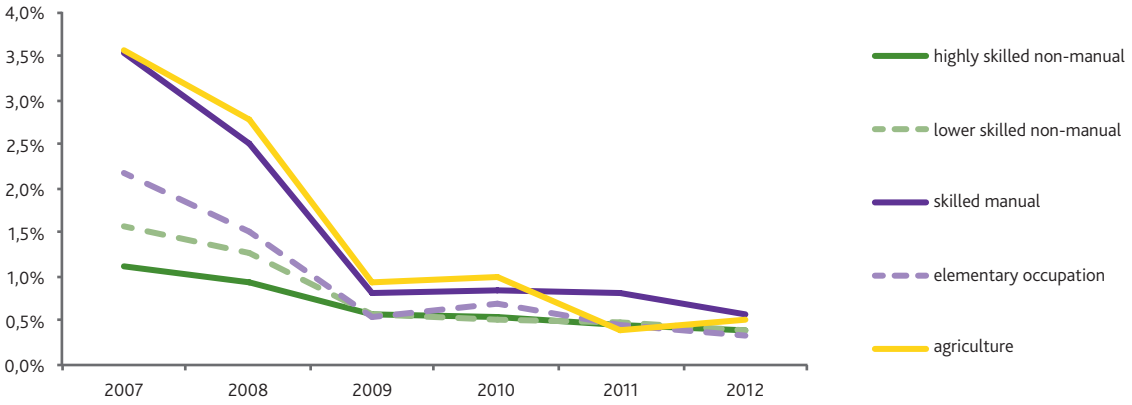
Box II.6. Skill mismatch index

Skill mismatch results from the incompatibility between labour demand and supply, rather than from the lack of mobility within the Euro zone. In 2008-2010 its value almost tripled. A rapid *SMI** growth was observed on labour markets in the countries experiencing residential property boom such as Estonia, Ireland and Spain. In the remaining countries SMI values were highly diversified, but in nearly all of them the skill mismatch index increased in 2009 and 2010. Nevertheless, some countries where regional data is available, such as Belgium, Germany and Portugal, appear to face certain mobility problems, since their regional aggregated SMI is considerably higher than the same index calculated based on country-level data. It is particularly visible in Portugal, where the difference has increased over the past period.

* *Skill mismatch index (SMI)*: an aggregated difference between the number of individuals with certain skills and the number of the employed with the same skills.

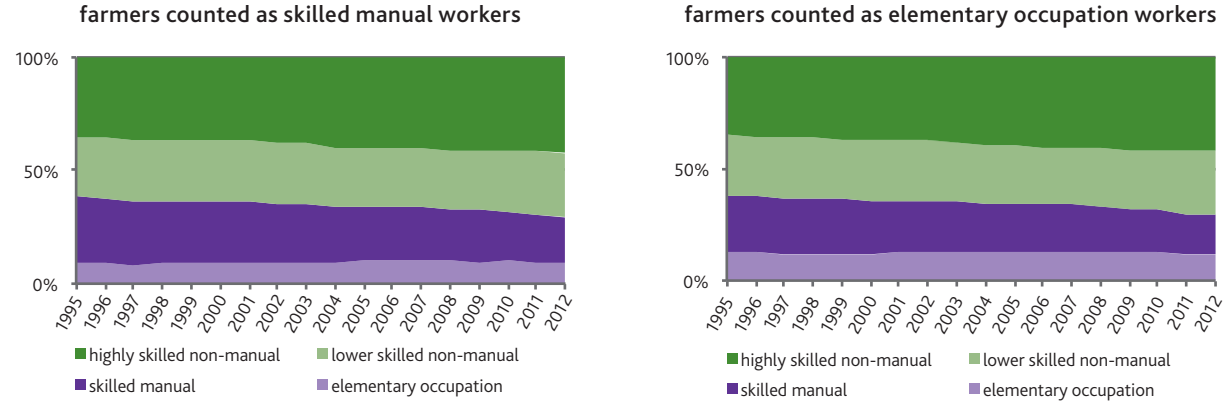
Source: Euro area labour markets and the crisis. Economic Review (EBC 2012).

Figure II.33. Vacancies vs. the numbers of workforce according to occupation in Poland in 2007-2012



Source: Own calculations based on the document: Labour demand, Central Statistical Office of Poland [GUS]

Figure II.34. Employment structure according to occupational groups in the EU 15 in 2000-2012

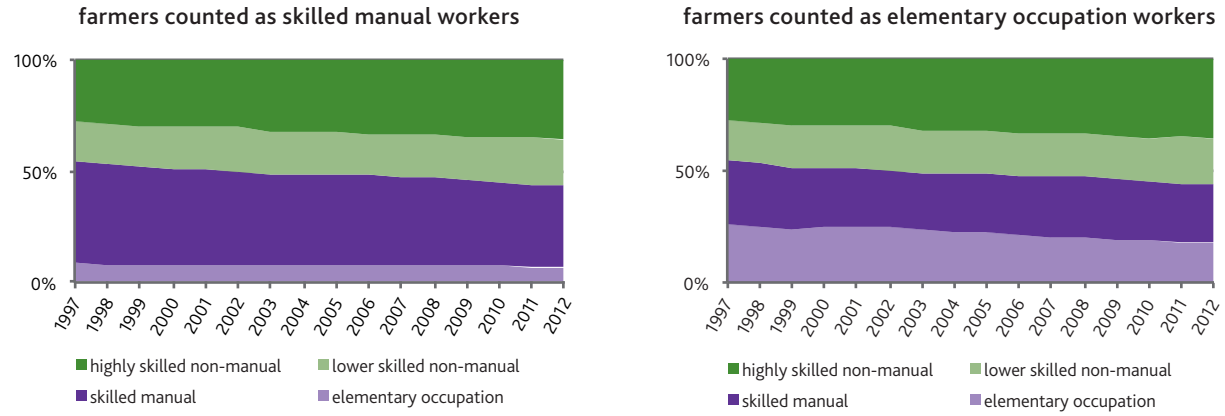


Source: Own calculations based on Eurostat data.

The exceptions were GIIPS and the Baltic States. In Lithuania, Estonia, Latvia, Spain and Italy, the tendency was reversed and the demand for highly skilled non-manual workers dropped, whereas in Ireland, Iceland, Greece and Portugal its growth slowed down considerably. The demand for lower skilled non-manual workers in the analysed countries used to grow at a rate comparable to that for highly skilled non-manual workers. However, employment rate in this group reflected the negative consequences of the crisis in the Baltic States, Ireland, Iceland and Spain.[7]

7 For more detailed data concerning the trends described, please check with the authors.

Figure II.35. **Employment structure according to occupational groups in Poland in 2000-2012**



Source: Own calculations based on Eurostat data.

3 PERSISTENCY OF THE CRISIS IMPACTS

The present section focuses on the selected socio-demographic groups which have been already identified as most severely struck by the crisis. We pay attention to young people who remain outside the labour market, and to those who are at a risk of persistent inactivity i.e. discouraged by fruitless searching for jobs, or the long-term unemployed (LTU). Moreover, we are also looking at how redundancy risks have been changing across specific age groups. Since staying unemployed is correlated with the lack of income, we investigate how business cycle changes affected income distribution among the employed and the total population.

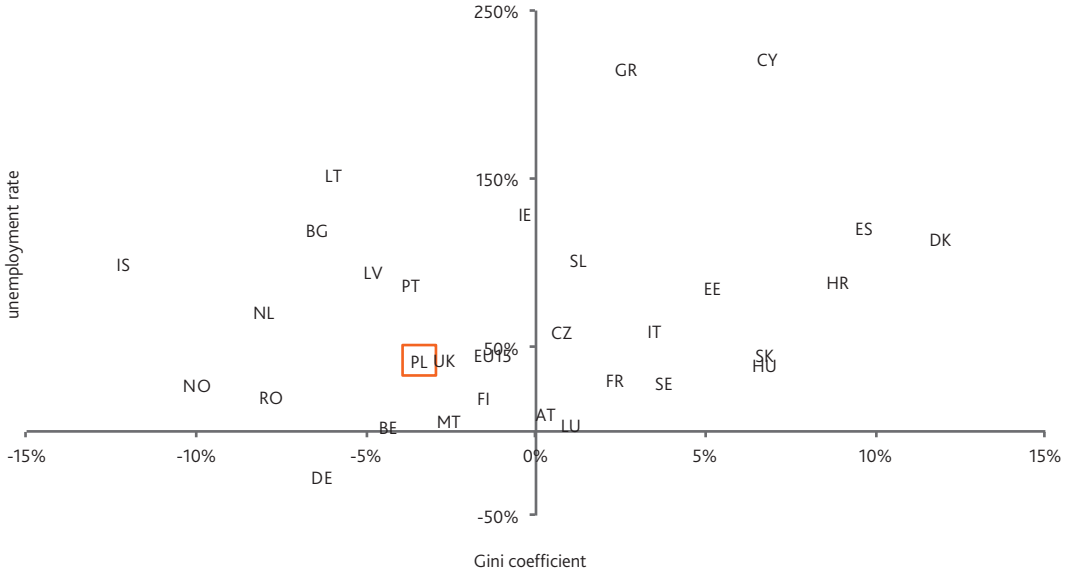
3.1 THE CRISIS AND INCOME INEQUALITIES

Income inequalities measured by the Gini coefficient did not change substantially in 2008 -2012 in the majority of the analysed countries. The mean values of the Gini coefficient for 30 European countries in 2008 and 2012 amounted to 0.294 and 0.291, respectively. The greatest changes were reported in Iceland where its values dropped down from 0.27 to 0.24, and in Spain and Denmark, where economic changes were accompanied by substantial income inequality increases (in Spain Gini coefficient grew from 0.32 to 035; in Denmark from 0.25 to 0.28).

The increase in the unemployment rate during recession involves deprivation of members of a given population from labour income. However, inequality change patterns during the recession are unclear and the situation depends on who has been struck by the crisis, and where on the income distribution such person had previously been positioned (Jenkins 2011). When juxtaposing the unemployment rate change and the Gini coefficient between 2008 and2012, no clear interdependencies between unemployment rate and inequality change patterns have been identified. During the studied period, the unemployment rates in all analysed countries (except for Germany) increased, while change patterns in the case of the Gini coefficient were highly diversified. Interestingly, the change patterns did not look similar even in those countries where employment rates dropped down the most in the same sectors. For e.g. both in Spain and Iceland, employment rates in the construction dropped down more radically than in other sectors (cf. Part 1 of the Report) but such dropdowns were accompanied by an inequality increase in Spain and its decrease in Iceland (Figure II.36).

Inequality decreases in some countries were partly attributable to changes in the remuneration for capital that occurred during the crisis. During the first wave of the crisis, the level of capital income accumulated mainly by upper decile households decreased (European Commission 2011). Substantial decreases in the share capital income in the GDP occurred in 2008-2009 in Estonia, Lithuania, Germany and the UK (and also in Latvia in 2006-2008, cf. Part 1 Figure I. 19) and in all these countries inequality decreases were reported (Figure II.36).

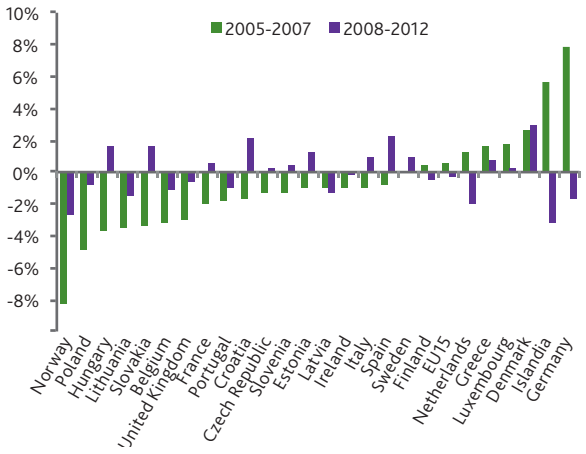
Figure II.36. **Changes in unemployment rate and income inequality measure in 2008-2012**



Note: The Gini coefficient has been calculated based upon equivalent disposable incomes. The data for Austria, Belgium, Ireland and the UK refer to 2008 and 2011.

Source: Own calculations based on Eurostat data.

Figure II.37. Annual pace of changes of the Gini coefficient before and during the Great Recession



Note: The Gini coefficient calculated based on equivalent disposable income.

Source: Own calculations based on Eurostat data.

Figure II.38. Relative change o the situation of individuals attaining low and high incomes in 2008-2012 in the selected European countries

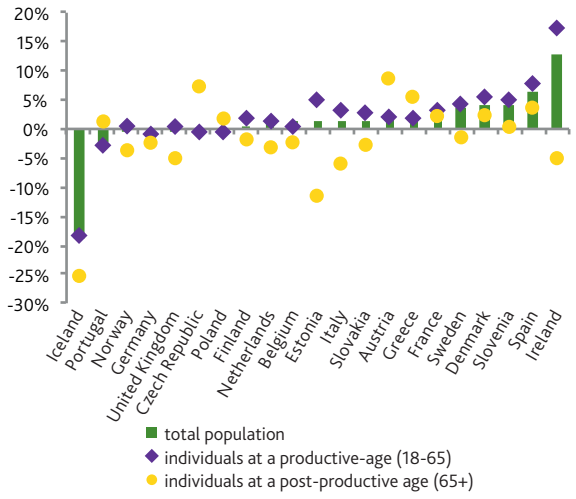
Note: p10, p50, p90 stand for 10, 50 and 90 disposable income percentile, respectively.

Source: Own calculations based on Eurostat data.

Such inequality decreases in the said countries and for e.g. in Latvia, were accompanied by a simultaneous improvement of the relative status of individuals attaining the lowest incomes (Figure II.38), which could be partly ascribed to fiscal policies in such countries (cf. Part 4 of the Report).

On the other hand, in those countries where income inequalities increased, a relative improvement of the situation of individuals attaining the highest incomes with simultaneous deterioration of a relative situation of those in the lowest income group. Only in Greece and France the income inequality growth was associated with deterioration of the situation of individuals at both ends of the income distribution. However, the distance from the median income increased more in the case of those earning the lowest incomes, than it decreased in the case of those attaining the highest incomes (Figure II.38). However, it needs be emphasised that during the Great Recession the pace of inequality changes on national levels was either lower or comparable to that reported in the past years. In 2005-2007, income inequalities in most European countries used to decrease (Figure II.37). In the majority of countries, relative change of the Gini coefficient in 2008 - 2012 did not

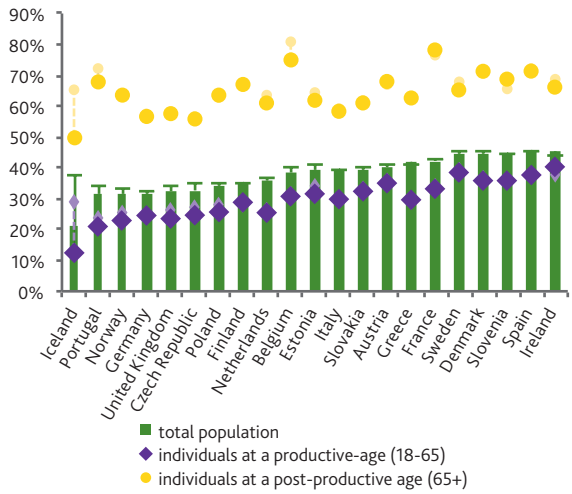
Figure II.39. Relative change in the value of the Gini coefficient in 2008-2010 depending on age



Note: The Gini coefficient based upon disposable income taking into account social transfers and taxes. The data for Ireland were gathered in 2008 and 2009.

Source: Own calculations based on OECD data.

Figure II.40. Relative difference between the values of the Gini coefficient based on gross income only, and the one taking into account social transfers and taxes in 2008-2010



Note: Large markers denote data that refer to 2010, while small ones denote 2008 calculations. The data for Ireland were gathered in 2008 and 2009.

Source: Own calculations based on OECD data.

exceed 5% for the entire population, whereas in 2005-2007 such changes had been significantly greater.

It needs to be emphasised that the reported change pattern of income inequalities heavily depended on the age of heads of households. During the Great Recession, in the majority of countries the direction of income inequality changes in the case of people at productive and retirement ages was opposite (Figure II.39). In Sweden, Norway, Finland, Ireland, the UK, the Netherlands, Belgium, Estonia, Italy and Slovakia, the levels of income inequalities among older people decreased, and, at the same time, increased among those at productive age. Meanwhile in Greece, Portugal, the Czech Republic, Poland and Austria the inequality change patterns were not differentiated by age.

It is no surprise that social transfer policy is more significant for older people than for those at the productive age (Figure II.40). For individuals aged 65+, reduction of the Gini coefficient due to taxes and social transfers amounted from ca. 50% in Iceland to ca. 80% in Slovakia. The impact of the government's interventions on income inequalities did not substantially change in 2008-2010. An exception to the rule is Iceland where the

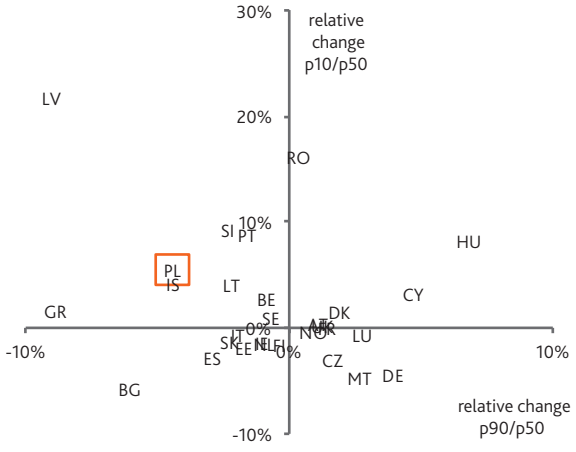
Box II.7. Income inequality changes of full- and part-time workers

During the Great Recession, working part-time became more popular, especially among young people (cf. Box II.5). Here we attempt to answer the question whether the change of the employment structure affected income inequalities among full and part-time workers.

In the case of part-time workers, income inequalities decreased. It was primarily attributable to an improvement in the relative situation of the first decile earners, accompanied by the deterioration of the relative status of those who earned the most. In 22 out of the 29 analysed countries, incomes of the top earners working part-time approximated the median value. The highest inequality reduction, manifested as the change in relative differences between lower and upper margins of the income scale in the case of part-time workers, occurred in the Nordic countries (Figure II.42).

In the case of full-time workers, in more than half of all analysed European countries, relative position of the poorest earners improved by 10%. A relative improvement by more than 10% was reported in Romania, Slovenia, Portugal and Hungary. Meanwhile, in the majority of countries the relative position of the top earners deteriorated, which was most visible in Greece and Bulgaria where it dropped down by over 5% (Figure II.41). Nevertheless, income distribution changes that occurred in this group of workers were substantially smaller than among those working part-time.

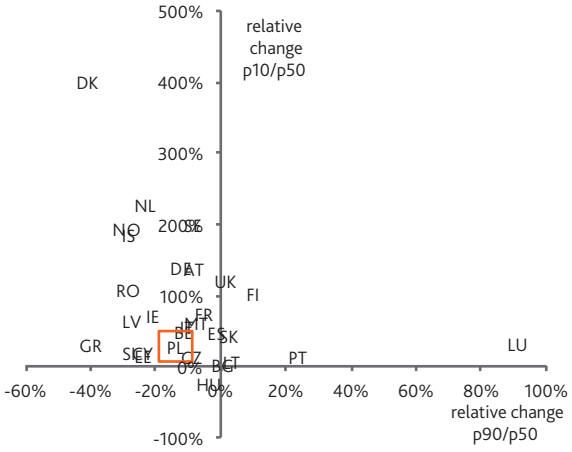
Figure II.41. Full-time workers - income inequality changes between 2006 and 2010



Note: p10, p50, p90 denote 10th, 50th and 90th percentile of disposable income, respectively. The calculation have been based on gross monthly incomes in C-O sector enterprises (excluding L, NACE rev. 1.1) employing at least 10 workers.

Source: Own calculations based on Eurostat data.

Figure II.42. Part-time workers - income inequality changes between 2006 and 2010



Source: Own calculations based on Eurostat data.

system of social transfers and taxes reduced the Gini coefficient by ca. 40%, while in 2010 such reduction was below 20%. In Slovakia and Estonia, the relatively strong influences leading to inequality reduction among the retired individuals further increased (Slovakia: from 74% to 81%, Estonia: from 68% to 72%). In Poland, the value of the Gini coefficient, taking into account social transfers and taxes is by 35% lower than in the case of gross incomes.

INCOME INEQUALITIES IN POLAND IN 1994-2011

Over the past two decades, the income inequality changes in Poland have been strongly connected with business cycle fluctuations. Such fluctuations can be divided into the four basic stages: the economic expansion till 1998, the crisis in the years 1999-2004, the boom in 2005-2008 and the mild slowdown in 2009-2011. At the first stage, income inequalities used to grow, which led to the higher poverty rate (cf. *Employment in Poland 2011*, IBS/CRZL 2013). Although shortly before the Russian crisis i.e. in 1997-1998 this tendency was reversed, until the time of Poland's EU accession in 2004, rapid economic growth and parallel increase in income levels had been accompanied by a visible inequality increase. During the crisis in 1999-2004 income inequalities developed further, both within upper and lower sections of the income scale. The economic recovery reported in 2005-2008 resulted in a reversal of such negative tendency. Thanks to employment rate and salaries' growth, households' incomes (also of the poorest ones) increased as well, and in contrast to 1994-1998 the median income growth rate was higher than GDP's increase. As a consequence, the inequalities visibly shrinked.

The Great Recession did not lead to substantial changes in terms of income dispersion. The economic slowdown reported in 2008-2011 had considerably lesser impacts upon the labour market, as compared to the past crises. The employment rate stayed at the level of 53%, real wage dynamics dropped down to 2.1% per annum, which was assisted by stabilisation of the Gini coefficient and freeze of relative positions of households representing upper and lower income thresholds. Hence, slowing down of the growth dynamics led to the discontinuation of relative poverty reduction tendency, accompanied by stopping of the median households income increase.

Although the changes in the distribution of households incomes during the Great Recession were relatively insignificant, they were accompanied by substantial changes within the work income structure. First of all, the gap between more affluent vs. poorer farming income earners continued to expand. In 2011, the incomes obtained by the workers in the lowest decile accounted for only

Figure II.43. **Median values of the equivalent income in Poland in 1994-2011 (fixed prices 2010)**

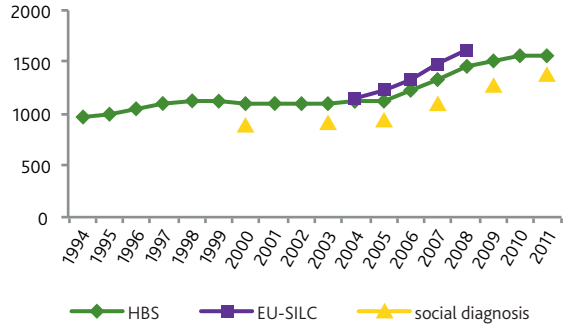


Figure II.44. **The Gini coefficient in Poland in 1994-2011**

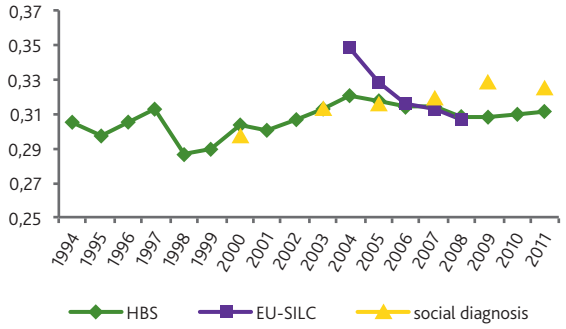


Figure II.45. **The 1st decile of the equivalent income distribution chart in Poland as median value percentage in 1994-2011**

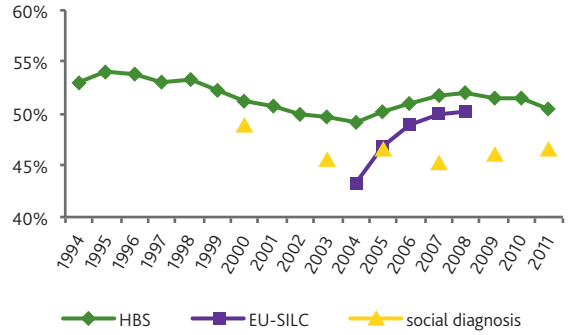
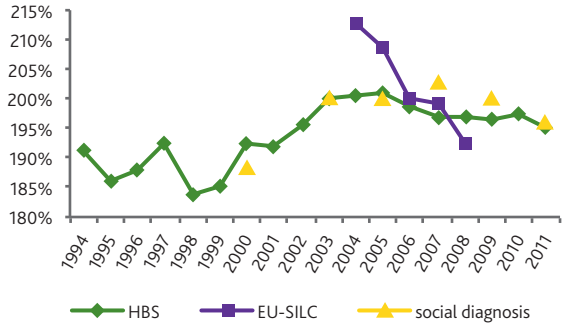


Figure II.46. **The 10th decile of the equivalent income distribution chart in Poland as median value percentage in 1994-2011**



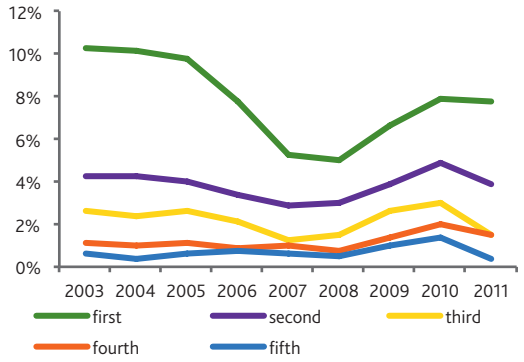
Note: Income at constant prices in 2010. The shifts in between subsequent years before 1998 may result from the use of a slightly different HBS methodology and lower reliability of the surveys at that time.

Source: Own calculations based on the data from Household Budget Survey, Eurostat and the Social Diagnosis.

Box II.8. Redundancy risk vs. income

Individuals who obtain the lowest salaries tend to lose jobs definitely more often than those who represent the highest income quintile. The intensity of outflows from hired work to unemployment decreases in a nearly exponential manner along with an increase in the earnings. In 2011, 7.8% out of the 20% of the poorest income earners discontinued their work in the following year, while for the remaining quintiles the relevant shares were 3.8%, 1,4%, 1.3% and 0.3%. In 2003-2007 relative flow intensity changes among different income distribution quintiles were comparable. During the Great Recession, the highest increase of inflows to unemployment was reported in the highest earnings distribution quintiles, but the flow intensity did not exceed 2%. The intensity of outflows towards unemployment in the case of the 1st income quintile reported during the Great Recession was lower than during the Russian crisis, and comparable or greater in the case of higher quintiles (Figure II.47).

Figure II.47. **Intensity of flows from employment to unemployment according to earnings distribution quintile in Poland, 2003-2011**



Source: Own calculations based on HBS data.

Figure II.48. **The 10th and the 90th percentile as a percentage of a median value on the income distribution taking into account selected income sources in Poland in 1998-2011**

Note: The calculations only apply to such individuals who reported positive income from a given source. The farming income earners were those individuals who indicated agricultural farms as their main source of l income.

Source: Own calculations based on HBS data.

10% of the median value, while those attained by the most affluent earners were four time as high as compared to the farming income median, while in 1998 the corresponding rates amounted to 20% and 350% (Figure II.48c). Moreover, over the past few years the gap between the self-employed attaining highest and lowest income gradually narrowed down, due to an improvement in the levels of income attained by the lowest earning self-employed (Figure II.48b). In the case of employees, improvement of the situation of the highest earning employees with permanent contracts was accompanied by stabilisation of inequalities in the bottom section of the income distribution (Figure II.48a).

Thus, during the Great Recession, relative position of the lowest paid employees with permanent contracts improved, and income inequalities among the self-employed decreased. Incomes attained by farmers stabilised, although they continued to diversify.[8] Meanwhile, the gap between median and top income farmers increased.

8 Nevertheless, specific groups differ substantially in terms of the relative positioning of the poorest earners on the income distribution– 1st decile farmers attain revenue equivalent to 10% of median, the self-employed – 35% and hired workers – 57% (data from 2011). Implicitly, income inequalities in the case of farming are substantially higher than in the case of the self-employed and hired workers.

Box II.9. The Great Recession in the context of pay inequalities according to occupation in Poland in 2008 and 2010

Between 2008 and 2010 the income dispersion decreased both among qualified white –collar and blue-collar workers.[8] The absolute change was most substantial for construction workers (the Gini coefficient decreased from 0.30 to 0.24) and managers (it decreased from 0.39 to 0.34). However, the direction of changes used to be much different. Among the managers, the top earners were those whose incomes shrank the most (p90/p50 decreased from 262% to 209%), and among the construction workers the situation looked the opposite and improved in the case of the lowest paid individuals (p10/p50 increased from 44% to 60%) (Table II.2).

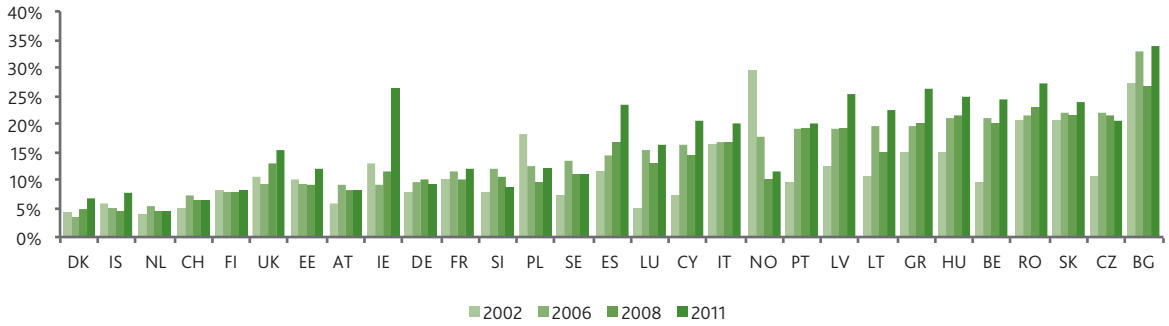
Table II.2. **The Gini coefficient, 1st decile and 9th decile vs. monthly gross wages distribution median by occupations in Poland in 2008 and 2010**

Occupation	Gini coefficient			1st decile vs. median			9th decile vs. median		
	2008	2010	relative change	2008	2010	relative change	2008	2010	relative change
Construction workers and associated professionals (excluding electricians)	0,30	0,24	-22%	44%	60%	36%	168%	157%	-7%
Personal services workers	0,26	0,21	-17%	76%	83%	9%	262%	209%	-20%
Managers	0,39	0,34	-14%	50%	46%	-7%	169%	180%	7%
Domestic care workers and cleaners	0,19	0,17	-12%	68%	67%	-1%	194%	187%	-4%
Education specialists and tutors	0,27	0,24	-11%	35%	37%	6%	150%	139%	-7%
Electricians and electronic engineers	0,23	0,21	-8%	69%	75%	9%	202%	202%	0%
Commercial farm workers	0,22	0,21	-7%	59%	71%	21%	223%	200%	-10%
Medium-level physical, chemical and technical sciences staff	0,28	0,26	-7%	51%	57%	11%	168%	171%	2%
Non-commercial farmers and fishermen	0,24	0,22	-6%	84%	84%	0%	179%	181%	1%
Medium-level law, social affairs, cultural staff and associated professionals	0,28	0,27	-5%	52%	54%	2%	173%	171%	-1%
Customer service staff	0,24	0,23	-5%	56%	59%	6%	150%	140%	-6%
Sales staff and similar workers	0,23	0,22	-4%	70%	76%	9%	163%	158%	-3%
Secretaries, office equipment operators and similar staff	0,23	0,23	-4%	53%	56%	6%	162%	159%	-1%
Physical, mathematical and technical science specialists	0,31	0,31	-3%	49%	49%	0%	205%	213%	4%
Metalworking staff, machinery mechanics and associated professionals	0,24	0,24	-3%	53%	55%	4%	168%	170%	1%
Drivers and vehicle operators	0,24	0,24	-2%	47%	54%	15%	177%	169%	-4%
Economy and management specialists	0,32	0,32	0%	48%	51%	8%	191%	173%	-9%
Health specialists	0,27	0,27	0%	65%	64%	-1%	186%	180%	-3%
Fitters	0,22	0,22	0%	60%	61%	2%	166%	165%	-1%
Auxiliary agricultural, forestry and fishery workers	0,20	0,20	4%	61%	71%	17%	151%	162%	8%
Medium-level health professionals	0,22	0,24	7%	62%	56%	-10%	162%	162%	0%
Operators of machines, mining and processing equipment	0,23	0,25	7%	57%	56%	-2%	212%	170%	-20%

Source: Own calculations based on the Structure of Earnings Survey.

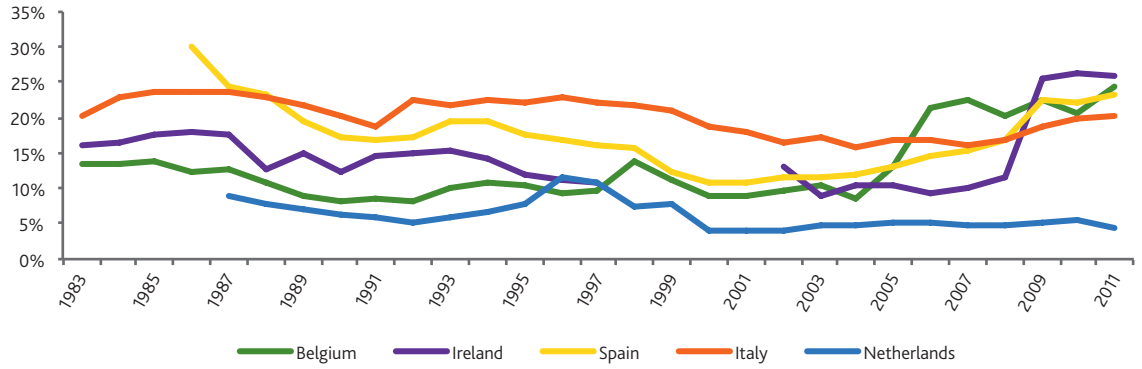
9 Unfortunately, the data pertaining to 2012 is not yet available.

Figure II.49. **The share of NEETs among individuals aged 15-24 in Europe in 2002, 2006, 2008 and 2011**



Source: Own calculations based on LFS.

Figure II.50. **NEETs shares among individuals aged 15-24 in the selected countries in 1983-2011**



Source: Own calculations based on LFS.

3.2 NEETS – YOUNG NOT IN EMPLOYMENT, EDUCATION OR TRAINING

During the crisis, the employment rates of young people used to fluctuate the most of all age groups. At the same time, the employment rate in their case was more changeable than the unemployment rate, pointing to the essential role of increased inflows into inactivity and less frequent entries on the labour market by the young people. In fact, the participation rate of individuals aged 15-24 substantially decreased. For example in the EU 15 it attained the lowest level ever recorded – 47.3% (it dropped by ca. 4% in 2008-2012).

A question arises what has actually happened to young people who have either exited, or refrained from entering the labour market. One may intuitively think that they might have chosen to continue their education. However, more and more of them neither work, nor educate themselves. Such phenomenon (the so-called NEETs – i.e. not in employment, education or training) is more and more frequently referred to as a relevant issue in the context of future labour market opportunities of such young people, and becomes a subject of more and more studies and analyses. For example Eurofund, taking into consideration both the costs of necessary benefits and losses due to lower employment (contributing, in turn, to lower income and consumption), emphasised that the inability to activate NEETs generates at the EU level economic costs equivalent to 1.2 of the total European GDP (Eurofund 2012).

The decrease of participation of young people can be attributed to their inability to find jobs, discouragement, and unwillingness to continue their education. We will further analyse which groups of young people are most susceptible to staying out of employment and education, and trying to establish whether the situation of NEETs during the crisis differs from that in times of prosperity.

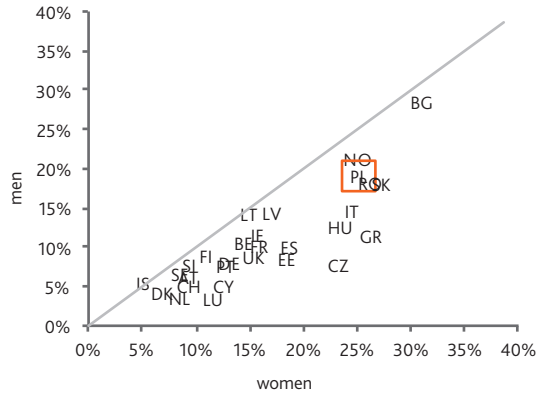
In 2012 NEETs accounted for, on average, 17% of all individuals aged 15-24, and 12% of them in 2002.[10] In the analysed countries, the total number of individuals remaining out of jobs and not educating themselves increased from 14.5 million in 2002 to 16 million in 2011. Both in 2002 and 2011, specific countries significantly differed from each other in terms of NEETs share. The lowest NEETs shares throughout the entire analysed period have been maintained in Nordic countries – below 10% (Figure II.49).[11]

The analysis of NEETs phenomenon from a long-term perspective allows us to depict the scale of problems faced by young people on the labour market in Europe. In some countries in the case of which LFS studies have been available since 1980s,

10 From 2002 onwards, all country data, except for Malta, is available.

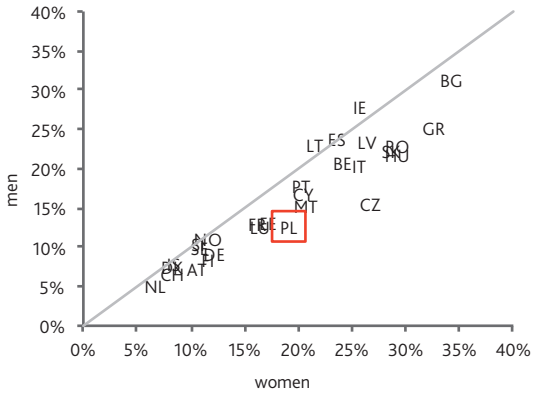
11 Pursuant to Esping-Andersen's classification (1990).

Figure II.51. NEETs shares among women and men aged 15-24 in Europe in 2002



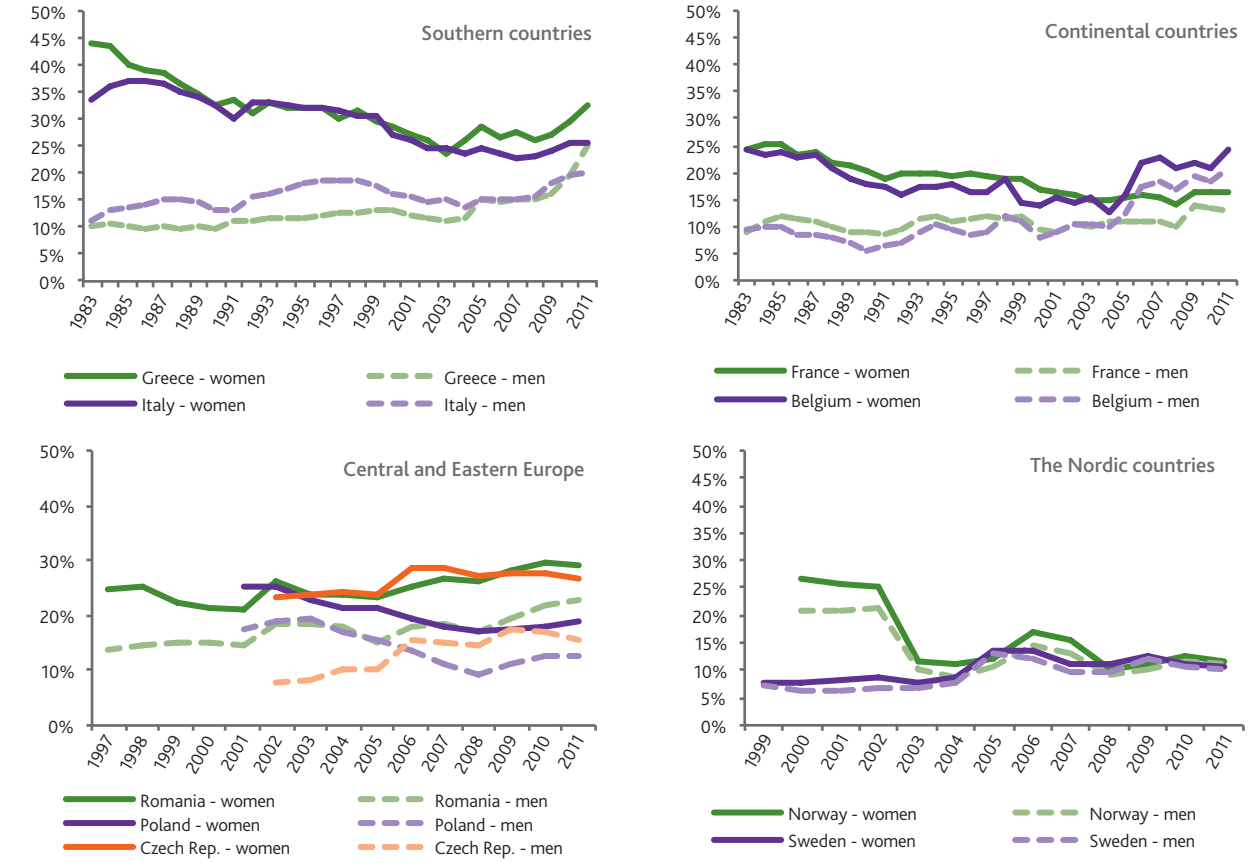
Source: Own calculations based on LFS.

Figure II.52. NEETs shares among women and men aged 15-24 in Europe in 2011



Source: Own calculations based on LFS.

Figure II.53. NEETs shares among young women and men in the selected groups of countries

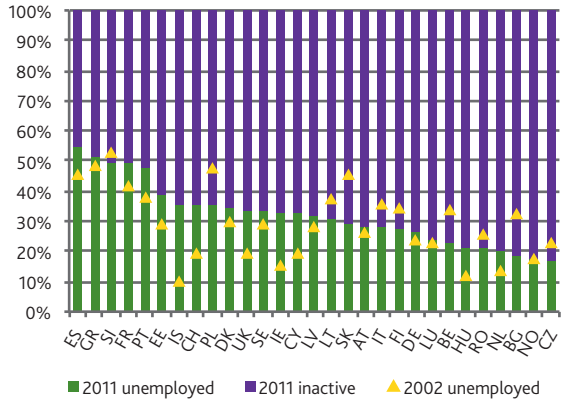


Note: The different lengths of time series are due to availability of the data.

Source: Own calculations based on LFS.

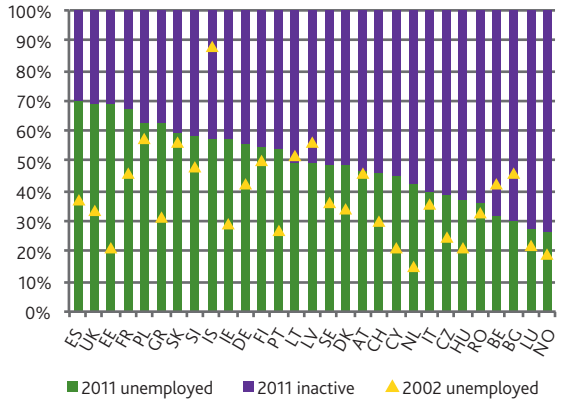
the Great Recession substantially deteriorated the situation of young people. In Ireland, the NEETs share among young people before the Great Recession used to be at a relatively medium level – ca. 15% and increased radically to 26% in 2011. In Belgium the labour market participation of young people started to diminish shortly before the crisis and the share of NEETs increased from 9% in 2002 to 21% in 2006 and has remained at that level. In Spain, although NEETs share started to increase at similar time as it did in Spain, in 1980s the situation of young people was similar to the current one. The Great Recession did not impact strongly the situation of young Italians where NEETs share over the entire analysed period fluctuates around 20%.

Figure II.54. **The structure of women categorised as NEETs in 2002 and 2011 according to their labour market status**



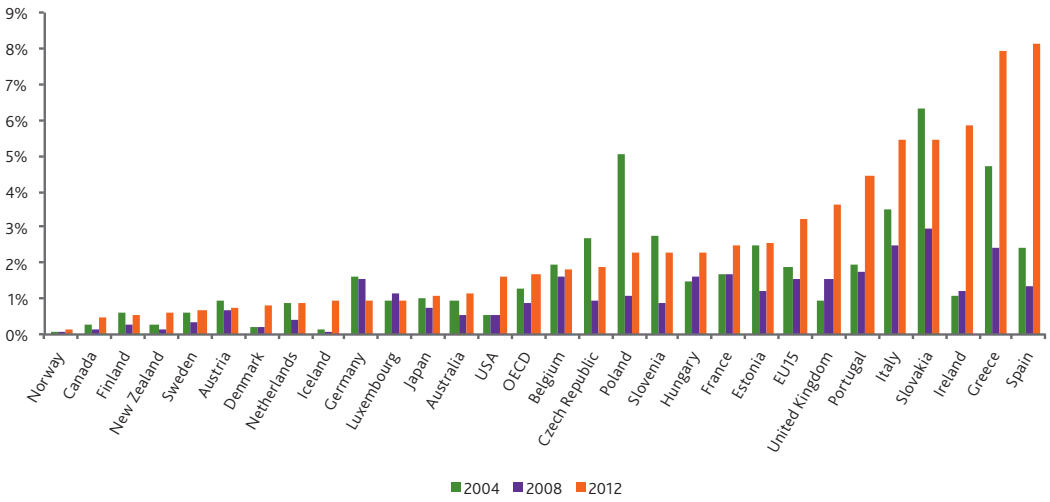
Source: Own calculations based on LFS.

Figure II.55. **The structure of men categorised as NEETs in 2002 and 2011 according to their labour market status**



Source: Own calculations based on LFS.

Figure II.56. **Long-term unemployment among young people in 2004, 2008 and 2012**



Note: Only individuals aged 15-24.

Source: Own calculations based on OECD data.

A country that has been reporting relatively low NEETs rates since mid-1980s is the Netherlands. Only in the second half of 1990s it increased to 12% and then dropped down to the previous levels – 5% on average (Figure II.50).

During the Great Recession, gender differences in terms of NEETs shares decreased. In 2002, it was young women who stayed out of employment and education more frequently than young men. In 2011, gender differences significantly decreased, mainly due to the fact that the incidence of such phenomenon increased among men. During the recent crisis, the unemployment rate of young men increased more substantially than among young women, which partly explained the narrowing down of the gender gap (Figure II.52).

More visible differences between women and men occur in those countries where, in view of a prevailing family model, women more often stay inactive and take care of their offspring (Figure II.53). However, over the past few years such differences started to diminish. In southern Europe NEETs share among women is higher than in other countries. Over the entire period from 1983 to 2008, there occurred a dropdown in the number of NEETs among women aged 15-24, accompanied by a slight increase in this share among men. The Great Recession only reinforced such phenomena, due to its greater impacts upon employment of the young men. Similarly, in the Continental countries[12], since 1990s the NEETs phenomenon has been gradually diminishing among women. Nevertheless, during the analysed period, there was no significant change in trend for men, but only fluctuations around a certain constant level. In Central and Eastern Europe, the changes have occurred simultaneously in the case of both genders. An exception to the rule is Nordic countries where no gender differences between NEETs shares have been observed.

12 Pursuant to Esping-Andersen's countries classification (1990).

Women who neither are in education, nor work, are mainly inactive, and in most countries such situation did not change in the period from 2002 to 2011. The two exceptions are Spain and Greece where in 2011 among the women referred to as NEETs there were more of those who were unemployed than those who were inactive. This change, however, is not attributable to any trends, but to the Great Recession, since in 2000-2007 the share of inactive young women in both countries used to increase, which tendency reversed itself in Spain and Greece in 2007 and 2008, respectively (Figure II.54).

The Great Recession substantially changed the structure of men classified as NEETs depending on their labour market status. In 2002, in most analysed countries, the majority of men who neither were in education, nor worked, were unemployed. Only in Sweden, the Netherlands, Norway, Hungary and Romania, the share of the inactive men among NEETs was higher than that of the unemployed. Meanwhile, in 2011, in half of all the countries, the young men more frequently remained inactive than unemployed (Figure II.55). In Poland, both among men and women categorised as NEETs, the share of inactive individuals is lower than the EU average.

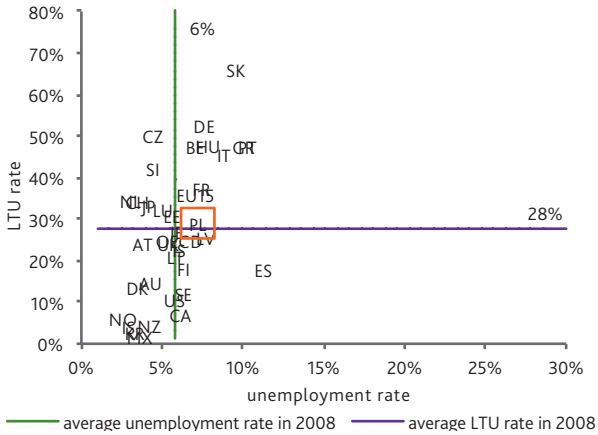
During the Great Recession young people used to face long-term unemployment more frequently than ever (Figure II.56). In most countries, the economic slowdown resulted in the lengthening of job-search periods among young people. If we compare the long-term unemployment risk caused by the Russian crisis with the one related to the Great Recession, we will conclude that young people reacted more strongly to business cycle fluctuations in such countries as the Netherlands, Australia, Czech Republic, Poland, Estonia, Italy, Slovakia and Greece – where during a slowdown the LTU shares among them was higher than during an upturn. In some countries, before the Great Recession the long-term unemployment among young people was just a marginal phenomenon, which intensified during the recent crisis, mainly in Ireland and Spain.

3.3 THE LONG-TERM UNEMPLOYED

Another group which calls for particular attention in view of the labour market policy are individuals who have been ineffectively looking for jobs for longer periods of time. The long-term unemployed (LTU) (i.e. staying out of work for more than 12 months, as defined by Eurostat) have poorer chances to find jobs: and the longer they stay unemployed, the poorer such odds are (Machin & Manning 1999). This is attributable to a number of reasons. First of all, staying out of work often leads to a depreciation of a person's human capital (Topel 1990). Moreover, being a LTU makes one feel discouraged, less willing to act, and can also lower one's self esteem, which further aggravates the problem (Layard, Nickell & Jackman 1991). The issue of decrease in the household income, the risk of poverty and correlated problems, are also of significance (Empoloyment in Poland 2011 (IBS/CRZL 2013)). The sense of discouragement caused by ineffective job-seeking leads to inactivity, which makes coming back to the labour market much more difficult and costly (Cahuc & Zylberberg 2004). Reassuming, long-term exclusion from the labour market can negatively affect both private life and professional career of an individual, and poses an important challenge ahead of the labour market policy from the macroeconomic perspective. In the present section we are attempting to analyse how long-term unemployment rates used to change during the Great Recession in order to identify the factors determining the long-term unemployment risk.

In 2008, the average share of individuals who had been searching for jobs for at least 1 year among all the unemployed was 28% in all the analysed countries, and in 2012 it increased to 35% (Figure II.57, Figure II.58). However, considerable differences in terms of long-term unemployment across countries were recorded. In 2008 and 2012 the lowest rates were reported in Norway and Mexico (below 10%), and the highest ones in Slovakia (over 60%). Although in 2008, no visible

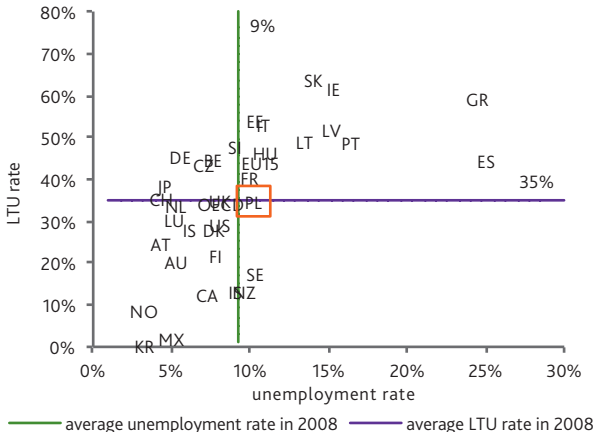
Figure II.57. **The unemployment rate vs. long-term unemployment share in the selected countries in 2008**



Note: The unemployment rate among individuals aged 15-64. The share of the LTU among unemployed vs. unemployment rate.

Source: Own calculations based on OECD data.

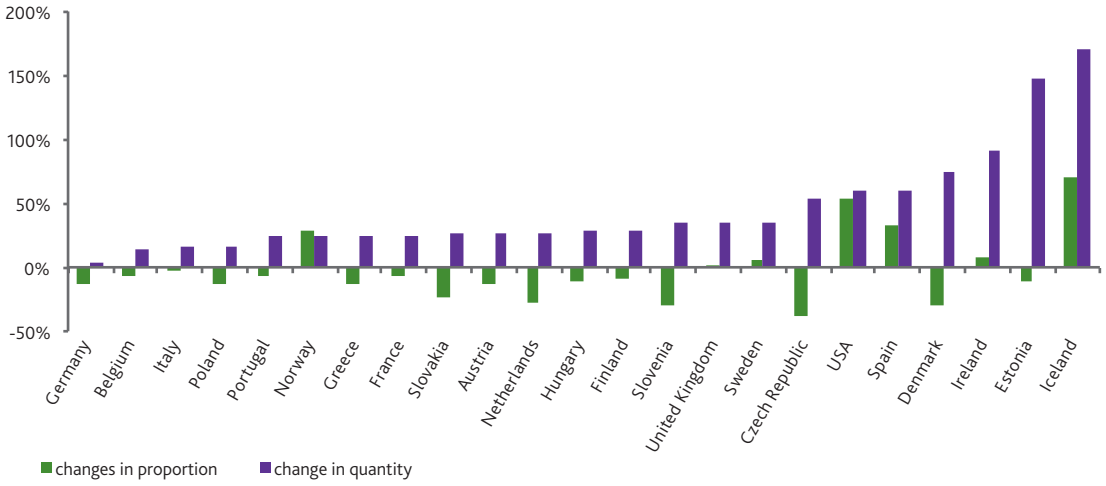
Figure II.58. **The unemployment rate vs. long-term unemployment share in the selected countries in 2012**



Note: The unemployment rate among individuals aged 15-64. The share of the LTU among unemployed vs. unemployment rate.

Source: Own calculations based on OECD data.

Figure II.59. **The change in LTU numbers and shares in 2008-2009 in the selected countries**



Note: Figure presents the share of the LTU in the overall unemployment.

Source: Own calculations based on OECD data.

correlations between the LTU rate and the unemployment rate were observed. Nevertheless in 2012, along with an increase in the unemployment in GIIS and the Baltic States, the LTU share increased as well, which can be attributable to the fact that the individuals who had lost their jobs during the crisis had difficulties in finding new ones.

However, we should be cautious in assessments of the scale of the long-term unemployment, based on the share of individuals who have remained out of work for at least 12 months in the total unemployment. For example in 2009 the share of the LTU in the overall unemployment decreased as compared to 2008. This phenomenon was not, however, a token of improvement but rather a consequence of a massive inflow into unemployment in 2009 (cf. Part 1 of the Report). In 2009 the number of individuals who had remained out of work for periods exceeding 1 year was higher than in 2008 (Figure II.59).

The number of the LTU increased the most in Iceland and Estonia – by over 100%. At the same time, however, in Estonia, as opposed to Iceland, the long-term unemployment rate before the crisis was relatively high, as compared to other EU21 countries. The mean share of the LTU among all the unemployed accounted for 50% in 2000-2007, as compared to the EU21 average – 44%. In Iceland, employment-related difficulties intensified considerably during the Great Recession. The share of the LTU grew from 5% reported in 2000-2002 to the average 12% in 2010-2012. Similarly to Iceland, long-term unemployment phenomenon also strengthened in Ireland and Spain. In Ireland, at the beginning of the 21st century the share of the LTU in the overall unemployment did not exceed 40%, but continued to grow throughout the entire crisis period and in the 2nd quarter of 2013 it reached 59%, whereas in Spain it increased from 30% to 50%, on average.

The long-term unemployment phenomenon is most acute in Slovakia, where ca. 65% of the unemployed are those who have searched for jobs more than 12 months. Nevertheless, during the recent crisis this situation did not worsen, and despite an increase in the overall unemployment rate in 2012, the share of the long-term unemployed stayed stable. On the other hand, in Belgium, the Czech Republic, France and Italy where shares of the LTU were above average in 2008, the unemployment rates increased. Nevertheless, such statistics do not explain whether preservation of long-term unemployment rate implies that part of the unemployed have found jobs or rather become discouraged and withdrew from the labour market.

During the Great Recession, gender distribution of the LTU changed. In the first part of the last decade, long-term unemployment used to be more widespread among women than it was among men. During the crisis, relatively more men lost their jobs, which led to an increase in the long-term unemployment risk. Long-term unemployment more frequently affects older people than young ones. Nevertheless, during the crisis, the growth of the long-term unemployment rate of young people is greater than that of those aged 55 and more. The incidence of long-term unemployment visibly increased among those people who had been employed in those sectors which bore the brunt of the crisis i.e. manufacturing, construction, financial services and agriculture. In terms of qualifications, unskilled blue-collars, unskilled white-collars, artisans and farmers are the groups for whom reassuming employment might be particularly difficult (The European Commission, 2010).

The data presented outlines the structure of unemployment in terms of job-seeking periods. However, it does not explain what happens to the LTU, and in particular, how often they re-enter employment, and who has the greatest chances to enter the labour market. The data for Poland allows us to investigate the long-term unemployment phenomenon more thoroughly, taking into account its dynamics and time context, as presented below.

THE CHANCES TO RETURN TO WORK BY THE LTU – THE POLISH CONTEXT

In Poland in the years 1995-2012, more than half of all the long-term unemployed continued to search for jobs also during a subsequent year. During economic booms (1995-1998, 2005-2008), such ratio was ca. 55%. During the previous deterioration on Polish labour market (1999-2004), it attained its maximum (75%) over the analysed period, and during the Great Recession it amounted to 60%. Figure II.60 shows that whenever the labour market situation deteriorates, the shares of people who stop searching for jobs, and those who find employment are comparable (i.e. 15% and 20% on average during the 1999-2004 crisis and the Great Recession, respectively), and along with an improvement of the labour market situation, the share of people finding jobs increases, and that of those exiting the labour market decreases (on average: nearly 30% of people find jobs and ca. 20% of them discontinue job-seeking).

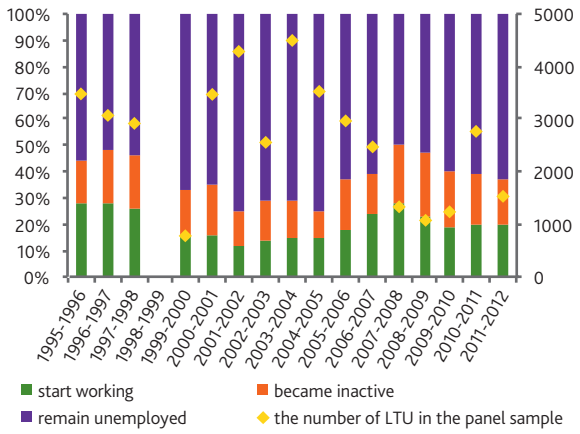
The individuals who have found jobs after experiencing long-term unemployment used to be unemployed shorter, on the average by 2 months, than those who either stayed unemployed or ceased to search for work, regardless of the labour market situation. In 1995-2008 no significant differences in terms of the length of unemployment spell were reported in the case of individuals who did not reassume working. Meanwhile, in 2009-2011, the individuals who typically exited the labour market were those who remained out of job for 29 months on average, i.e. by 2 months longer than those who continued job-seeking (Figure II.61).

Below we try to determine which personal attributes of the long-term unemployed increase their chances to find jobs, or the risk of discontinuation of job-seeking and becoming inactive. We would also like to find out whether or not such correlation changed during the Great Recession. For this purpose, we have used the so-called multinomial logit model. The choice of method depends on the nature of problem. The LTU may either continue searching for jobs, find employment, or stop searching and become inactive. For the purposes of modelling dependent variables that cannot be sequenced, attaining more than two levels, the multinomial logit is used (Cameron & Trived 2005). This model allows for quantitative interpretation of the odds ratio. However, considering the model assumptions, the odds should be assessed in reference to the reference status. In the presented model, the reference status is 'staying unemployed'. In order to verify stability of the estimated parameters, we have established models for various populations: (1) the long-term unemployed overall, (2) the long-term unemployed, excluding those who have engaged in farming, (3) the long-term unemployed who used to work previously (4) the long-term unemployed who used to work previously, excluding those who have engaged in farming. Moreover, specific models have been assessed separately, and jointly for both genders. The models have been assessed based on the combined Polish LFS panel data gathered in 1995-2012 taking into account the business cycle, by adding control variable with the study period. The estimates have been presented in Annex to Part 2. A particular emphasis has been put upon the presentation of findings concerning the LTU who used to work before, excluding those who have engaged themselves in farming.

During the Great Recession, the odds that the LTU would find employment were slightly better than during the 1999-2004 crisis, and such differences were particularly visible among men. Also, the inactivity risk was greater for men, while among women such differences were not statistically significant. In other words, the impacts of the 1999-2004 crisis and the Great Recession upon men and women who had remained unemployed for more than 1 year were different.

The women who have been unemployed for longer periods of time have poorer chances to find jobs, as compared to men, and they are more often likely to discontinue seeking for work. The

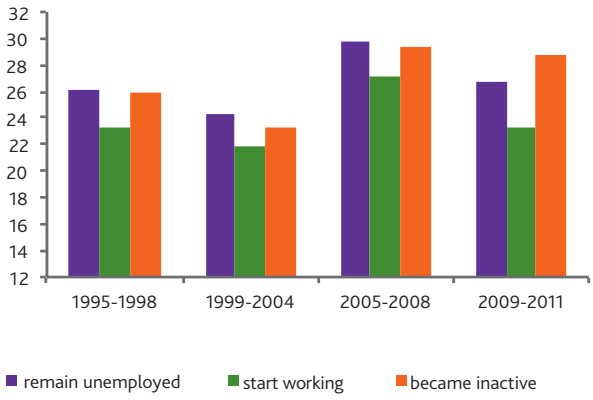
Figure II.60. **Flows from long-term unemployment to employment and inactivity in Poland, 1995-2012**



Note: There is no LFS panel data for 1998-1999.

Source: Own calculations based on LFS.

Figure II.61. **Average unemployment spell among the long-term unemployed in Poland in 1995-2011 (in months)**



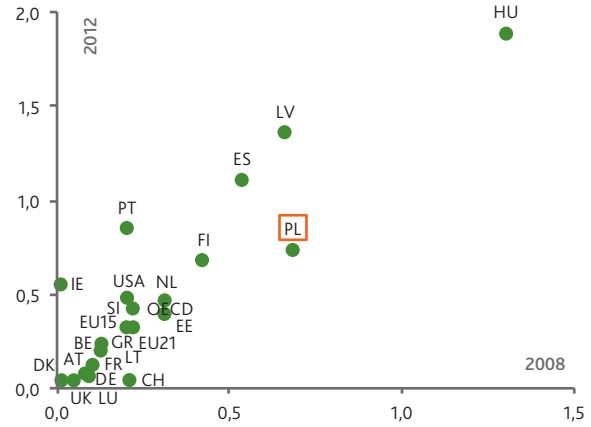
Source: Own calculations based on LFS.

Box II.10. Discouraged workers

Discouraged workers are a group of people who are willing and ready to work, but they partly or totally abandoned searching for jobs, since they believe that no adequate jobs are available.

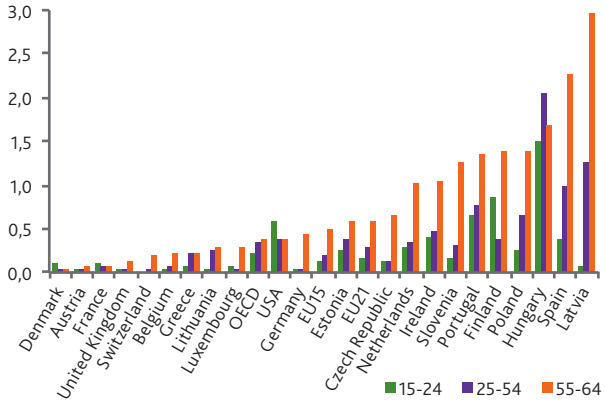
During the crisis the incidence of discouraged workers increased. The highest increases in their numbers were reported in Ireland, Denmark, Portugal, Slovenia, Spain and Lithuania – by over 100% between 2008-2012. In 2008, the average share of discouraged workers in productive-age population for the analysed countries amounted to 0.78%, whereas in 2012 it was equal to 1.32% (Figure II.62). In Poland, nearly 2% of all population (i.e. 193 thousand people in 2012) declared that they ceased searching for jobs even though they were willing and ready to work, since they believed that there were no adequate jobs available on the market. At the same time, however, in Poland the number of the discouraged workers did not change during the Great Recession. The discouraged workers manly include individuals aged 55-64 (Figure II.63). The US, where the problem mostly affects young people, and Hungary, where it largely concerns people aged 25-54 are the two exceptions to the rule.

Figure II.62. Discouraged workers in 2008 and 2012 (% of the population)



Source: Own calculations based on OECD data.

Figure II.63. Discouraged workers according to age groups in 2012 (% of the population)



Source: Own calculations based on OECD data.

odds that they start working are by one third lower than in the case of men, and the inactivity risk is higher by a half. It should be emphasised that although over the studied period, the difference between women and men in terms of their chances to reassume work has diminished – in model no. 4 for sub-period 1995-1998 the gender variable parameter amounted to 0.55, as compared to 0.67 for sub-period 2009-2012, during the Great Recession such ratio did not change.[13]

The employment structure changes observable across different occupations and sectors have also been reflected by the changing odds of finding a job by the LTU. The presented results of our estimates point to the importance of the last occupation of an individual in the context of his or her chances to return to work. These chances are by ca. 20% higher in the case of those individuals who performed skilled jobs, as compared to those who performed unskilled work. The risk of discontinuation of job-seeking is lower (by ca. 15%) for men working in the services sector, as compared to those employed in the manufacturing. For women, the risk of becoming inactive does not depend on the type of the previous employment sector. However, in the case of those who worked in services, the odds that they would find new jobs was by 20% higher among those who used to work in manufacturing. Moreover, individuals who used to work in the private sector are less likely to shift from long-term unemployment to inactivity and more often find new employment, than those who used to be employed in the public sector.

Impacts of the remaining variables upon the probability to start working, or become inactive have been consistent with the previous findings (cf. *Employment in Poland 2005*, Ministry of Labour and Social Policy 2005) and did not change during the Great Recession. In particular, the odds that an individual returns to work decrease with age, while the risk of inactivity increases. Nevertheless, in the case of men the chances to find a job differ across age groups to a lesser extent than among women. The people aged 15-24 who have remained unemployed for over 12 months are by 54% more likely to find employment as compared to those aged 30-44, while among those aged 25-29 the odds are by 18% greater, and among those aged 55-64 by 45% lesser. The probability of exiting the labour market by individuals aged 55-64 three times greater than in the case of those aged 30-45.

13 In order to check the robustness of model parameters over the analysed period, we have assessed all models in the following periods: 1995-1998, 1999-2004, 2005-2008 and 2009-2012. The results are available upon request.

With respect to long-term unemployment, education is a differentiating factor only in the case of individuals who have flown towards the employment. There is no significant difference across education levels when it comes to flows to inactivity. Chances of finding job by both women and men with tertiary education are by 90% higher than for those with secondary education. Women with primary education have poorer chances to find job that men with the same education level. Meanwhile, men with primary education have by 26% lower chances to find employment than secondary schools graduates, while in the case of women such difference is 40% accordingly.

None of the regions seems to favour the LTU as regards their chances to get reemployed, and in the majority of them, the inactivity risk is greater than in the central part of Poland (Mazovian and Łódź Voivodeships). Men who live in rural areas have somewhat greater chances (by 15%) to get jobs than those who live in cities with over 100 thousand inhabitants, and at the same time, face lower risk of inactivity (by 13%). Meanwhile, women in the rural areas have poorer employment prospects than those in large cities (by 22%). However, in their case, the type of residence does not affect the risk of inactivity.

The situation of the LTU is also shaped by factors related to households. The LTU living in households where self-employment is the main source of income are more likely to find jobs than those who live out of employment contract. Such chances are by 24% higher for women, and by 41% for men. Meanwhile, in the case of households where the main sources of income are pensions or benefits, the odds that LTU reassume work are lower than in the case of households attaining income from employment (by over 10%), while the risk of inflow to inactivity is higher (by ca. 20%).

The chances to find jobs by single men are nearly 40% lower than in the case of those who live with partners (assuming that all other parameters are the same). Although among the LTU women such factor is not relevant for returning to work, it does matter for flows towards inactivity, i.e. such risk is by ca. 20% lower among single women, as compared to those who live with partners. The odds that women discontinue searching for jobs increase substantially (by 25%) if they have small children. The presence of small children in households is not relevant in the case of men, both in the context of starting working, and discontinuation of job seeking.

In the case of men, the length of unemployment spell is of key importance when it comes to finding a job – the longer it is, the poorer the chances are. Those who have been searching for work for more than half a year, but shorter than 2 years have by 20% lower chances to enter employment than the short-term unemployed. After the next year such chances are by 26% lower, and after 3 or more years – by 40%. Meanwhile, in the case of women the chances of finding a job are substantially reduced only by staying unemployed for more than 3 years. Among individuals unemployed for more than a year and a half, the probability of discontinuation of searching for jobs and becoming inactive is higher both in the case of women and men.

SUMMARY

The effects of the economic crisis in 2008-2012 upon specific groups of people were diversified, and the changes of unemployment and employment rates heavily depended on gender and age. The unemployment rate remained the highest among young people, but the increase in the number of the unemployed – especially during the first wave of the crisis – was also strongly correlated to the growing unemployment risk among prime-age workers. In most countries, employment dropped down due to decreasing employment rates of the prime-age individuals, followed by these of young people. At the same time, the overall employment rate fluctuations were alleviated by growing employment of older people, which was attributable both to demographic changes, and to increasing labour market participation of this group. The employment rate growth observable in many countries during the second wave of the crisis was mainly due to an improvement in the employment rates of prime-age workers, which was, however, assisted by still decreasing employment rates of young people.

The sectoral differences observable in employment rates partly explain why men, especially young ones, were the group most affected by the crisis. This was attributable to strong masculinisation of the construction sector and manufacturing (where employment rate dropdowns are a long-term tendency), as well as to feminisation of the services sector, in particular of non-market services. The crisis did not reverse, however, the process of occupational polarisation of jobs i.e. decrease in the share of skilled manual workers accompanied by the growing share of highly skilled non manual employees. Interestingly, in Poland such tendency is observable mostly in the case of vacancy data, rather than in the employment rates themselves.

The crisis did not substantially affect income inequalities in the majority of the analysed European countries, and the insignificant changes of the Gini coefficient reported in 2008-2012 did not seem to be related to the changing labour market situation. In Poland, the dispersion of wages decreased, except from farming incomes, where the gap between the highest and the lowest income levels continues to expand.

In reply to the economic fluctuations, a number of young people either delayed their entry into, or chose to exit from the labour market, due to the sense of discouragement caused by ineffective job search. Therefore, unemployment rate fails to present the full extent of deterioration of their situation on the labour market. This deterioration is more visible if we analyse NEETs rates which apply to the group of young people who stay out of employment, education and training. The size of this group substantially increased during the Great Recession, especially among men. Its structure has also changed, and inactive people have started to prevail. In Poland, the situation in this respect is insignificantly more favourable than in most EU countries – the majority of NEETs are unemployed, the share of the LTU is lower, and the share of NEETs among people aged 15-24 is moderate.

Another, yet equally important, question is that about the people who have been searching for employment with no success. Their numbers increased significantly during the Great Recession (which was accompanied by the decrease in their share among all unemployed, due to the new inflows into unemployment), especially among men. The detailed analyses of the Polish situation indicate that the impact of the years 2008-2012 upon the unemployed women and men were quite diversified. Women who have been staying out of work for over 12 months are less likely to start working than long term unemployed men (especially those at older age, poorly educated and living in rural areas). Nevertheless, during the Great Recession, the LTU used to have slightly better chances to find new jobs that during the previous crisis on Polish labour market, and such differences were particularly observable in the case of men. Also, the inactivity risk among men increased, while among women the change was not statistically significant. In view of the proper addressing of actions and policies, it should be stressed that the inactivity risk of women visibly depends on the presence of small children in the household, but the same does not apply to men. Interestingly, the sector and profession in which the LTU used to work substantially affect their chances of finding job. Hence, the observable declining trend in the demand for skilled manual labour affects the chances to finding jobs by the long-term unemployed.

The effects of the crisis upon various socio-demographic groups were diversified, which brought about relevant consequences for the labour market policy, and more generally, the social policy. Such policy needs be properly addressed and adapted to specific groups, taking into account their respective needs and problems, which, as the analysis has proved, are strongly diversified. This would include, in particular, responding to the labour market challenges faced by young people and the long-term unemployed. These challenges are going to be further described in the chapter devoted to socioeconomic policy recommendations.

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Employment in Poland in 2012 Part III

Public Policy in the Face of Crisis

Joanna Tyrowicz, Agnieszka Kamińska

INTRODUCTION

Economic slowdown may be an effect of the reaction to external shock or might be a result of the internal economic imbalance. External shock may affect the supply (e.g. substantial change in the price of raw materials) or the demand (e.g. drop in the need for goods and services exported by a given country). However while this kind of typology is easy in theory, in practice the slowdown itself is complex. The current nature of shocks and adjustments in Polish economy differs substantially from the previous episodes of economic slowdown, thus the reaction of the labour market is different too.

The very absorption of macroeconomic shocks on labour markets is a derivative of the slowdown nature in the first place and also of the institutional environment. Normally it is assumed that regardless of the scale and source of shock, the economies with a higher degree of institutional flexibility experience deeper but at the same time shorter adjustments. On the other hand economies in which institutional solutions curb the rate and scale of adjustments need more time to fully absorb the shock and to thrive again. However this line of reasoning referred primarily to the shocks of structural nature requiring substantial adjustments not so much in the level of production, prices and employment, but mainly requiring substantial alterations in the technology and structure of production. Meanwhile some of the today's shocks are characterised by short-term turmoils, for example on international financial markets. In such conditions hardly flexible institutional environment may constitute in a way a protection against overly strong reaction of the economy to a temporary disturbance.

The ability of a given economy to respond to the crisis may depend not so much on the degree of institutional flexibility in a given moment (e.g. as compared to other countries), but also on its changes (e.g. as compared to the previous slowdown period). Modification of legal regulations (e.g. provisions concerning working time) is followed by renegotiations of the agreements between employees and employers, and it also imposes a change in expectations and attitudes on both sides. If at such point a slowdown occurs, the question how flexible the given solutions are compared to other economies is a secondary issue – and the question how much the crisis accelerates or curbs the process of adjustment of expectations, attitudes and formal agreements often constitutes a priority issue.

The institutional environment is referred to not only in the context of response to a crisis. The role of institutional factors in the shaping of phenomena structural in nature is often emphasised. The examples may be among others: the analyses concerning so called natural unemployment rate, mechanisms supporting the school to work transitions or the solutions favourable for reconciling work and family. Even though these are the problems substantial from the economic policy perspective, they constitute the subject for a separate study.

The aim of this chapter is to present the links between the labour market institutions and the ability to respond to the so called "crisis". Institutional structure has affected the absorption of shock caused by the crisis on one hand, and on the other hand it limited the government headroom in different areas of politics. The study includes the role of the nature of crisis as well as the comparison of the Polish economy with other countries with a similar level of development. The chapter consists of two parts complementing each other. Firstly the author(s) try to provide a broader answer in the subject of institutional conditions at the eve of crisis. This analysis refers mainly to the presentation of the *ex ante* absorption ability. The second part focuses on the solutions applied by different economies to help the economies in the absorption of this enormous shock – the global financial crisis. Special attention has been paid to the preliminary assessment of the effectiveness of the solutions introduced by different countries.

1 INSTITUTIONS OF THE LABOUR MARKET AND THE ABILITY TO RESPOND TO A CRISIS

According to many studies carried out in the last several years the structure of the institutional environment of the labour market has a crucial meaning for the absorption of shocks by the economy. The influence of the institutions of the goods markets on the dynamics of the development is studied in literature, both from the short- and long-term perspective. Studies applying the short-term perspective pay special attention to the impact channels of regulations on the economies' ability to absorb the macroeconomic shocks. Three basic research directions within this trend are: the analysis of the process of firm entry, development and exit (cf. for the United States – Olley, Pakes, 1996; for Italy – Bottasso, Sembenelli, 2001; for India – Aghion et al., 2006), the assessment of the potential impact of institutions on the real and nominal rigidities (Dexter et al., 2004; Lunnemann, Matha, 2005), identification of the links between the institutional support of the economy and the amplitude and permanence of cyclical fluctuations (Duval et al., 2007) and the absorption of shocks in individual economies (highly developed countries and countries with medium level of development – Bergoeing et al., 2004; Poland and the countries in the region – Lewandowski et al., 2008). The belief common for all directions in a short-term trend is that high barriers for entering the market, the limitations of the foreign trade, long-term bureaucratic procedures driving down the dynamics of the firm entry and exit. What is more in the countries with such characteristics reallocation of the production factors is usually slower and less effective than in the case of economies where the barriers mentioned above do not constitute a major hindrance. As a result the institutional setting on the goods markets has a major meaning for the severity and duration of recession.

Nevertheless the labour market itself is the market with the widest regulation and a specific one, introduced by formal and informal institutions. Boeri and van Ours (2008) emphasise that the labour market is an immanently imperfect market (i.e. differing from the rules of perfect competition). Imperfect markets are characterised by the existence of many institutions, i.e. provisions, rules and programs that on the one hand are formed as a result of the process of political nature aiming at (1) increasing the economic effectiveness and/or (2) achieving some redistribution goals, but on the other hand they have an impact on attitudes of individual employees and employers. Traditionally when talking about the labour market institutions one would focus on their influence on the mid-term, average level of unemployment, often referred to as a natural rate of unemployment. The most popular studies within this reasoning include: Bean (1994), Nickell (1997), Nickell and Layard (1999), Blanchard and Wolfers (2000), Nickell et al. (2005), and taking into consideration the interactions between the institutions - Belot and Van Ours (2004). Many previous editions of Employment in Poland shared this kind of perspective when discussing the labour market institutions . In the recent years more and more attention is drawn to the institutions seen from the angle of their influence on the absorption of shocks - Blanchard and Wolfers (2000), Bassanini and Duval (2006), OECD (2006), OECD (2012), Bukowski, Koloch, Lewandowski (2013). In this part we use this specific perspective. Special emphasis is put on the very institutions of the labour market and their changes both before and during the recession.

Restrictive regulations of the labour market, especially the ones increasing the employment protection, impede the adjustment of the manpower to the current needs in enterprises, and as a result they extend the time for economy's adaptation to the new conditions and for return of unemployment and employment to the equilibrium levels (OECD, 2006; Baranowska, Lewandowski, 2008). Similarly the level of income taxation influences the absorption of shocks. A high tax wedge in the first phase after the

Box III. 1. What are the goods markets institutions?

The institutions of the goods markets are usually defined as all of the prerequisite conditions and determinants of starting, running and development, as well as closing of business activity. Their source constitute both legal regulations as well as less formal principles of economic functioning (e.g. the model of social dialogue or the model of functioning of the bureaucratic apparatus). Legal regulations are important inasmuch they in fact have wide application in economy (friendly legal regulations but referring to a small group of cases are less important than minor hindrance but a one applying to most of entities).

By contrast widely understood labour market institutions are formed by everything that has direct influence on economic activity of the citizens of a given country. Canonically, the labour market institutions are the provisions concerning the rules for laying off and hiring the employees, working time flexibility, minimum wage and the form and rules for the passive and active labour market policy. Apart from these regulations the labour market institutions also include the laws referring to the access to respective professions, the possibility to reconcile the professional and family life, and also the solutions concerning raising of qualifications. Hence when referring to the labour market institutions , one usually goes beyond the scope of the Labour Code and *de iure* regulations.

Source: Own elaboration.

Figure III.1. **Effect of a one standard-deviation change in the policy or institution of interest, percentage change.**

*Note: The figure presents the impact of a change (equal to standard deviation) of a given institution on the structural unemployment rate. The estimation was conducted with the use of quarterly panel data from the period covering the 1st quarter of 1982 up to the 4th quarter of 2007 for 18 OECD countries (Australia, Austria, Belgium, Canada, Germany, Denmark, Spain, Finland, France, Great Britain, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Sweden, United States). ***,**,* - the level of statistical validity; 1%, 5%, 10% respectively.*

(1) index equal to the number of employees covered by collective bargaining divided by the total number of employees

(2) Visser, J. (2011), Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2010(ICTWSS), Version 3.0, www.uva-aias.net/208

(3) http://www.oecd.org/els/emp/EPL-Methodology.pdf

Source: OECD (2012)

occurrence of economic shocks limits the strength of their effect on the participants of the labour market, both unemployed and (Bassanini, Duval, 2006; OECD, 2006; OECD, 2012). However probably this causality is only apparent because in the countries with a high taxation the role of automatic stabilisers is stronger than in the countries with low taxes. What is more, the more rigid the wages, the higher is the importance of a tax wedge (e.g. with a wide outreach of collective bargaining, or a high degree of unionisation) (Prasad 2003). Additionally, the strength of trade unions has a positive impact on the time of economy's adaptation to shocks (Bassanini and Duval 2006), and the high coordination and ability of the parties to reach a consensus quickly make this time even shorter (Bassanini and Duval 2006).

Apart from adjusting the number of employees the possibility to adjust the costs of employment is also an important issue for an employer. Minimum wage reduces the wage dispersion at the bottom of the distribution of wages, which might prevent the employee's wage to be adjusted to his/her productivity, when it falls below the total cost of his/her employment determined by statutory minimum level. In such situation the employer may decide to dismiss the employee. Thus as a result of a negative shock resulting in, for example, decrease in aggregate demand, a minimum wage may be a factor contributing to the reduction of employment. However in most of the countries applying a minimum wage this solution refers to a small number of people and its contribution to the increase of unemployment rate during recession is minor. On the other hand it is worth noting that this phenomenon, even if occurring on a small scale, affects the groups that are at the highest risk of poverty and exclusion, including but not limited to young people without professional experience, for whom the loss of employment may be particularly devastating (Blanchard and Wolfers 2000). The higher the minimum wage, the bigger the scale of adjustments of employment, and the smaller the scale of wage adjustments resulting from economic shocks. A high cost of employment of people remunerated with a minimum wage make it harder for some unemployed people to find job, because from the perspective of an employer the cost of employing them may be higher than their productivity. Bukowski, Koloch, Lewandowski (2013) show that differentiation of the levels of minimum wage was an important factor explaining the diversification of the of scale of wage rigidity in the NMS8 countries.

Some elements of the institutional structure of the labour market may discourage the unemployed to search for work. A generous benefits system may potentially favour the extension of the average period of unemployment. It is important socially inasmuch as the longer the unemployment period, the smaller the probability of an unemployed person's re-entry into the labour market (Blanchard, Wolfers 2000; Bassanini, Duval, 2006). It happens because of the depreciation of the human capital and decrease in the productivity of the unemployed person. A negative signal for the employer that is connected with a long period of unemployment of the candidate (stigmatisation) also constitutes a substantial factor. What is important, this impact might be mitigated by properly designed and conducted active labour market policies aiming at helping the unemployed person in finding a stable employment. This is confirmed by numerous studies proving that bigger spending on the active labour market policies contributes to the reduction of duration of economic shocks absorption (Bassanini and Duval 2006).

2 LABOUR MARKET INSTITUTIONS BEFORE CRISIS

On the eve of global financial crisis – just as in the previous decades – EU countries differed substantially with regard to the institutional setting of the labour market. Figure III.2 presents the index of so called general strictness of the labour market regulation. The higher the value of this index, the higher the level of employment protection of, popularly understood as a so called labour market rigidity. This synthetic, general index consists of regulations concerning hiring and firing procedures and regulations referring to the shaping of working hours. The lower the value of this index, the bigger the freedom of the employer to shape the relations with the employees.

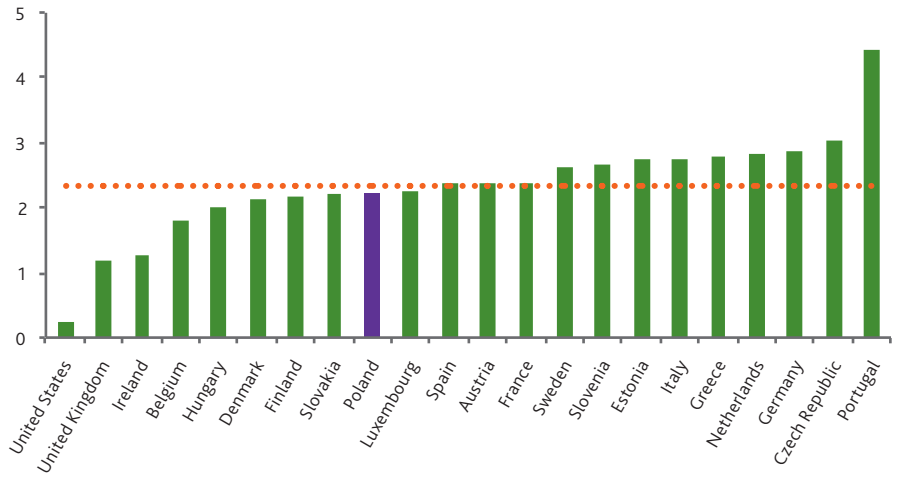
It is worth noting that this cumulative, synthetic index, a component of many aspects of the labour market operation, is not very differentiated. Most of the EU countries are relatively close to the average. Also Poland still before the economic slowdown started was characterised by a value close to the average. In total the labour markets in Great Britain and Ireland were definitely more flexible, and the labour market in Portugal – definitely more rigid. However this apparent lack of disparities stems from the fact that there are several models of the labour market in Europe. In the first one, present in Anglo-Saxon countries, the Netherlands and Denmark, low protection of the employment relationship (e.g. low costs of termination of the employment contract) is combined with high job security. In these countries one finds the job relatively faster. In the second model the protection of the employment relationship co-exists with considerable problems on the labour market, including also the high and relatively more persistent unemployment. This model is present mainly in southern Europe. The remaining countries search for the solutions other than the two models. Scandinavian societies, even though they treasure the job security, are gradually getting closer to the Danish model. In Germany, where the costs of dismissal are low, but the income protection relatively high due to the common "unemployment insurance", the institutional changes are heading towards enhancing the incentives for more intensive job search and faster job entry.

2.1 THE PROTECTION OF THE EMPLOYMENT RELATIONSHIP

The influence of the employment protection on the supply and demand on the labour market may be analysed with the use of different theoretical models of the labour market, such as job search theory, efficiency wage theory or the dual labour market theory (Tyrowicz 2011). Even though these models differ from each other conceptually, they lead to similar conclusions concerning the effects of the employment protection. Consequences of the restrictive employment protection anticipated by the abovementioned models are primarily the following:

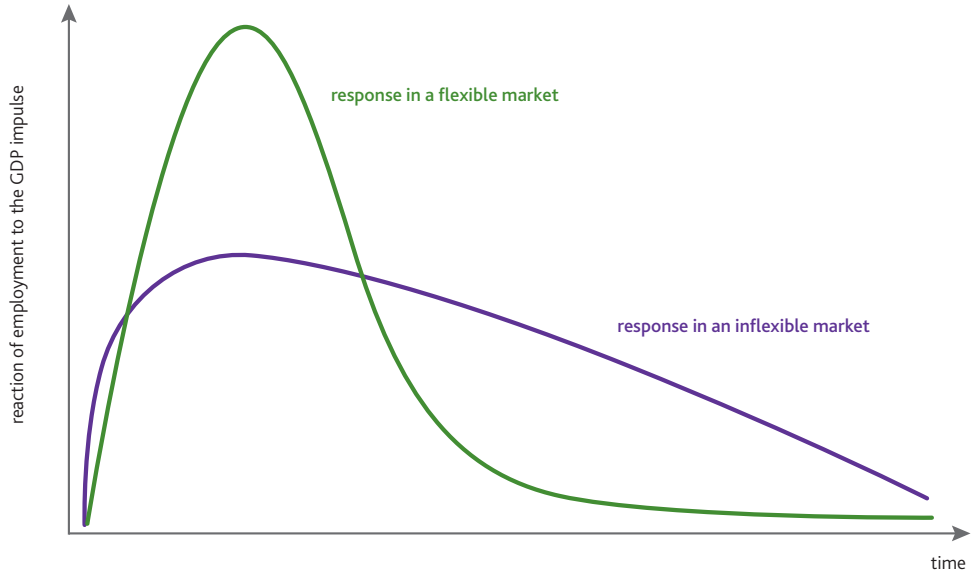
- Positive desired effects: in response to the changes in the economic growth rate (i) job destruction rate is lower and thus the unemployment inflow rate is lower too (ii) the stability of employment in the business cycle due to relatively high costs of dismissing and employing (Figure III.1).

Figure III.2. **General strictness of the employment protection (EPL) (2009).**



Source: Eurostat

Graph III.1. **Reaction of the employment index to the positive impulse of the GDP growth rate on the flexible and less flexible labour market**



Source: Jiménez-Rodríguez and Russo (2012) , Tyrowicz (2011)

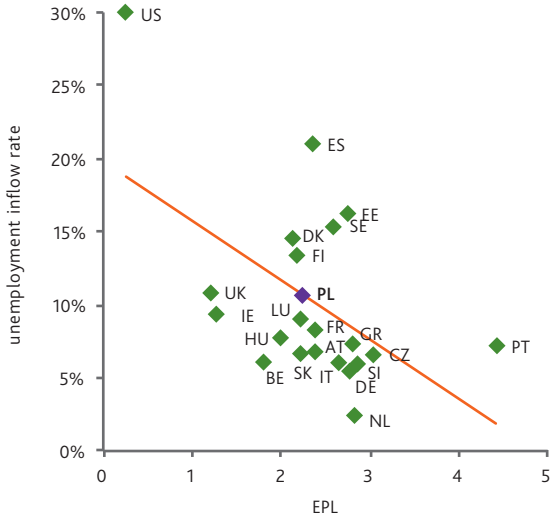
- Negative unintended consequences: (i) lower rate of job creation and lower unemployment outflow rate, particularly lower hiring rate resulting from higher hidden labour costs; (ii) lower job destruction and creation rates entail slower pace of restructuring of enterprises and slower reallocation of the workforce directed at higher effectiveness of allocation, and thus they inhibit the growth of the workforce productivity; (iii) longer duration of unemployment and higher rate of long-term unemployment as an effect of the lower hiring rate; (iv) entry into the labour market more difficult for less privileged groups; (v) lack of impact on unemployment rate inasmuch as lower unemployment inflows are compensated by lower unemployment outflows; (vi) lower employment rate, especially among the least privileged groups, due to higher labour costs; (vii) more common application of non-standard employment contracts (fixed-term contracts, civil law contracts, self-employment) as an employer's attempt to avoid the restrictions in regulations concerning standard employment contracts; (viii) increase in the percentage of persons employed without a contract (illegally), brought on by the desire to avoid the costs connected with legal employment.

The results of studies of the connection between the strictness of the employment protection and the labour market operation are the same as theoretical predictions. Strict employment protection usually reduces the chances of leaving unemployment, extends its duration and decreases the employment rate in the groups at the margin of the labour market, e.g. among young people (Jimenez-Rodrigues and Russo 2010). What is more according to the predictions of theoretical models, igid employment protection contributes to the expansion of shadow economy. High employment protection also causes the slowdown of reallocation of workers, thus hampering the productivity growth (Scarpetta and Tressel 2004).

According to the predictions of the labour market models empirical evidence suggests that restrictive employment protection contributes to the decrease of both, the unemployment inflow and outflow rates (Figure III.3, Figure III.4). In the countries where the employment protection is more rigorous, the employees lose their jobs less often. At the same time the unemployed have smaller chance to find job. By contrast in the countries where the employment protection is low, the employees lose their jobs more often, but it is relatively easy for them to find a new one. Restrictive employment protection thus causes that the dynamics of changes on the labour market is lower than in the flexible market conditions. What is more, the studies confirm the hypothesis that high employment protection strengthens the dualism of the labour market. Together with the increase in strictness of employment protection, the situation of the persons employed on the basis of an employment contract, so the ones that had a relatively good standing on the labour market, gets better. At the same time the position of persons with no permanent employment deteriorates, because the chances to find it get smaller.

There is also some evidence confirming that strict employment protection contributes to the prolongation of the unemployment duration (Figure III.5), and thus to the increase in the percentage of the long-term unemployed (Figure III.6). In OECD countries with relatively low employment protection an average unemployment duration is usually lower than in the countries with high employment protection. What is more, in European countries with low and moderate employment protection (with an employment protection index below 2.6) the percentage of the long-term unemployed among all the unemployed averages 35%, and in the countries with relatively high employment protection it 43%. Thus there are significant

Figure III.3. **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and the unemployment inflow rate (in 2009)**



Source: Own calculations based on OECD and Eurostat data

Figure III.4. **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and the unemployment outflow rate (in 2009)**

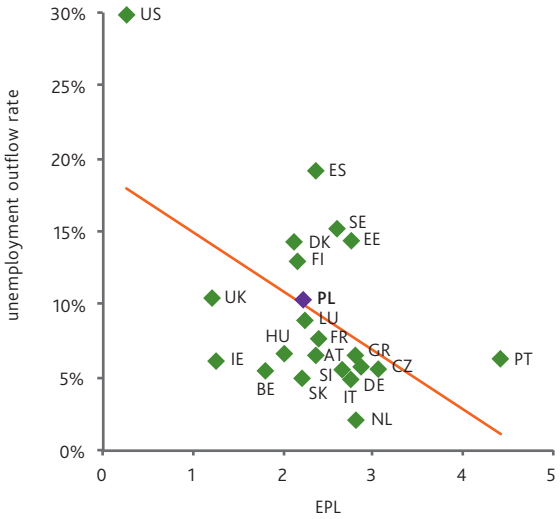
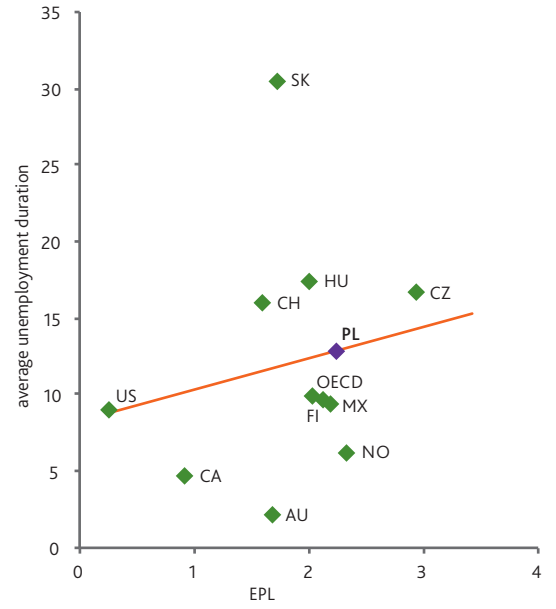
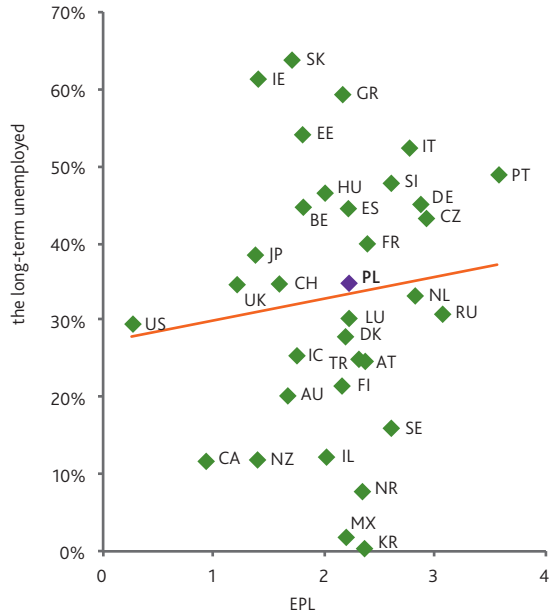


Figure III.5. **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and average employment duration (in months) (in 2012)**



Source: OECD

Figure III.6. **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and the percentage of the long-term unemployed among all the unemployed (in 2012)**

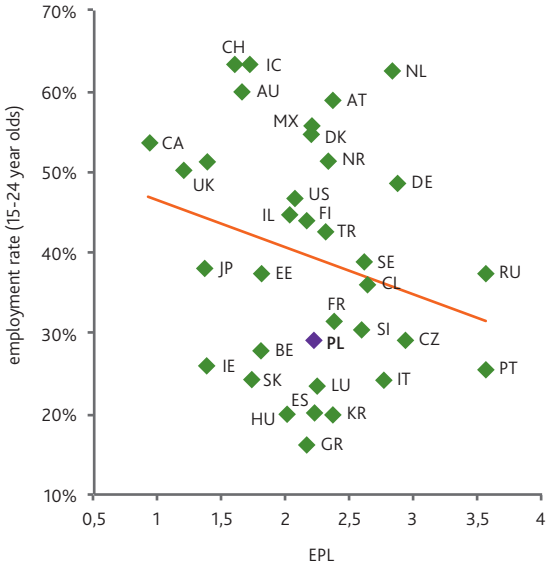


Source: OECD, Eurostat

differences in the difficulty of finding a job between economies with relatively flexible and rigid labour markets, largely stemming from the legal protection of employment.

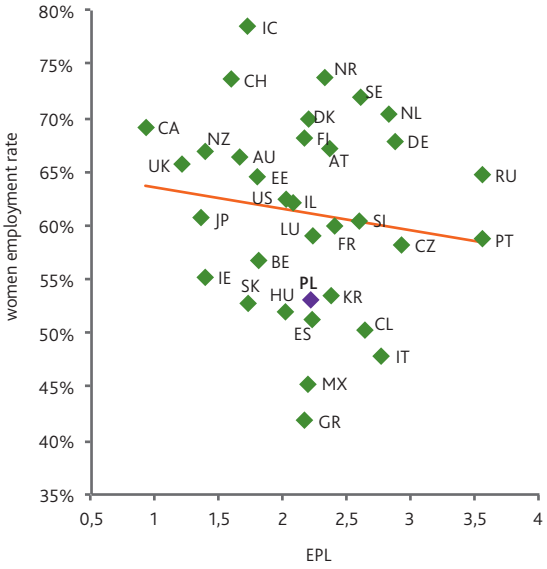
As mentioned before, strict employment protection influences the chances of finding a job in groups in relatively difficult situation on the labour market. There is a negative correlation between the restrictiveness of the employment protection and the youth employment rate. In many countries where the employment protection is relatively low, the youth (15-24 year olds) employment rate exceeded 50% in 2012, while in the countries with a restrictive employment protection it usually stayed below 40%. Also in the case of women a negative correlation of the degree of employment protection and the employment rate. Yet it is significantly lower than in the case of employment of young people.

Figure III.7. **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and employment rate among persons aged 15-24 (in 2012)**



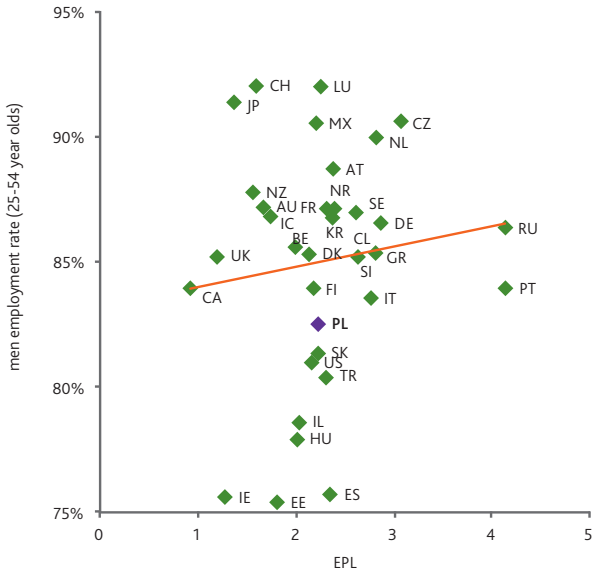
Source: OECD

Figure III.8. **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and the employment rate among women (in 2012)**



Source: OECD

Figure III.9. **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and the employment rate among men aged 25-54 (in 2012)**

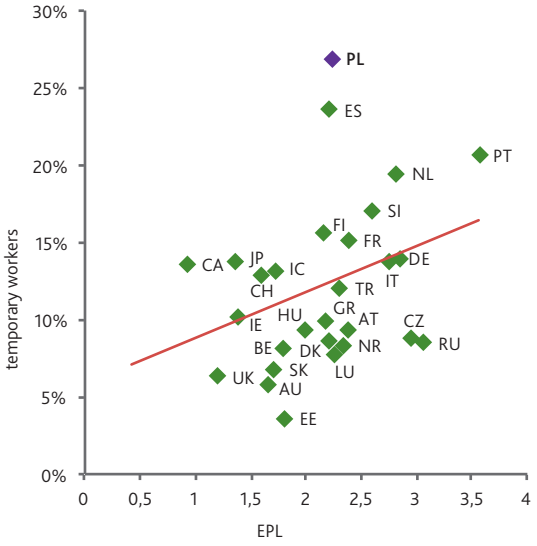


Source: OECD

Pursuant to the predictions of theoretical models the strict employment protection enhances the situation of the persons with a relatively good standing on the labour market (Figure III.9). In the countries with a restrictive employment protection the employment rate for men aged 25-54 (so called prime-age) is usually higher than in the countries with a low employment protection. The reason for this dependence is a fact that men from this age group are comparatively often employed under a permanent contract, which constitutes the most stable form of employment. However there are groups, for example young and elderly people, for which the effects of high employment protection are disadvantageous. As a result, the difference between the standing of the least and the most privileged groups on the labour market is getting larger. Strict employment protection thus contributes to the labour market segmentation.

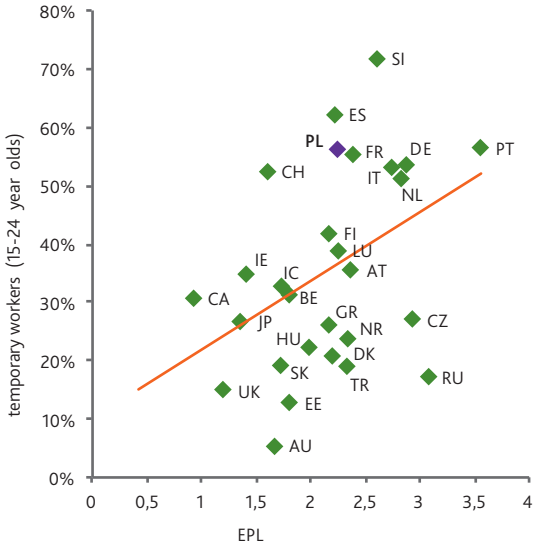
Restrictive employment protection fosters the application of atypical forms of employment, including temporary

Figure III.10 **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and the percentage of temporary workers (in 2012)**



Source: OECD

Figure III.11 **Restrictiveness of the employment protection (EPL – Employment Protection Legislation) and the percentage of temporary workers aged 15-24 (in 2012)**



Source: OECD

contracts, contracts for definite period of time and civil law contracts. Such contracts are used by the employer to avoid costs and restrictions connected with concluding a standard employment contract. Atypical forms of employment, especially temporary employment, are notably more commonly applied in the countries where the employment protection is relatively high (Figure III.10). This is true especially for young people (Figure III.11). For the persons entering the labour market, a work under a non-standard contract is often the only way to gain professional experience. However usually a work under such contracts is connected with a sense of lack of stability of employment and lower wages. According to OECD (2006), in 2004 in the European Union temporary workers earned on average 15% less than workers with regular contracts. This gap then amounted to 6% in Denmark to 24% in Netherlands. What is more, quantitative adjustments as a result of demand shocks are significantly more noticeable for employees that are not employed under a standard employment contract. Due to a relatively easy and cheap dismissal procedure, they are at risk of losing their job during an economic slowdown more than full-time employees. This is another dimension of the labour market segmentation supported by a restrictive employment protection. Employees are divided into two categories: the ones with a sheltered employment and the ones with uncertain employment. Strict employment protection may thus lead to the increase in inequalities on the labour market.

In the countries with a more restrictive employment protection shadow economy is usually more developed than in the countries with a low employment protection. Many works focus on the connection between the expansion of the informal sector and the employment protection. Fialova and Schneider (2010) have noticed a statistically significant influence of the employment protection on the size of shadow economy in the European Union countries. The estimated effect is somewhat stronger in the old member countries of the European (EU 15), than in the new ones (EU-10). In the European Union countries with the most restrictive employment protection, the share of shadow economy is estimated to be approximately 3.5 percentage point higher than in the countries with a relatively low employment protection. This result confirms the predictions that strict employment protection makes some of the employers hire the employees in an informal way (illegally) to avoid costs and restrictions resulting from the protection of employment. Moreover, some of the people searching for work move to the shadow economy because of the difficulty of finding employment in the formal sector. Thus, too rigorous employment protection contributes to the expansion of shadow economy and increase of the percentage of persons working illegally by increasing the differences in costs of legal and illegal employment.

Restrictive employment protection negatively impacts the productivity growth because it causes the decrease in both the job destruction and job creation rates, thus impeding the restructuring of enterprises and reallocation of jobs. The latter is an essential source of the productivity growth , because there is a tendency concerning the flow of workforce from less to more productive companies and sectors. Rigorous employment protection discourages potential entrepreneurs from starting companies, thus impeding the productivity growth and creation of new jobs (World Bank 2005). Therefore, high employment protection may have a negative impact on the country competitiveness. This statement may be illustrated by the example of Croatia where relatively high labour costs (as compared to the

neighbouring countries) are seen as a notable impediment to the creation of new jobs and to the employment growth (World Bank 2009). High costs of employment in Croatia are reflected in the productivity of work which is low compared to the level of wages.

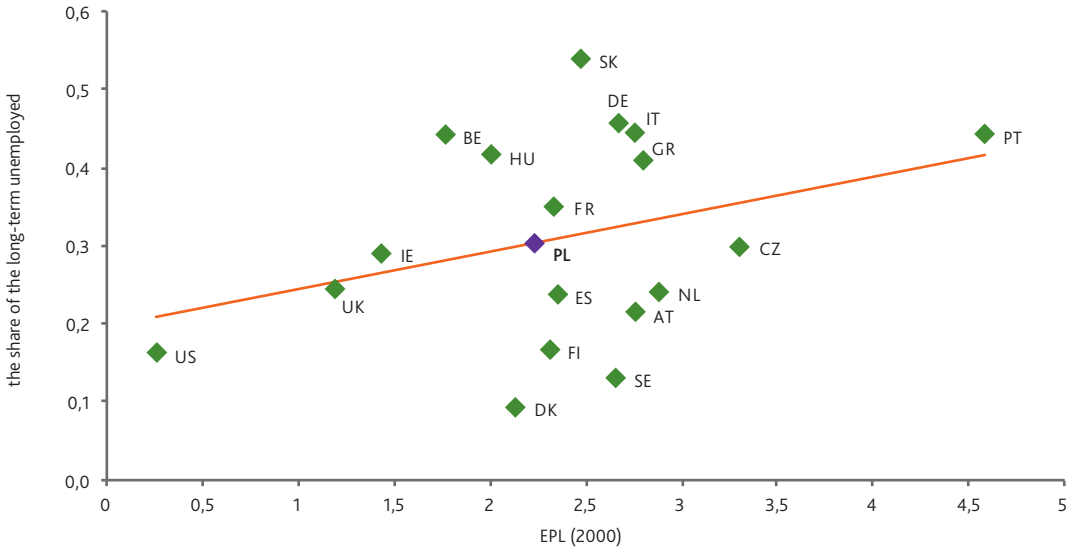
There is evidence that the labour market reforms aiming at increasing the labour market flexibility contribute to the boosting of the reaction of employment to demand shocks. Research reveala that as a result of recent introduction of the labour market reforms in France, Germany, Italy and Spain, the level of employment reacts more noticeably to the changes in production. The labour market reactions in these countries may be compared to those noted on the British labour market which is one of the most flexible ones in the European Union. Thus it can be anticipated that the increase in the employment rate during the revival after the recession period will be much faster in the countries in which the labour market has been made more flexible by lowering the employment protection. In the period of increased demand the low employment costs encourage employers to create new jobs, which contributes to the increase in employment and reduction in unemployment. The fact that employment is more dependent on the changes of the economic situation means that it will also strongly react to the negative demand shock. However it is worth noting that great flexibility of employment compared to the product changes decreases the persistence of unemployment, which constitutes a significant fact from the perspective of preventing the poverty.

Even though the restrictiveness of regulations concerning the possibilities of terminating the employment gives the employees a sense of security, it may have a negative impact on the employers' willingness to create new jobs. New job involves the costs connected not only with its creation and finding an employee. Firstly, if any of the employees turns out to be unsuitable for a given position right after the end of the probation period, the employer will bear great costs connected with the dismissal of such person. Secondly, with a more unconventional competency profile it happens that an employer has to put several candidates on a probation before the right person is found. Meanwhile if the possibility of "checking" the candidate goes beyond the probation period, the cost of finding the right employee should also include the non-neglectable cost of dismissal of several or several dozen candidates before finding the right one. Thirdly, starting a business of a new nature usually entails a significant risk of failure. If a discontinuance of a certain type of business activity apart from "sunk costs" requires also taking into account some considerable costs of dismissals, the majority of projects might seem unprofitable *ex ante*, actually reducing the investments in total, including particularly the expenditure on creating new jobs in economy. In fact the countries with a higher level of employment protection are characterised by more long-term unemployment and higher unemployment rate among youth. This link has been emphasized many times in empirical research and OECD reports. Figure III.12 shows the example of a strong link between general restrictiveness of the labour market situation and the share of the long-term unemployed. During the economic slowdown a negative impulse in demand for labour might result in intensifying these more general tendencies.

2.2 COSTS OF LABOUR

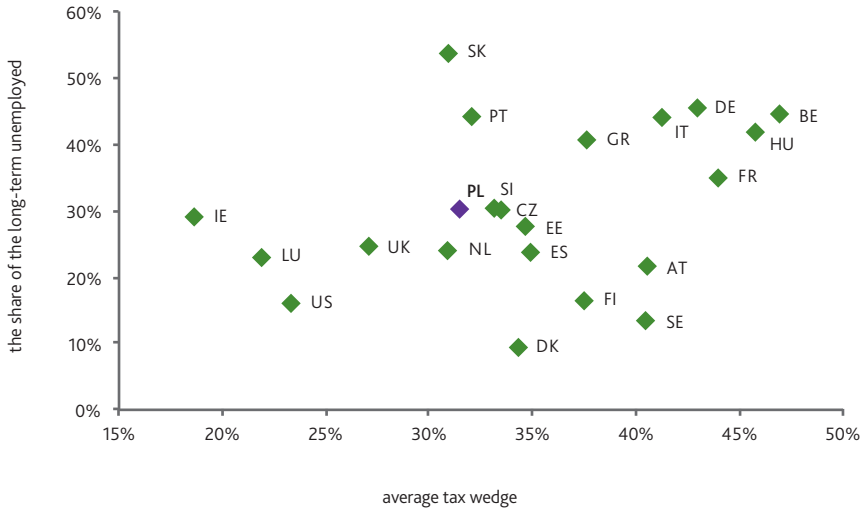
Apart from strictness of the employment protection legislation the so called non-wage labour costs also have a considerable impact on the labour market situation. The mechanism of influence relates mainly to the employees with a more difficult labour market position, especially persons with lower qualifications. High non-wage labour costs

Figure III.12. **General strictness of the employment protection and the percentage of the long-term unemployed before the global financial crisis**



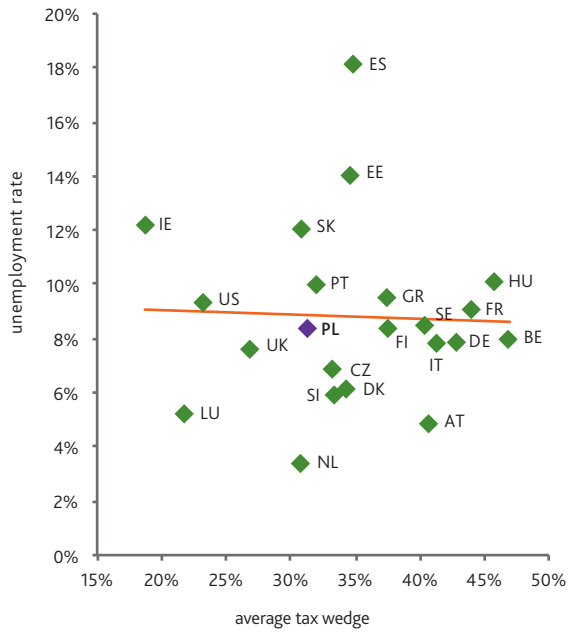
Source: OECD and Eurostat

Figure III.13. **Average tax wedge for different types of households and the percentage of the long-term unemployed (2009)**



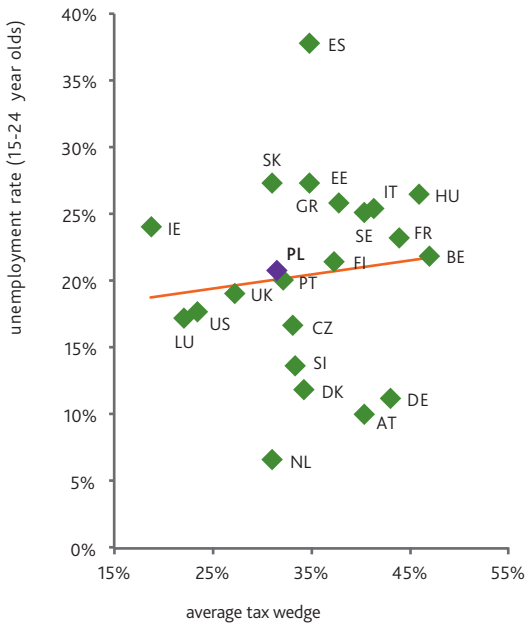
Source: OECD and Eurostat

Figure III.14. **Average tax wedge and the total unemployment rate (2009)**



Source: OECD and Eurostat

Figure III.15. **Average tax wedge for different types of households and the unemployment rate among people aged 15-24 (2009)**



Source: OECD and Eurostat

reduce the probability that a given investment project will be profitable, which reduces the total investments for the creation of new jobs. Because the role of the tax wedge is relatively bigger with lower wage, this phenomenon is particularly painful in the case of low-skilled jobs or the ones that generate lower added value. The studies prove that the economic slowdown episodes are the periods of automatisation of such jobs, which additionally increases the scale of dismissals and decreases the pool of jobs available in the future in this labour market segment.

Countries with a higher tax wedge are the countries in which a relatively higher percentage of people losing their jobs search for it for more than 12 months. As shown in the Figure III.13, this tendency is not connected with the occurrence of the economic slowdown, constituting the reflection of the more general mechanism described above. The crises deepen the more generally occurring tendencies. What is significant, this regularity entails profound consequences. In particular these countries experience faster withdrawal of the unemployed from the labour market as such people get discouraged in their

search for work (discouraged workers). Problems of young people with entering the labour market due to the non-wage labour costs results in less intensive job search. Such persons are characterised in surveys as inactive, even though they could work. In Germany such persons, among others, were subjected to activation measures referred to as 1-euro jobs.

Also the access to the labour market may to a great extent depend on the tax wedge level. While there are no grounds for claiming that the countries with a higher tax wedge are at the same time the countries with a higher unemployment rate (Figure III.14), it seems that the high labour tax wedge deepens the labour market segmentation. It is harder to find job for employees with a lower productivity or if it is difficult to verify it before employment, if such employee is expensive for the employer. The example of such group are young people – little or no experience at all make it difficult for the employer to assess how profitable will be to hire such person. High non-wage labour costs actually increase the level of risk connected with the employment of a young person, because even if this person agrees to work for a minor remuneration, the total cost of establishing the employment relationship is high.

2.3 TRENDS IN INSTITUTIONAL DETERMINANTS OF THE LABOUR MARKET

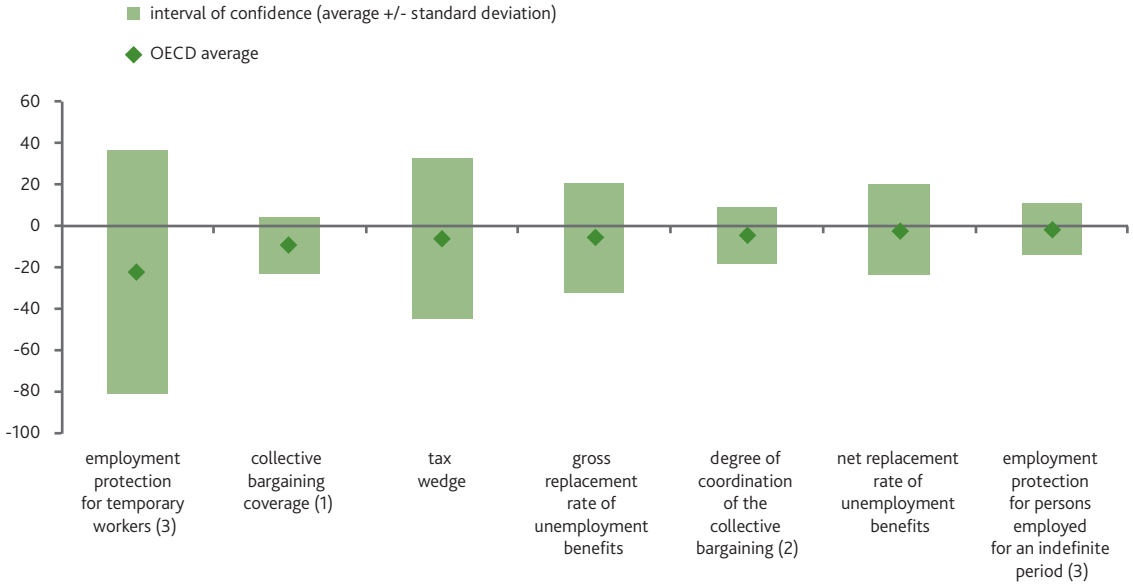
Both the strictness of the regulations concerning the rules of establishing and terminating an employment relationship and the non-wage labour costs fosters the deepening of the labour market segmentation – even if the total unemployment rate is not higher because of these institutions, it takes more time to find a job and it is less accessible for the groups, which in general find it hard to find one. Due to this fact in several years before the global financial crisis many OECD countries have introduced a number of reforms aiming at supporting the economic growth and the creation of new jobs. Those changes were triggered by an influential report "*OECD Jobs Study*" (OECD 1994), the creation of which was commissioned by the G7 countries at the beginning of the '90 and it was presented in 1994, with an aim to explain why the situation on European labour markets was at the time much worse than in the United States where the phenomenon referred to as the "*jobs miracle*" occurred. The key message of that report, and also of many subsequent cross-sectional studies and works created by international organisations, was that the cause of these differences is the occurrence in Europe of many institutional "rigidities" that impede the creation of so many jobs in the private sector as in the United States. The changes in labour market regulations introduced from that time were directed mainly at increasing the flexibility of the labour market, and in the recent years also at enhancing social security with a parallel reduction of the dependency of households on social benefits. The reforms carried out in the last several years in OECD countries, including Poland as well, were thus directed at broadly defined structural changes on the labour market. As it later turned out the changes introduced before the recession had some influence on the transmission of economic shocks on the labour markets during the last crisis (OECD 2012).

In general, one might say that the reforms carried out before the crisis (after 1995) were oriented at reducing the governmental involvement in the labour market. However it is not a direction chosen by all of the OECD countries. The analysis of the changes of the labour market institutions in the years 1995-2007 points to significant differences between the OECD countries with regard to the direction of reforms (Figure III.16). Different directions of reforms are arguably a result of large economic disparities between OECD countries. On the one hand, in each of the countries the optimal set of policies fostering the growth of employment may be slightly different. On the other hand, the policies conducted in individual countries may support the enhancement of effectiveness or redistribution to a different degree (Boeri and van Ours, 2008). Nevertheless in majority of the countries the activities were undertaken to ensure the balance between the social security and the dependence on social benefits, by introducing employment support programs. Regulations encouraging labour market participation had a significant impact on the attitude of people who lost their jobs during recession. In many countries there were attempts made to reduce the dependency of the persons at working age on the unemployment benefit, by lowering their replacement rate and limiting the time of providing the benefits (e.g. Denmark, Netherlands).

As mentioned before the imperative aim of part of the reforms carried out before the recession was also the increase of flexibility of the labour markets. In the years 1995-2007 the regulations concerning permanent contracts were liberalised. The analysis of the changes of labour market institutions before the recession points among others on the decrease in the employment protection for the employees with temporary contracts. From the perspective of a global financial crisis, these changes make one wonder about their influence on the labour market reaction on the decrease in the aggregate demand which occurred during the recession. After 1995 the reforms were introduced in many countries enlarging the freedom of employees and employers concerning the duration and organisation of working hours (OECD 2012). Such solutions aim on the one hand at reconciling work with private life, and on the other - the adjustment of workforce to the current needs of an employer. The flexibility of working hours may cause a weakening of the labour market reaction to the decrease in aggregate demand. As shown in part 1 of this report, the decrease in demand for work during the crisis of the recent years, apart from the employment rate increase, also caused the reduction in an average number of hours worked by the employees. This means that flexibility of the working hours organisation by the employers may be seen as a some kind of buffer mitigating the impact of the decrease in aggregate demand on the employment rate.

A degree to which the recession affects the labour market depends also on the wage-setting mechanisms, which similarly to the regulations concerning the working hours have an impact

Figure III.16. **Change of the chosen labour market institutions in OECD countries in the years 1995-2007**



Note: Average percentage change in OECD with a 90% confidence interval
(1) index equal to the number of employees covered by collective bargaining divided by the total number of employees
(2) Visser, J. (2011), Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts, 1960-2010(ICTWSS), Version 3.0, www.uva-aias.net/208
(3) http://www.oecd.org/els/emp/EPL-Methodology.pdf

Source: OECD (2012)

on the capability of enterprises to adjust the workforce to the situation on the market. The collective bargaining concerning wages is particularly significant at this point. In majority of OECD countries in the years 1995-2007 the significance of collective bargaining have slightly decreased. One should bear in mind that collective bargaining refers not only to wages, but also to the working hours organisation or the issues of hiring and dismissal. This is particularly important in the context of economic crisis, during which trade unions may be more determined to advocate the maintaining of the previous employment level (OECD 2012).

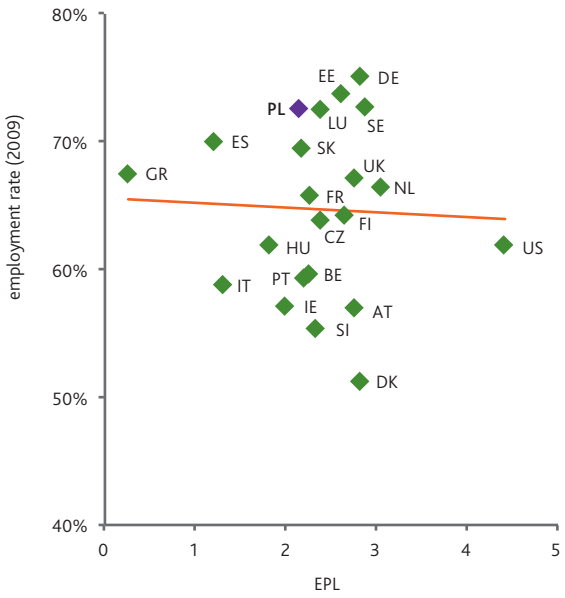
3 INSTITUTIONAL SOLUTIONS FAVOURING THE ABSORPTION OF MACROECONOMIC SHOCKS

As can be seen from the above, it is difficult to clearly define the standard "proper" system of the labour market institutions, both on theoretical and empirical grounds. There are several models in Europe as well as in the world reflecting the preferences of societies and characteristics of economies. There are many indications of substantial negative effects of incorrectly functioning institutions such as agency, the mechanism of starting a professional career, redistribution mechanisms connected with labour taxation and restrictiveness of the employment relationship protection. Specific policies are crucial here; these have to adequately refer to the conditions in which the processes on the labour market happen.

Unlike the controversies connected with the labour market institutions, there are significantly less disputes in reference literature and public debate concerning the identification of the institutional solutions fostering the absorption of macroeconomic shocks. All these solutions helping in minimisation of the scale of dismissals and making the economy immune to external shocks favour the stabilisation of the labour market situation and this way they also make it easier to manage the crisis. However the scale of the phenomenon itself that one needs to manage may also depend to a large extent on institutional conditions and employers' expectations. For in fact there is no clear link between the level of employment and the restrictiveness of the employment protection (Figure III.17), but it seems that making the employment protection more flexible during the slowdown favours the deepening of the adjustments on the labour market, and does not serve to mitigate them (Figure III.18). On the one hand this can be a spurious relationship – mitigating the labour market regulations simply fosters the employers who needed to make the adjustments anyway, but they could not do it based on previous provisions. However on the other hand the slowdown period usually makes companies reduce costs, including the costs of employment, to a larger extent than the prosperity period. Reduction of dismissal costs may thus deepen the reduction of employment. But it seems that partial solutions in the form of making the working hours more flexible, reduction of costs connected with creating new jobs and with dismissals of "new" employees (hired during the crisis) may mitigate the effects of a negative demand shock for the labour market and employment.

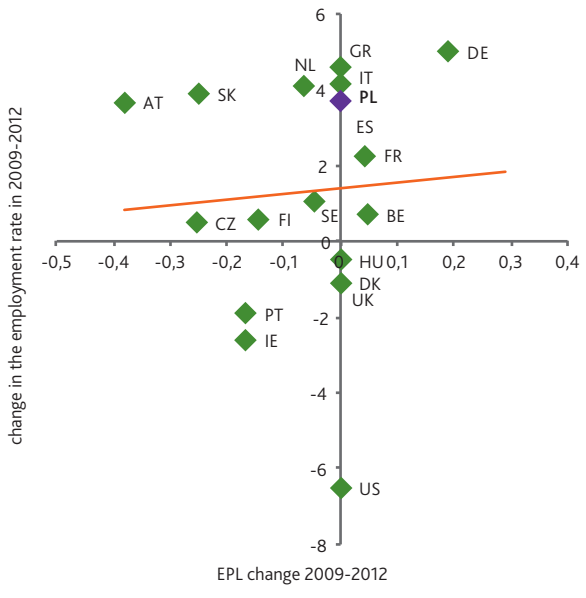
The absorption of a macroeconomic shock means the adjustment of employment and wages at the level of each of the companies. As pointed out by the International Monetary

Figure III.17. **Strictness of the employment protection (EPL – Employment Protection Legislation) and the employment rate for persons aged 15-64 (2009).**



Source: OECD and Eurostat

Figure III.18. **Change in the Strictness of the employment protection (EPL – Employment Protection Legislation) and the change of the employment rate for persons aged 15-64 in the years 2009-2012.**



Source: OECD and Eurostat

Fund, the factor deciding on a role played by the labour market institutions in the absorption of a shock are the expectations of employers concerning the duration of the economic slowdown (Box III.2). If the duration of an expected slowdown is short, even its fierceness and restrictive labour market institutions do not result in substantial adjustments on the side of employment. The institutions in contrast gain in importance when employers expect longer period of slowdown. With a bigger freedom to dismiss and employ workers, and adjustments of working hours each employer will choose the instruments appropriate for the situation. This shall mean to a great extent the dismissals of employees whose skills are not specific for a given company (often also low qualified ones). On the other hand the employees with qualifications specific for the company will keep their jobs during the reduction of working hours. The structure of unemployment will thus be

Box III.2. Shaping labour markets outcomes: institutions, country-specific shocks and policy responses

The situation on domestic labour markets during Great Recession depended on the interactions of demand shocks in individual countries with the institutions and policies of the labour market. The expected duration of shocks was crucial for this interaction.

In Spain the shock had a domestic nature and it referred to the selected sectors and it was relatively permanent, but the Spanish labour market was at the time relatively rigid and divided into segments. Hence adjustment of employment consisted mainly in the decrease of the number of temporary workers. Strict employment protection of permanent employees and the system of negotiation of wages at the sector level did not allow other channels of the absorption of shocks. The policies of the labour market applied in a response to the crisis turned out to be ineffective. The decrease of employment, especially in construction and other branches of industry, was much greater in Spain that in OECD countries on average.

In Germany severe external shocks connected with the collapse of the global demand for commodity production were seen as temporary. The undertaken activities were directed to appropriate groups and focused on counteracting the elimination of positions and excessive instability on the labour market. The strategy of counteracting the effects of crisis consisted mainly in maintenance of employment by subsidising those job positions, on which the working hours have been reduced. This solution probably protected the German labour market from the shock, which could have been particularly painful due to the centralised system of wage negotiations and relatively rigid organisation of work before the crisis. Germany is the only country in the sample group, in which the employment in construction industry have increased during the crisis, thus upturning atypical downward trend from the period before crisis. Germany is also the only OECD economy in which the unemployment during the crisis dropped.

Even though the shocks observed in New Zealand were mainly external and were seen as temporary, and they had a significant impact on domestic demand. The flexible labour market and decentralised system of establishing wages enabled the activation of mechanisms of absorption of shocks: wage restraint, reduction of working hours, certain increase of unemployment (from a low level) and exchange rate flexibility. Due to the tradition of great cooperation between employers and employees, active labour market policies were directed at improving the information flow and offering adequate job offers to the unemployed, while the reduction of working hours took place mainly as a result of direct negotiations between partners, under agreements concluded in the company internally, without wide usage of government grants.

In Korea where the shock was external and temporary and the labour market is divided into segments, but not much rigid, with a decentralised wage regulation, the adjustment on the labour market consisted mainly in the decrease of real wages, reduction of working hours and temporary employment cuts. The reduction of working hours has been carried out through governmental programs and direct negotiations between employers and employees, depending on the sector. The program consisting in fighting the long-term unemployment by offering short-term jobs in the public sector turned out to be effective during the crisis. At first the employment in most of the sectors have dropped (except for services and public sectors), however it quickly returned to the level before the crisis.

Sweden remained primarily under the influence of external shocks, acting both through the financial and real sector. The collapse of the global demand for industrial goods caused the decrease in the export demand and significant decrease in processing industry. Greater flexibility of the labour market which was the result of the reforms of the last decade and the labour market policies undertaken in a response to the crisis, significantly limited the impact of these shocks. Since the shocks were seen as temporary, some of the companies decided to keep the excess work positions, which also affected the intensity of perception of shocks.

Mexico has been affected by many relatively intensive external shocks, part of which was a consequence of strong financial connections with the United States. The Mexican labour market reacted to the shock with a certain adjustment, however the rigidities existing on the labour market caused a certain part of adjustment to be transferred to the informal sector. Active labour market policies have been elaborated, but to a lesser degree than in some more developed economies.

Source: "Cross-Cutting Themes in Employment Experiences during the Crisis", R. Darius, M. Nkusu, A. Thomas, A. Vamvakidis, E. Vidon, and F. Vitek, IMF Staff Position Note, November 11, 2010, SPN/10/18

more homogeneous which will make it easier to conduct effective activation measures. On the other hand the crisis shall affect more the vulnerable groups. With less freedom to shape the employer-employee relations, the employers will reduce the staff to a lesser extent, but they will need more positive demand signals to begin to employ people. The dismissals shall to a greater extent affect "expensive" employees, i.e. highly qualified ones with a long experience. Hence the competitiveness of the companies may be affected in the long term. If the employer-employee relations are asymmetrical (e.g. due to the contract duration or professional experience), the employers shall to a greater extent carry out the reduction of jobs with lower costs of dismissal, which leads to the phenomenon of the segmentation on the labour market, and also potentially to the so called unemployment hysteresis.

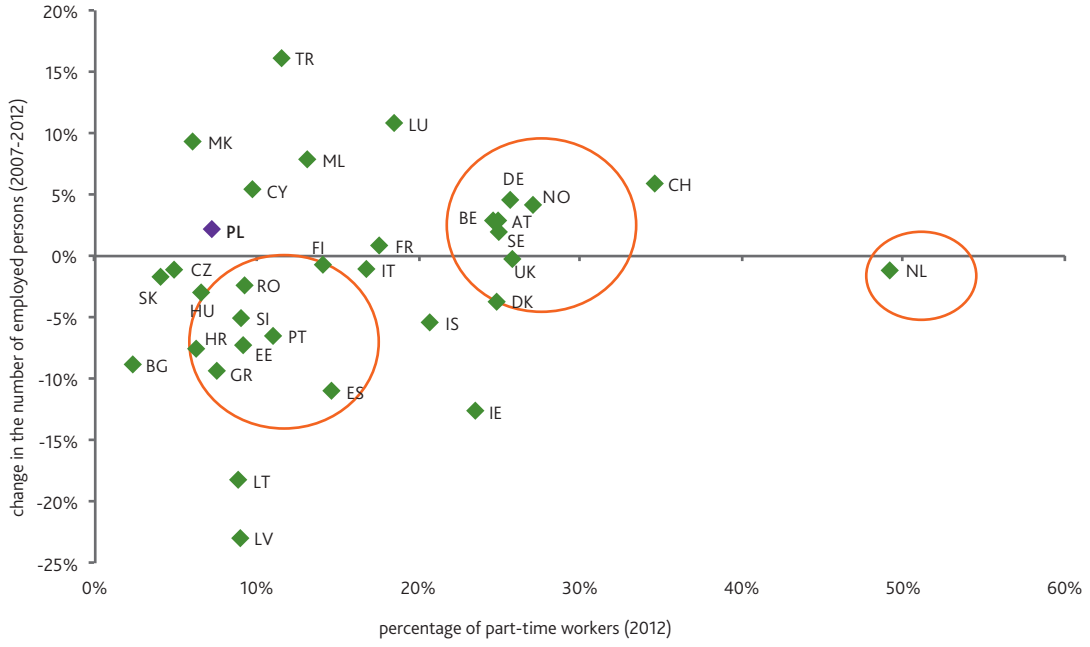
Since the reaction of the employer in its institutional environment is crucial for understanding the mechanisms of the absorption of shocks, it is necessary to examine the factors determining the decisions of companies concerning the mechanisms of jobs creation and destruction. In most of the developed countries the employers have certain limitations concerning the shaping of wages, the conditions for terminating the employment contract and also the working hours. On the other hand, the developed economies have significant, so called automatic stabilisers. For example the mechanism of collecting premiums for the Labour Fund in Poland to provide the benefits for the unemployed and to finance activation measures to some extent constitutes an automatic stabilizer. Naturally, the accessibility of the funds from the Labour Fund in Poland is procyclical, but the very fact that after losing the job the employee receives a benefit, helps to support the consumption which constitutes an important contribution to the GDP.

The aim of this chapter is to discuss the role of flexibility of employment on a part-time basis, so called automatic stabilisers, but also the natural consequences for the capability to absorb shocks resulting from the role of services in the economy and the volume of domestic consumption.

3.1 FLEXIBILITY

There is no explicit link between the incidence of the part-time employment and the scale of adjustments of number of employees during the slowdown. It seems that this dependence is positive (Figure III.19), but it is a result of various processes. The Netherlands is a country with a definitely widest application of a part-time job and so called job sharing. Thus in spite of a substantial economic slowdown, the country almost avoided reducing the number of employees (though the number of jobs was significantly reduced). Meanwhile in the southern Europe countries where the employment on a part-time basis is rare and covers mainly the disabled and women in the protected period after giving birth, the reduction of job positions automatically pointed to a substantial reduction of the number of employees. Thanks to job sharing, despite the slowdown and job reductions in Scandinavia they managed to even increase the number of working people. The decrease in the hours worked by the employees, who worked full-time before the crisis, and during jobs reduction they had to switch to a part-time employment, naturally causes the decrease of their households income. However this income decrease is smaller than in the

Figure III.19. **Percentage of part-time workers (in 2012) and the change in the number of employed in the years 2007-2012.**



Source: Eurostat

case of unemployment, and gives many social advantages. Firstly, more people keep "in touch" with the labour market, which means that after crisis they constitute more attractive employees. Secondly, maintaining the employment relationship eliminates many psychological and social costs connected with unemployment, also reducing the need of state intervention (in the form of benefit or activation measures).

By using the instruments enabling to employ on a part-time basis, it is possible to limit the scope of unemployment during the slowdown period. In reality the countries in which the employers could reduce the number of jobs without a complete dismissal of employees, experienced a lesser scale of adjustments on the labour market. Figure III.20 and Figure III.21 illustrate the adjustments on the labour market in the EU countries depending on the intensity of a shock experienced by a given economy (on both figures on the horizontal axis). Figure III.20 refers to the number of employees in Greece, with the reduction at the level of approximately 10% of workers. However even in the case of Greece the scale of adjustments on the labour market was much (three times) smaller than the scale of shock. In some of the countries - Sweden, Switzerland,

Figure III.20. **Adjustment in the number of employees (depending on the intensity of a shock), 2008/2012**

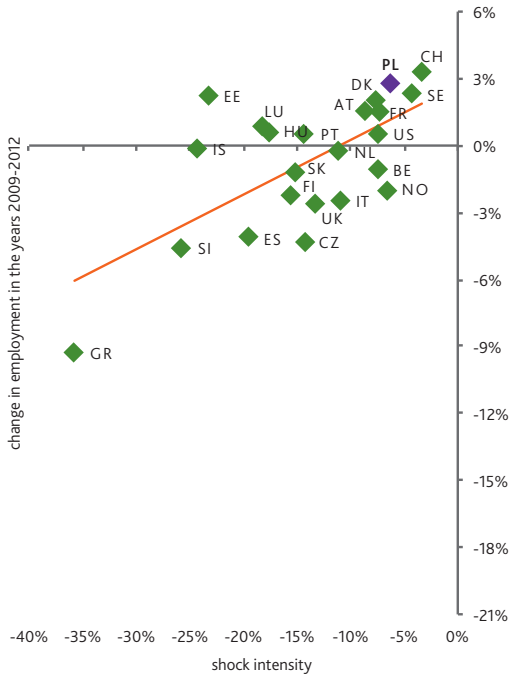
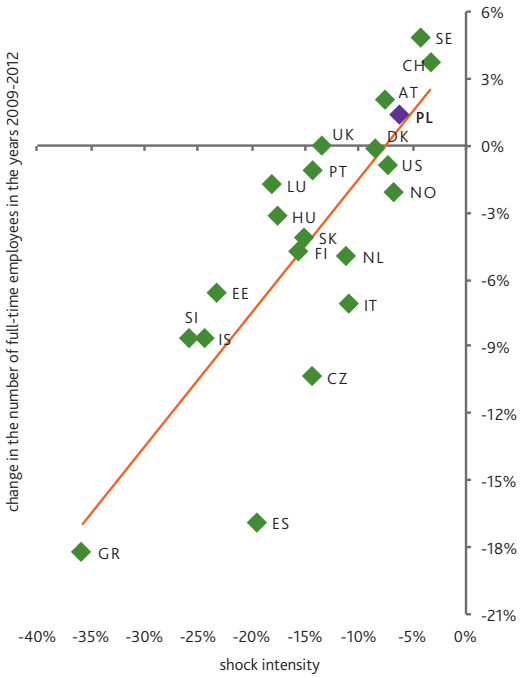
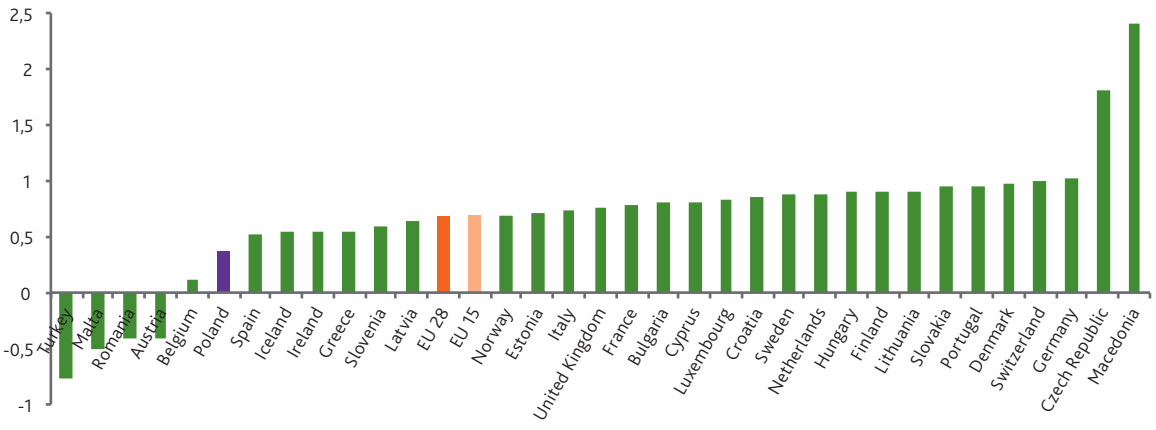


Figure III.21. **Adjustment in the number of full-time jobs (FTE – full time employees) (depending on the intensity of a shock) , 2008/2012**



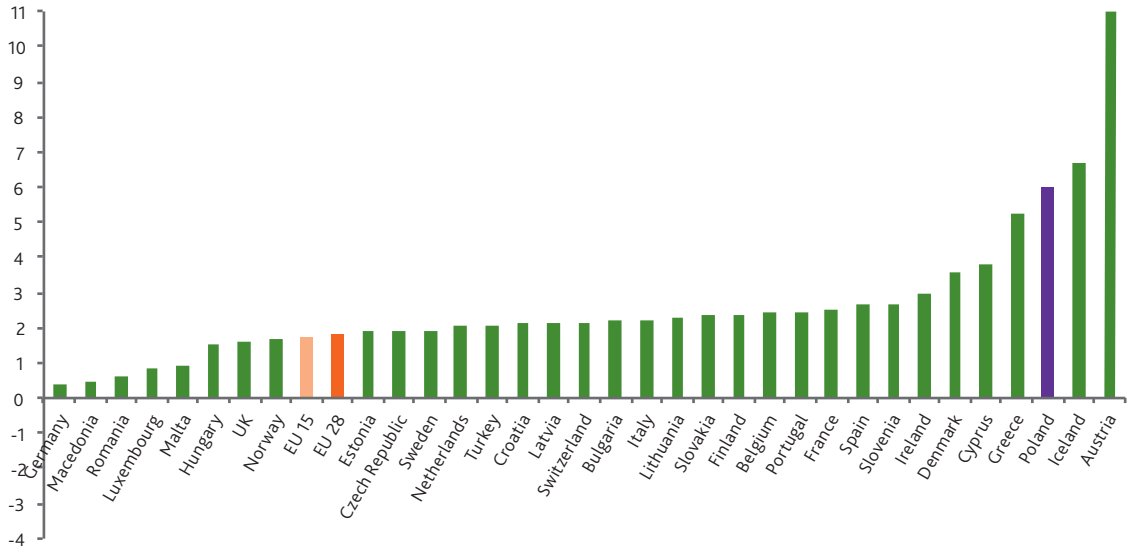
Source: Own calculations on the basis of Eurostat and OECD data.

Figure III.22. **Change in the number of the unemployed aged 15-24 in relation to the change in total number of the unemployed in the years 2007-2012.**



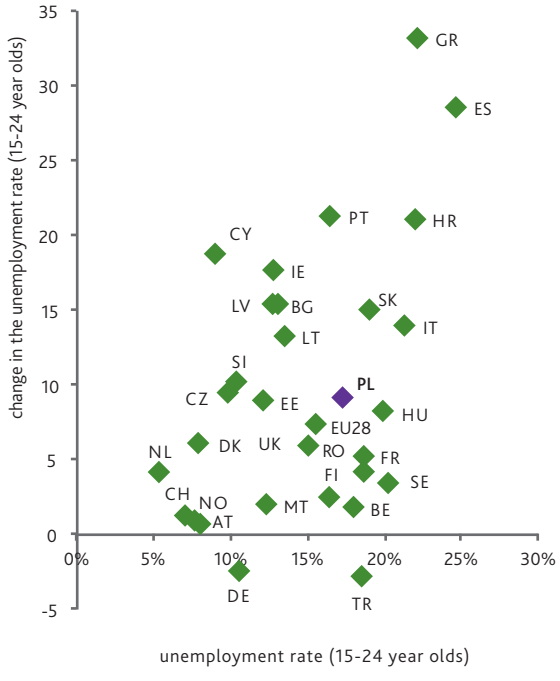
Source: Eurostat

Figure III.23. **Change in the number of the unemployed at the age of 55 or more in relation to the change in total number of the unemployed in the years 2008-2012.**



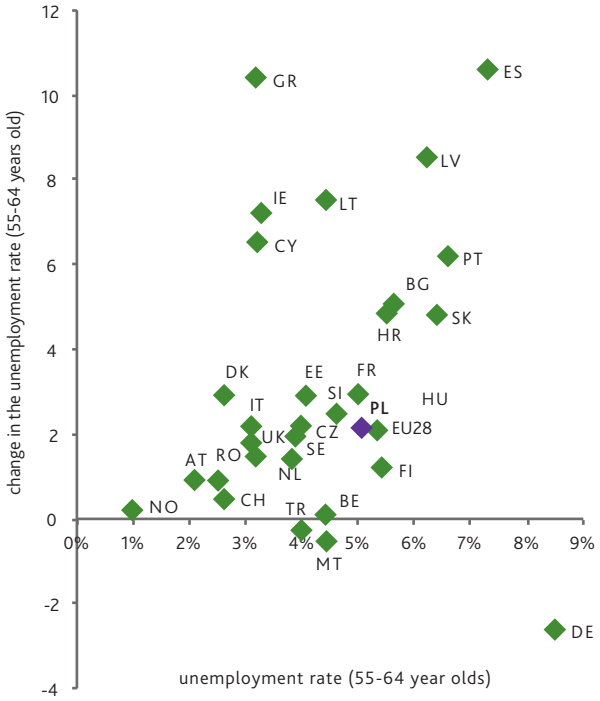
Source: Eurostat

Figure III.24. **Unemployment rate among persons aged 15-24 in 2008 and its change (in percentage points) in the years 2008-2012.**



Source: Eurostat

Figure III.25. **Unemployment rate among persons aged 55-64 in 2008 and its change (in percentage points) in the years 2008-2012.**



Source: Eurostat

Germany and Poland – despite a significant slowdown the number of working people even increased. Figure III.21 sheds some light on this non-intuitive result – it presents the adjustments on the labour market, but per so called full-time job and not employee. Here the scale of adjustments on the labour market is compatible with intuition. The economies that were affected by the global financial crisis the most - Greece, Spain, Iceland, Estonia – experienced in fact a double-digit reduction of jobs, reaching in some cases even 20% in the years 2008-2012.

Smaller scale of dismissals due to job sharing and other improvements concerning part-time jobs foster also the smaller unemployment growth, especially with reference to the groups particularly vulnerable to the effects of crises. In most of the EU

countries the unemployment growth among youth was much larger than the overall unemployment growth (Figure III.22). In all of them the phenomenon affected the people at so called immobile age (Figure III.23). Reductions involve older people more often. It is partly due to institutional considerations (in some of the EU countries such persons are eligible for pre-retirement benefits or other forms of income support), and partly due to the assessment of capability to conform to changes in the rules of company operation by this group of employees.

Great Recession emphasised the problems that already existed on the labour markets in these countries. Strong correlation between the unemployment growth among the oldest and youngest labour market participants. Firm segmentation – difficulties in school to work transitions and minor life long learning opportunities – result in asymmetrical adjustments of unemployment and deepening of social divisions.

In the case of young people the fact of less jobs being created is the reason for the unemployment growth, and it makes it harder for them to find the first employer and to gain professional experience. In Poland rapid growth of unemployment among youth occurred during the first stage of slowdown, but then the share of young people in the population of the unemployed have stabilised. Meanwhile the upward tendency among older people started around second half of 2009, but it is of systematic nature and it still lasts.

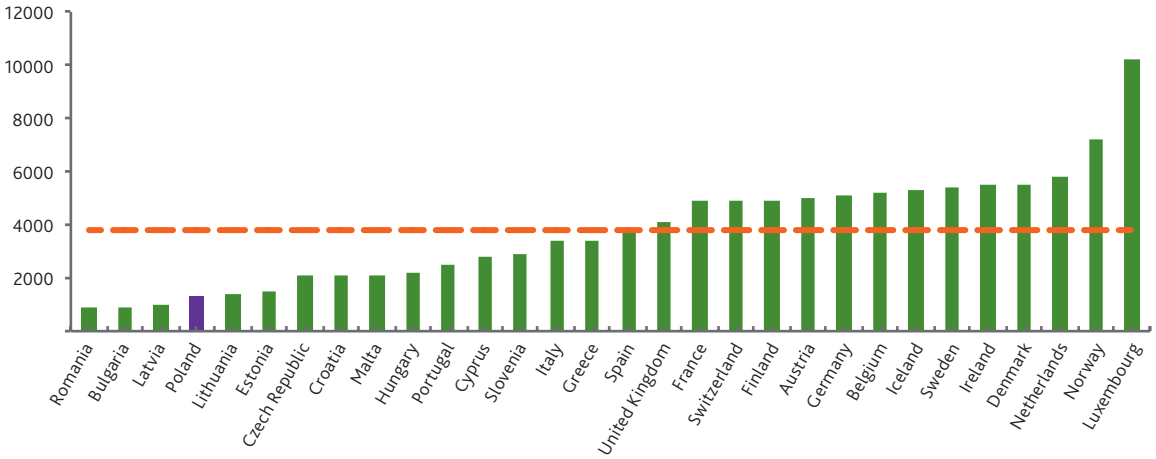
3.2 THE ROLE OF PUBLIC SPENDING

Even though during the economic slowdown the decrease of public spending should be expected, some of it play the role of the so called automatic stabilisers. This is the part of public spending that favours maintaining of economy's immunity to external shocks. For example, social benefits the role of which is mainly redistributive during prosperity period, during the crisis they contribute to maintaining consumption by households, in which one or more wage-earners lost their jobs. Societies in which automatic stabilisers are developed are less affected by the crisis, and that can speed up the return to growth (Dolls, Fuest and Peichl; 2012).

One of the basic automatic stabilisers are social benefits. As compared to other EU countries, and even other countries from the region, these are relatively low in Poland. Taking into consideration the purchasing power parity they do not exceed 1350 EUR per citizen annually. This result seems contradictory to a so called popular belief concerning the generosity of the Polish social benefits system. This contradiction is however apparent – low benefits per capita in Poland are relatively high for those who are entitled to receive them. Even though they remain substantially lower than in the richest EU countries, after taking into consideration the purchasing power Poland reaches the EU's average. So the barrier is rather the access to benefits and not their amounts. Due to the limitations in access, the role of social benefits in stabilising consumption in Poland is also rather minor. But this observation was characteristic for most of the so called new EU members. In these countries the larger redistribution scale has bigger ability to absorb the shock concerning the unemployment growth.

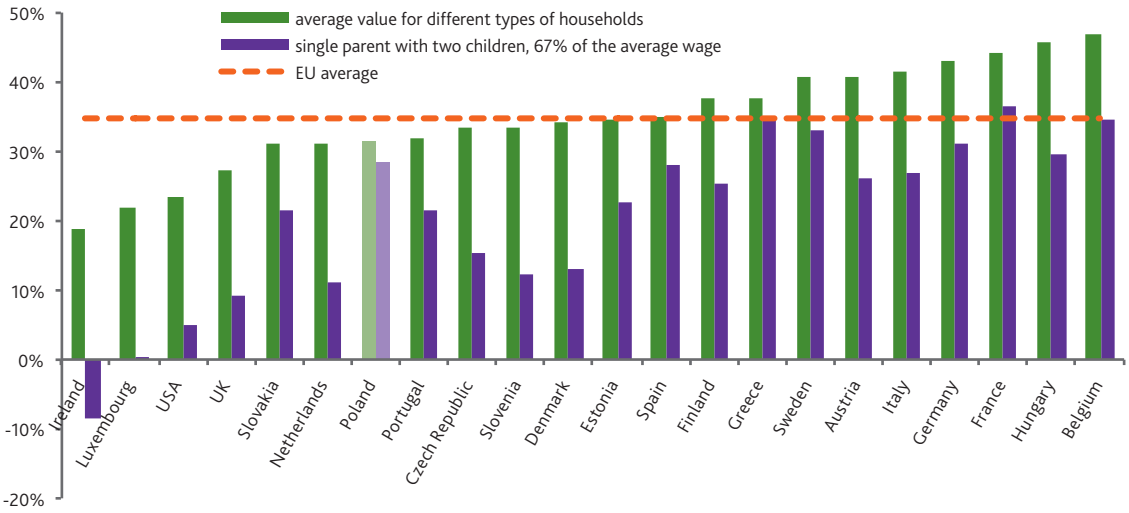
Even though in some countries – especially Scandinavian ones – tax liabilities traditionally constitute a high percentage in gross income, over the '90s and '00s many countries have substantially modified their tax system, benefits system and social transfers system. Such reforms are usually characterised by two premises: (i) social security and tax liabilities should not constitute an obstacle in commencing work and (ii) redistribution should in a special way take into consideration the risk of poverty among children. Compared to this Poland is characterized by a wedge moderately below the EU average, but this conclusion is true only for households in which one or more members earn national average salary. If we compare for example a household in which one person (earning ca. 2/3 of the national average salary) raises a child as a single parent, the amount of premiums and taxes imposed is one of the biggest in EU.

Figure III.26. **Social benefits per capita (PPP, without retirement pensions)**



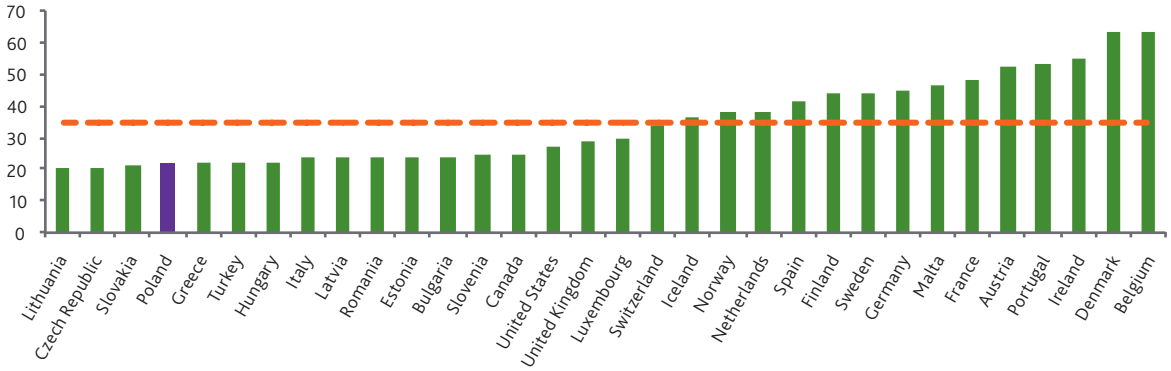
Source: Own calculations based on Eurostat data.

Figure III.27. **Social security-tax wedge (taxes in relations to average wages, average value for basic types of households) (2009)**



Source: OECD

Figure III.28. **Unemployment benefit (in relation to an average wage)**



Source: OECD

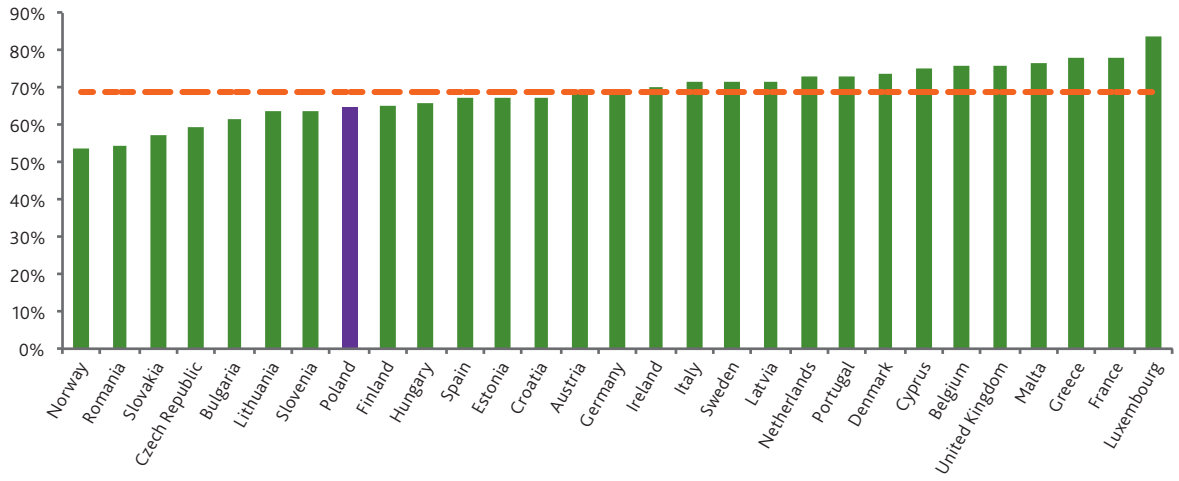
It is connected with one of the aforementioned weaknesses of the Polish tax system – the system of tax credits becomes in fact accessible for the persons that earn more, while the poorest have no chance to benefit from it (Myck, Kurowska and Kundera, 2013).

Relatively high labour tax wedge in Poland results in lower incentives to work. In such situations the effects of crisis for the labour market have a chance to be permanent or to fade out very slowly. This phenomenon – referred to as hysteresis – would occur if for example considering a very low (or lower due to the stage of the cycle) probability of finding work a part of active people decided to withdraw from the labour market and use social benefits. However in Poland the unemployment benefit is one of the lowest in the EU (Figure III.28). More to the point it is available only for a short period of time after the loss of employment (max. 12 months), and not all the persons losing their jobs are entitled to receive it. As a result ca. 13% of the unemployed in Poland receive the unemployment benefit.

3.3 THE STRUCTURE OF CONSUMPTION AND THE ROLE OF A DEVELOPED SERVICE SECTOR

Apart from the system of benefits and loans, also the growing service sector acts as an automatic stabiliser in modern economies. Inasmuch as industrial goods are often export goods (so dependent on the fluctuations of demand outside the country), the services are to a large extent consumed in the same country in which they are produced. For example the developed tourist services sector was a substantial stabiliser for the Greek economy during strong recession after a decade of systematic loss of competitiveness in industry and agriculture. Developed service sector is strongly connected with firm and stable domestic demand, which makes the economy immune to external shocks. In this respect Poland – just as Czech Republic, Slovakia, Hungary, Bulgaria, Romania or Lithuania – looks much worse than highly-developed EU countries. Even though the role of services in Polish economy and

Figure III.29. **The share of services in the added value (2008)**

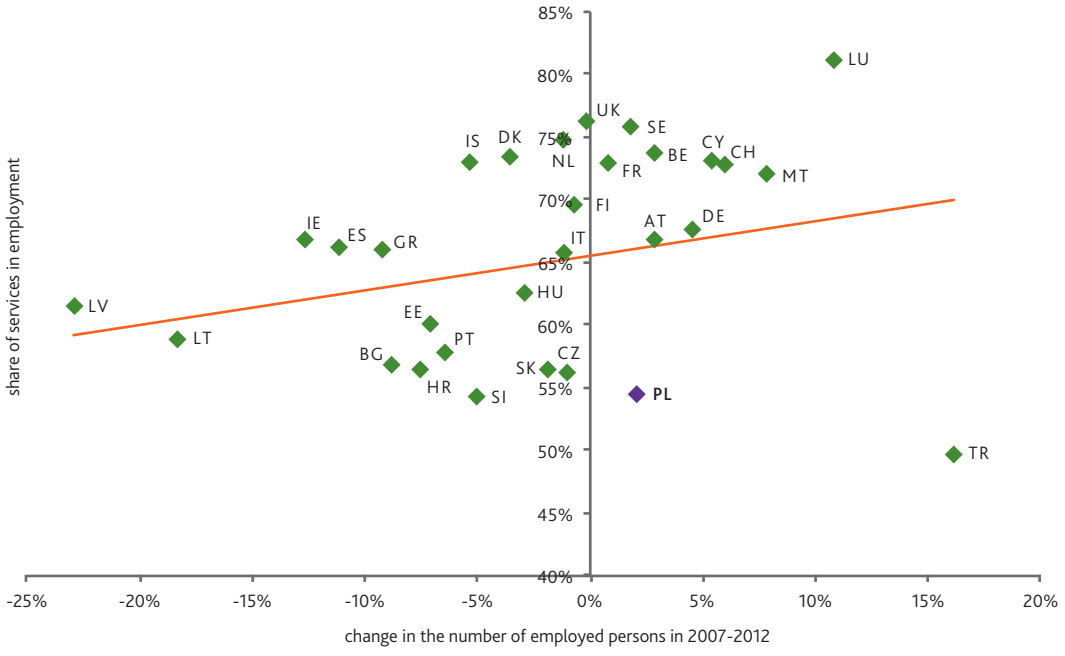


Source: Eurostat

in the structure of employment grows dynamically, it is still lower than the average for EU countries and much lower than in Netherlands, Great Britain or France.

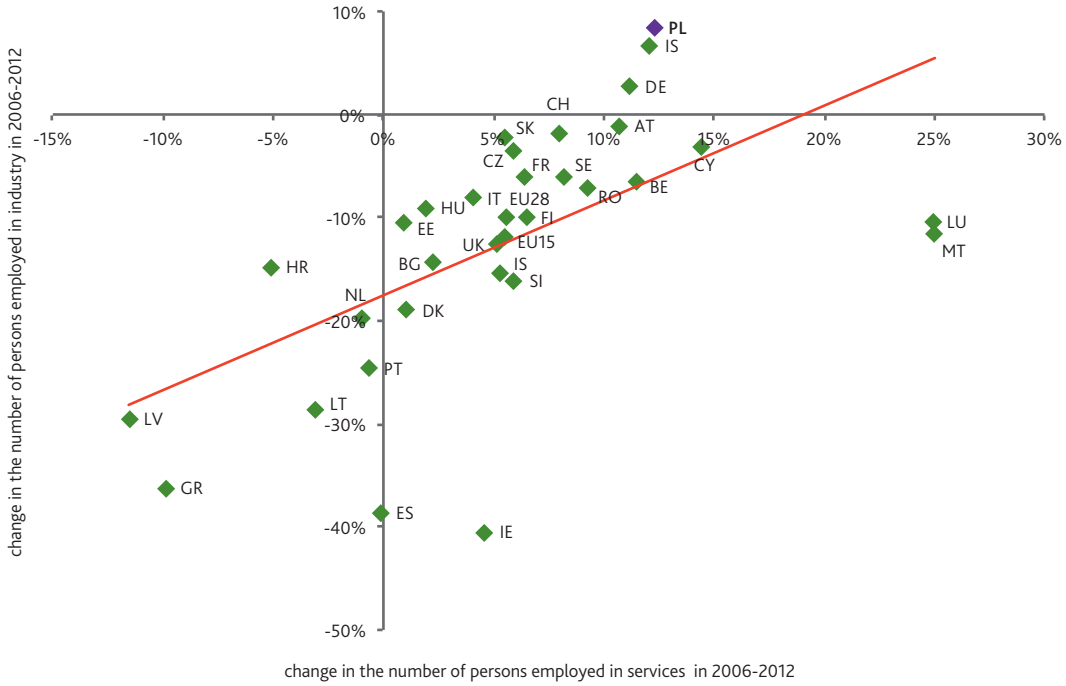
Economies with a greater participation of services were characterised by smaller scale of reduction of employees. This is shown in the Figure III.30, which presents the share of services in employment in 2007, i.e. before the slowdown, and the change in the number of employed people in the years 2007-2012. Smaller scale of reduction of employment results from the operation of several mechanisms. Firstly, a part-time work in services is easier from the employer's perspective as compared to the industry. Hence the cost the adjustment of employment during slowdown through the reduction of hours, but maintaining the number of employees is cheaper and more frequently used in the case of service sector. Secondly, services are more often connected with domestic demand. Thus if the source of shock was of external nature, the large sector of services stabilised the domestic demand, diminishing the scale and durability of a shock. Thirdly, service sector is generally a growing sector in most of the EU countries. In the last two decades European economies gradually observed the employment decrease in industry and the growing role of services. This tendency was maintained during the economic

Figure III.30. **Change in the number of employed people in the years 2007-2012 and the share of services in employment (in 2007)**



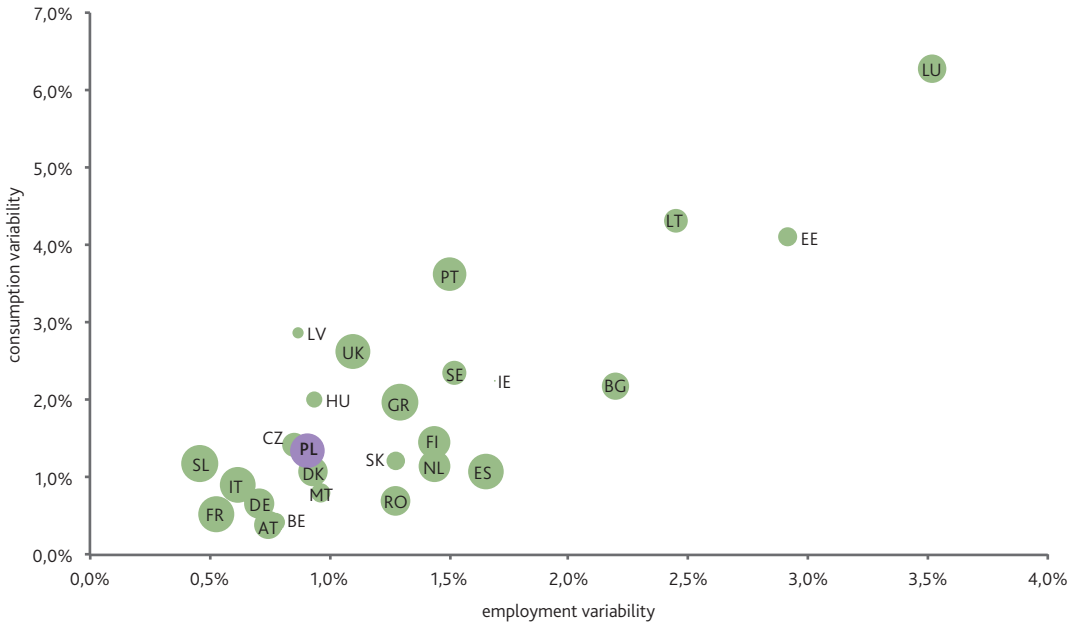
Source: Eurostat

Figure III.31. **Employment in industry compared to the employment in services (change in the years 2006 - 2012)**



Source: Eurostat

Figure III.32. **Domestic demand strength vs. adjustments on the labour market (average deviation of the cyclical component, the size of the circle reflects the share of domestic consumption in GDP)**



Source: Eurostat

slowdown (Figure III.31). Many of them have special potential to grow during the crisis (e.g. considering substitution effects). As a consequence despite general recession, some of the section of services reported real increase in demand and sale, which as a result also caused the growth of demand for labour.

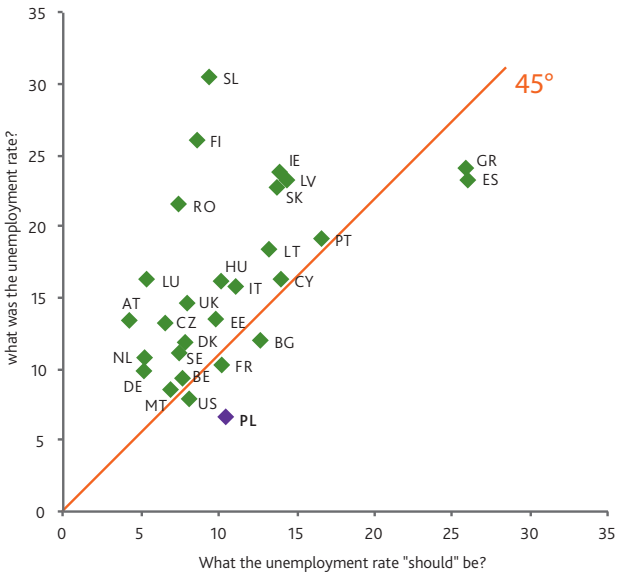
A stable domestic consumption may also be an economy's stabiliser just as the services. Economies in which domestic consumption is less variable in the business cycle, also experience smaller fluctuation of employment. This means both, less dismissals during crises, and less intensive creation of employment, when the economy develops very dynamically. This mechanism is connected with the nature of economy operation. Domestic demand is stable, when a considerable part of consumption is satisfied based on the domestic production – of both goods and services. This is a characteristic feature of large economies – e.g. the United States, Germany - but also of economies with a significant role of local autarchic (in the positive meaning of the word) economies. Autarchy in this context means using the local manufacturing powers with reference to basic goods (e.g. food, clothes, shoes) and basic services (trade, business environment services). If the evolution of local societies is based on the consumption of own production, both the supply and demand side is dependent on the fluctuations of economy to a lesser extent. On the other hand, if a consumption is rich in imported goods (directly or in the case of inward processing) and an access to services is dependent on reaching the metropolitan settlement, then the consumption stabilises GDP to a lesser extent.

Compared to the EU countries Poland is somewhere in the middle when it comes to the volatility within the cycle. Consumption in Poland has lesser volatility in the cycle than in other new EU member countries, but it should not come as a surprise, because it is the biggest of the countries in the group. On the other hand, as compared to the developed EU countries Polish economy is characterised by greater business-cycle volatility. This is reflected in slightly greater consumption variability. It has to be emphasised that in the course of transformation, cyclical volatility of Polish economy is gradually reduced, which makes one expect that in this respect it is gradually getting close to the average in the EU.

4 ANTI-CRISIS POLICIES AND THEIR EFFECTIVENESS

Regardless of the so called anti-crisis packages, majority of developed economies have built policies which enable mitigating the effects of negative supply shock. Even though during economic slowdown the decrease of public spending should be expected, some of it has the function of so called automatic stabilisers, description of which has been included in the previous subchapter[1]. The societies in which automatic stabilisers are developed, are less affected by the effects of crisis, which can accelerate the return to growth. Under the pressure of media and different special-interest groups most of the governments also undertake ad hoc measures during the crisis. These are referred to as anti-crisis policies.

Figure III.33. **Okun's law – assessed and actual unemployment rate in EU countries in 2008-2012**



Source: OECD and Eurostat

At the beginning of the economic slowdown main global economies: USA, Great Britain, Germany – announced the introduction of so called anti-crisis packages. The bidding which government declares higher value of the stimulation package for the economy begun with the action of sending cheques to the US citizens (ca. USD 1300 per three-person family) with a hope that the households will upkeep the private consumption, which will help American economy which was slowing down. The risk of bankruptcy of large financial institutions further boosted the commitment of governments to counteract economic slowdown. Declarations concerning the volume of anti-crisis packages were treated as a signal for financial markets to decrease the scope of uncertainty. However as a consequence those had to translate into substantial public spending. In Germany in the years 2009-2010 the cost of stimulation amounted to EUR 82 billion (ca. 3.4% GDP). Compared to this even Poland announced its stimulation package with the amount of PLN 93 billion. However the package for the most part assigned actions that were planned and introduced earlier anyway (such as the personal income tax concession). In reality the amount of PLN 22.5 billion was allocated to activities connected with counteracting the crisis; most of it came from the guarantee (including but not limited to the Minister of Finance reserve) and departmental reserves, but this amount was never used.

In few countries the real evaluation was carried out – how effective was this spending (i.e. what would be the course of economic processes without it). One of the ways to answer this question is the use of the so called Okun's law. Based on this law one may try to evaluate what the unemployment rate "should" be considering a given GDP dynamics change (Figure III.33). EU countries – with several exceptions – have significantly lower unemployment rates than it would result from the evaluations based on the Okun's law. This could suggest that the actions undertaken proved to be effective at least to some point. On the other hand, lower than resulting from Okun's law unemployment growth may stem from the growing share of services in GDP, wider use of flexible forms of employment, etc.

Regardless of any large packages, the modifications of legal regulations have been introduced in many countries, including but not limited to the Labour Code, bankruptcy law, etc., and those were to help the enterprise survive in the period of substantial uncertainty and demand decrease. Effectiveness of these solutions was evaluated to a greater extent providing the basis for certain results concerning intelligent anti-crisis solutions. These problems are discussed in this subchapter.

4.1 ANTI-CRISIS PACKAGES

Historically first anti-crisis package appeared even before the global financial crisis occurred. Fearing the negative effects of economic slowdown and the scale of gradually appearing subprime crisis in the US president George Bush very quickly passed a law in the United States Congress as a result of which almost every American household received a cheque for the amount of USD 800 to 1300 per (adult) member of the household. The

1 This is the part of public spending that favours maintaining of economy's immunity to external shocks. For example, social benefits the role of which is mainly redistributive during prosperity period, during the crisis they contribute to maintaining consumption by households, in which one or more wage-earners lost their jobs.

concept of this enormous aid programme was to stimulate the domestic consumption[2]. According to economists' expectations – contrary to politicians' hopes though – this transfer only to a small degree contributed to bigger household spending in USA. Parker, Souleless, Johnson and McClelland (2011) point to the fact that Americans allotted only ca. 12-30% of the received transfer for the immediate consumption to additional consumption (depending on the type of household). Heavily in debt, they preferred to use the money received from the government to pay off current liabilities such as mortgages or credit cards (Sahm, Shapiro and Slemrod 2009).

After the failure of the Economic Stimulus Act from the beginning of 2008 and regarding the increasing needs of the financial services sector, the governments of developed countries focused on programs ensuring the liquidity of financial institutions. However at the turn of 2008 and 2009, when it became clear that financial crisis will also involve the real activity of many economies the majority of OECD countries has begun creating social protection packages which mitigating the effects of economic processes for the labour market and the functioning of households.

German government (at the turn of 2008 and 2009) introduced first anti-crisis operations by adopting two Economic Stimulus Packages (1st – in November 2008, 2nd – in January 2009). Their main aim was to increase domestic demand through the growth of governmental spending and increasing private income. The consequence of these actions was supposed to be the protection of jobs. Furthermore both packages anticipated the increase of tax credits for individual tax payers (among others connected with having a child and possibility of deducting the health insurance from tax) and for companies (among others so called degressive depreciation so a slight loosening of financial discipline of entrepreneurs). Important aim of the introduced packages was the stimulation of German automobile industry. One of the methods was the program "cash for clunkers" also known from United States and Great Britain (Rinne and Zimmermann 2011). The owners of old (at least 9-year-old) car could receive in exchange EUR 2.5 thousand when buying a new car. As part of this program 2 million new cars were bought and its cost amounted to EUR 5 billion.

German stimulus packages aroused controversy mainly because of their enormous cost and not necessarily clear result. Though *after* the introduction of the program "cash for clunkers" in fact 2 million cars were sold, the research indicate that barely 25% of these cars were bought *as a result of* this program. In other words, 3 from 4 of these cars would be bought by German households anyway, which means that EUR 3.75 billion from the EUR 5 billion spent was redundant from the perspective of "rescuing" the automobile industry. Naturally, this additional subsidy could be used by households for the consumption of other goods, but the research indicate that they rather decided to buy a more expensive car instead of spending it on increasing the other consumption basket articles (Blum and Freye 2009).

As part of the British stimulus package a part of public infrastructure investments were moved from 2010 to 2008 and 2009 (Jha 2009). Certain tax credits were also introduced. The persons paying the income tax according to the basic rate could rely on the credit amounting to ca. GBP 145 annually. To stimulate the consumption VAT was reduced by 2.5 percentage point (from 17.5% to 15%). As part of the stimulus package the structure of public employment services was slightly modified and a number of programs created to make their operation efficient during the recession were introduced. The stimuli for employers to hire new workers were also introduced. Among others a subsidy in the amount of GBP 2.5 thousand for employers willing to hire a person that was unemployed for more than 6 months.

Similar to German solutions the stimulus package introduced by Great Britain aroused controversy. Primarily VAT tax reduction substantially worsened the condition of public finances in Great Britain, and at the same time according to many it was too small to significantly boost the growth of domestic consumption. On the other hand lower VAT raised the competitiveness of exporters to EU, where most of the Great Britain export is directed. Regardless of the critic, unlike many others EU countries the British economy flourishes from 2009, enjoying positive forecasts also for the years 2013 and 2014. It is difficult at the moment to evaluate from empirical perspective to what extent it is the effect of VAT deduction.

In reality the studies seem to indicate that majority of occasional governmental packages of the developing countries resulted in considerable crowding out and erroneous addressing of solutions. On the other hand the countries in which the labour markets proved to be relatively immune to crisis are the ones in which the labour market reforms were started long before the current economic slowdown.

4.2 CHANGES IN THE LABOUR MARKET INSTITUTIONS

Subsequent to the emergence of the global economic crisis, many countries implemented immediate changes to the labour market institutions. Basso et al. (2011) synthetize these changes based on reports from the European Commission and OECD (Table III.1). The policy options analysed in these reports included various forms of income support, active labour market measures and employment regulations. In some of the countries the global financial crisis assisted profound changes in the institutional setup. For example Finland and the UK have introduced substantial reforms in already relatively effective job-placement, reduced employment costs and expanded income-support programmes for the vulnerable groups. Similar policy-mix in Germany was accompanied additionally with more flexible working time regulation.

2 Economic Stimulus Act for the amount of USD 152 billion (February 2008). For the comparison the Emergency Economic Stabilization Act (October 2008) for the amount of USD 700 billion was allocated to the stabilization of the collapsing financial services sector.

Box III.3. German ways to improve the situation on the labour market...long before the crisis

Germany is one of the countries in which current economic crisis influenced the situation on the labour market to a relatively small extent. Reforms of the German labour market bringing positive results during current recession began several years before the economic slowdown of 2008. The introduction of number of solutions aiming mainly at increasing the flexibility of the labour market and activation of the unemployed began in 2003 (so called Hartz's reforms) (Raisanen et al. 2012). First of the goals have been achieved, inter alia, through employment protection reform. Then the changes of the criteria of receiving unemployment benefit, subsidising the commencement of labour market participation and restructuring of the employment services contributed to the reduction of unemployment. As a result the costs of being unemployed have increased, and the quality of employment services have improved. Institutional changes introduced in Germany at the eve of crisis are considered to be an essential factor of the relatively mild course of economic slowdown in Germany (Raisanen et al. 2012). Also the role of flexible solutions concerning working hours cannot be ignored (Box III.4).

Source: Own elaboration

In general anti-crisis interventions focused on unemployment benefits, making the eligibility criteria less strict, sometimes also raising the generosity of the benefits as well. Particular emphasis was placed at workers employed without explicit regular employment contract, who were in many countries the first to be released and at the same time would not be eligible for regular unemployment benefit or would be eligible for lower benefits only. In many countries, there were reductions in taxes (thus raising the disposable earned income), with special target to most vulnerable households (e.g. child tax allowances). Against the synthetic view discussed in Table III.1, the extent of reforms undertaken in Poland has been relatively narrow and limited in terms of scope. The changes were concentrated in income support of vulnerable groups and re-activation.

Reductions in the strictness of the employment protection were introduced by majority of the countries during global financial crisis. Even though several countries insignificantly tightened their labour codes (e.g. Germany, France, Belgium), most of the changes referred to the limitation of protection of employees (Figure III.10). It is difficult to deduce that there is a strong connection between the changes in strictness of the employment protection and changes in employment, but in reality majority of the countries that softened the regulations of the employment relationship observed faster post-crisis growth of employment (including but not limited to Austria, Slovakia, Netherlands). Even though this connection is not really of cause and effect nature, it partly confirms the earlier conclusion that lower protection of employees' rights favours the creation of

Tabela III.1. **Discretionary measures**

Policy area	Belgium	Bulgaria	Czech Republic	Denmark	Germany	Estonia	Ireland	Greece	Spain	France	Italy	Cyprus	Latvia	Lithuania	Luxemburg	Hungary	Malta	Netherlands	Austria	Poland	Portugal	Rumunia	Slovenia	Slovakia	Finland	Sweden	United Kingdom	EU 27
Encouraging flexible working-time	*	*	+	*	#					*	*	*		*	*	*		+	+		*		+	+				16
Improving job placement and investing in re-training	*	*	+	+	#		+	+	+	#	*	*		*		+	*	+	*		*	*	+	*	#	+	#	23
Maintaining/ reinforcing social protection	*	#				*	#	+		*	+		*								*	*			*	+	+	13
Reinforcing activation	*	#	*	*	*		#	*	+	*	*			#	*		*		*	*			*	#	+	+		19
Supporting employment by cutting labour costs	+	+		#	+		+		+	+			*	*	*	*		#	*		*	+	*	*	+	#	+	20
Revising EPL in line with flexicurity		*				*						*		*														4
Enhancing education and life-long learning		*		*	*									*					*		*					*		7
Supporting the income of vulnerable groups	#	*		*	#			+	*	*	*		#		*		*		+	*	+	*		*	*	*	#	8
Mitigating the impact of financial crisis on individuals		*	*			*	*		#	*	*	*		*	*	+			*		*				*		*	15
Others	*		*	*						*			*	*					*			#			*	*		11

*# highly significant measures taken, + somewhat significant measures taken, *measures taken, EU 27 column: number of countries which implemented the corresponding measure.*

Source: Basso, Gaetano, Mathias Dolls, Werner Eichhorst, Thomas Leoni, and Andreas Peichl. The Effects of the Recent Economic Crisis on Social Protection and Labour Market Arrangements across Socio-Economic Groups. No. 6080. Institute for the Study of Labor (IZA), 2011.

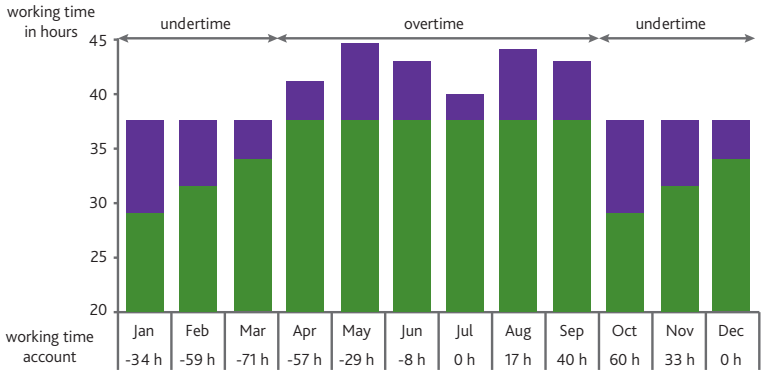
Box III.4. Working time accounts in Germany

Working time accounts is an instrument improving the flexibility of using the work as a production factor. This solution helps in adjusting the intensity of work to the current demand. For example in the period of production decrease working time accounts enable to adjust the manpower to the current needs without the necessity to dismiss employees. The employer may then adequately shorten the workday for some of the employees, by putting it in the working time accounts register of the staff. And in the period of increased demand the employer may use the man-hours gathered on employees' accounts and adequately extend their workday.

The existence of working time accounts in Germany is a result of negotiations (especially collective bargaining) between the employers and the employees, thus the employer's freedom to dispose of working time of the employed people is not unlimited (Herzog-Stein et al. 2013). Furthermore, the results of these negotiations have to fit within the boundaries set by the German labour law, according to which 8-hour workday may be extended to the maximum of 10 hours, if during next 6 months the overtime will be given back to the employees in the form of time off. Thus the workday from 6 months has to amount to 8 hours on average (Hellert et al. 2012).

From the employer's perspective the advantage of working time accounts is primarily the possibility to adjust the use of manpower to the current manufacturing needs of the enterprise. Furthermore, in the period of increased demand the employer may resort to man-hours not used in the previous period and thus avoid paying overtime bonus to the employees. From the point of view of employees working time accounts constitute a solution increasing the stability of their employment, which is illustrated by a relatively stable employment in Germany during the current crisis.

Graph III.2. **The example of the use of employee's working time account**



Source: Own elaboration on the basis of Hellert et al. (2012)

In Germany working time accounts is a commonly used instrument, which during current recession is an important buffer for moving the changes in production for the changes in employment (Herzog-Stein et al. 2013). In 2009 30% of the enterprises operating in Germany used working time accounts.[3,4]

Source: Own elaboration

jobs. On the other hand one has to bear in mind that introducing changes in this area during crisis usually causes considerable social tensions. In Poland in the years 2009/2012 total strictness of the employment protection did not change – some of the modifications of the labour code provisions favoured making the employer-employee relationship more flexible, but part of it had opposite effect.

Essential mechanism of making the employer-employee relationship more flexible are also the arrangements facilitating payroll processing. In all the EU countries legal regulations require indicating working hours in a given week and it cannot nominally exceed a so called full-time (which amounts to 36 to 42 hours per week depending on the country). The time worked above this limit means overtime, which is connected with the necessity to increase the hourly rate and/or returning the overtime hours in the form of additional holiday. However from the employer's perspective it is important in what time one needs to calculate worked hours. In the case of strict weekly processing the employer cannot balance stoppages and increased demand. The longer the time of processing, the greater the flexibility of disposing of employees' time and the lesser necessity to pay for overtime.

The activity of making the working hours more flexible was introduced in Europe in many ways. Some of the countries introduced the so called idle time pay or the short-time

3 Enterprises employing at least 20 workers

4 http://www.eurofound.europa.eu/eiro/2009/12/articles/de0912059i.htm

Box III.5. System of professional training in Germany

Each year approximately 2/3 of the German middle school graduates start education in vocational schools functioning within the dual system of vocational training (*duales System*) (Lohmar and Eckhardt 2013). The name of this solution is connected with the program of training that in most of the German vocational schools runs in two parallel streams. Two- or three-year vocational training is carried out in two places: at school (*Berufsschule*) and in the working establishment. Vocational school provides both the vocational training and the general one. And the working establishment is supposed to hone the practical skills.

The student chooses the working establishment for the training by himself/herself. The internship takes place as part of the agreement concluded between the student and the employer. What is important, the organisation of internship is not subsidised in any way. All the costs connected with the internship are borne by the employer. Furthermore, during the internship the company pays the student the training allowance in the amount of ca. EUR 700 per month (Hartlaub and Schneider 2012). The fact that the employer bears the costs of the training allowance makes them more willing to give the students real professional tasks – paying for the apparent work is not in the interest of the employer, at whose establishment the student undergoes the internship.

The employer taking the student for internship does not have a total freedom in assigning him/her tasks. The program of internship established by the employer has to comply with the national standards concerning vocational training (*Ausbildungsordnung*) determined for each profession and adjusted to the demand for the skills of the persons performing a given profession (Lohmar and Eckhardt 2013). What is more, the person conducting the internship of the student (instructor) has to proper professional and pedagogical qualifications.

Regulations concerning the program of internship usually include wide range of the skills required from the representatives of a given profession. If one company is not capable of complying with these standards because the scope of their activity is too narrow, there is a possibility to cooperate with other enterprises. Owing to the division of costs and duties between those two enterprises, small but highly specialised companies may also participate in the internship program.

Source: Own elaboration

work. In this solution the employer maintained the employment relationship with members of staff, but reduced working hours collectively and, what follows, the remuneration paid. The reduction of wages in various countries was partly or completely compensated to the employees from public funds. Some of the countries decided to prolong the settlement period allowing the employers to balance the cyclical stoppages by reducing the costs of overtime in the periods of seasonally increased demand (Box III.4). Making working hours more flexible in this manner not so much enables the mitigation of economic slowdown effects (because its duration usually exceeds 6 or 12 months of the settlement period), but it reduces the labour costs from the employer's perspective. With lower costs, the risk of a necessity of dismissals or bankruptcy is lower, which helps to limit layoffs.

Apart from the changes in the scope of binding provisions of law, some of the countries introduced new solutions. An example of such solution are the so called time banks. As part of the time banks concept the employers from the given trade or a given region may in different periods hire the same employees provided that the combined terms of employment are as advantageous as if the employee worked in one enterprise only. Time banks are substantially different from the temporary employment agencies because the basic activity of employees participating in time banks is not the provision of employment services but simply activity concerning production or services in other field. The employers from the same regions may cooperate with each other, but they have to be from the branches with different models of seasonality.

The difficulties in returning to the labour market often co-exist with the difficulties in entering it. The mechanism of moving from the system of education to the labour market is one of the greatest challenges and in most of the countries the unemployment among youth is higher than in the population in total. Lack of professional experience and lesser ability to move on the labour market are the two basic barriers which may make it difficult for young people to find work after leaving the system of education. What is more, partial incompatibility of the educational institutions offer with the needs of employees. On the other hand young people have the most recent knowledge, are usually very flexible with relation to working hours and also they learn relatively faster. Considering those characteristic features the unemployment among young people should be interpreted as a weakness of the system of education and the labour market institutions environment – not the weakness of this group of candidates for employees.

One of the examples supporting the thesis that the improvement of the institutional environment on the labour market fosters substantial reduction of unemployment among youth is German experience (Box III.3). Gradual changes in the so called practical shaping of professional skills and the fundamental changes in the system of employment services resulted not only in the reduction of unemployment among youth but also the improvement of satisfaction of employers. The mechanism of internships in vocational education is important in Germany, where the vocational education network is developed and the minority of secondary school graduates continues their education at the university level. In the countries where the vocational education is a marginal activity,

Box III.6. Anti-crisis package in Poland

At the end of 2008 the government announced the so called "Plan for stability and development" which consisted of an anti-crisis package, involving the increase of the limit of sureties and guarantees, the change of the PIT scale and the announcement of creating the sources of financing loans for small and medium enterprises, and of the changes for the labour market (the remaining proposals were generally of a formal nature, as for example accelerating the investments co-financed by EU through the increase of eligible costs certified for the European Commission and an earlier advance payment from EC for the implementation of EU measures). The operation referring to the loan have not been introduced in the end, and the changes on the labour market were not enforced until 3rd quarter of 2009.

In August 2009 the act of 1 July 2009 on mitigating the economic crisis consequences for the employees and entrepeneurs. Pursuant to the act a number of instruments directed at entrepreneurs and employees of companies affected by economic slow-down have been introduced. Those were among others the benefits offered by the Guaranteed Employee Benefits Fund, such as the ones for partial provision of employees' wages during economic downturn, compensation for reduction of working hours, or the benefits for employees' social insurance premiums. Furthermore, the anti-crisis act provided for the financing of trainings and postgraduate studies of employees from the Labour Fund.

Provisions of the act on mitigating the consequences of crisis ceased to apply by the end of 2011, after almost 2.5 years from the time the act came into force. During this time as part of the aid package provided for by the act, merely PLN 9.6 million were paid to the companies. Including PLN 7.9 million in total as part of the benefits from the Guaranteed Employee Benefits Fund on account of economic downturn, reduced working hours and social insurance premiums. The number of employees mentioned in the requests for support amounted to 12.4 thousand, which constitutes only 0.08% of all the employed persons. Thus it may be assumed that the importance of this instrument for the consequences of the crisis is negligible. The number of trainings financed by the Labour Fund was also low – by the end of October 2011 merely 1325 people participated in them. The aggregate amount of the funding of trainings amounted to PLN 1.7 million.

Source: Own elaboration on the basis of materials available on the website: http://www.mpips.gov.pl/praca/pakiet-antykryzysowy/stan-realizacji-pakietu-dzialan-antykryzysowych/

because the majority of institutions at the post-secondary level is of general nature (e.g. France, Italy, Poland), the solutions helping in commencing the professional career have to go far beyond the vocational education.

The unemployment among youth usually grows even before the recession is noted. This is connected with the reduction of the number of jobs created already during the stage of economic growth rate slowdown, i.e. still before the crisis. In most of the EU countries the unemployment in this group increased significantly already in 2009, amounting to more than 25% in Spain, Italy, Greece, Baltic states, and also in Hungary and Slovakia. Also in Poland the unemployment among young people increased in 2009 by almost 40% in comparison to 2008. Despite this growth Poland is located somewehere in the middle of the ranking in Europe.

4.3 ANTI-CRISIS ACTIVITIES IN POLAND

In comparison to diversified solutions in the EU countries, Poland applied instruments that were minor and poorly adjusted to the needs of the employers (Box III.6). The very introduction of anti-crisis solutions prolonged until the second half of 2009 and that forced many employers to find adequate solutions within the framework of normally functioning labour code. The National Bank of Poland indicates that two methods of making the solutions more flexible were crucial. First of all, in Poland the fixed term contracts are quite widely applied, which means that the reduction of employment is partly automatic and it is connected with lower costs than in the case of permanent contracts. The intensity of use of this form of flexibility is different for each of the branches, but temporary contracts are present in all branches of enterprise sector. Secondly, a great part of employees' remunerations in Poland – according to the declarations of employers it amounts to approx. 30% - is the so called flexible wage component. This means that the employer is obliged to pay it only when the employee achieves the result established *ex ante*. Hence many employers in Poland were able to lower the real wages without the need to renegotiate the employment contracts. On the one hand it is hard to get the results (e.g.in sales or production) during slowdown, and on the other – such results are determined every year, which gives the employer great freedom in shaping the wages policy.

The functioning of the so called anti-crisis act ended in December 2012. Because majority of solutions directed at making the employment relationship more flexible has been included in the anti-crisis act temporarily, the employers, the government and union members returned to the negotiating table to discuss the possibility of extend some of the solutions. Due to the sensitive nature of these negotiations, not many of the changes could be carried out. In the second half of 2013 the so called flexible working time was introduced permanently, which was identified with the prolongation of employees' settlement period from 3 to 12 months. It is not clear how big group will be covered by the new solutions. In the period of functioning of the anti-crisis act 1 075 enterprises have used it, i.e. less than 1/30 of enterprises.

5 CONSEQUENCES OF ANTI-CRISIS ACTIVITIES AMONG ECONOMIES AFFECTED BY THE RECESSION

Cyclical fluctuations are a natural mechanism of changes in the competitiveness of market economies. As a result of shock in the form of crisis, the companies that survive adjust the method of operation, production structure and technology to the changing demand. The stage of walking out of the crisis de facto means revealing those benefits at the level of the company in the form of increasing productivity and profitability. At the national level this should be displayed in the form of improving competitiveness of a given economy. Anti-crisis operations aimed at cushioning of shock and mitigation of its effect on the economy, to some extent interfere with this mechanism, supporting the operation of unprofitable and uncompetitive companies or trades. Thus the first area of verification of what are the effects of anti-crisis activities is checking what happened with their competitiveness. The second aspect requiring analysis are the consequences of anti-crisis activities for the public finance sector and the budget. These two issues are discussed in this chapter.

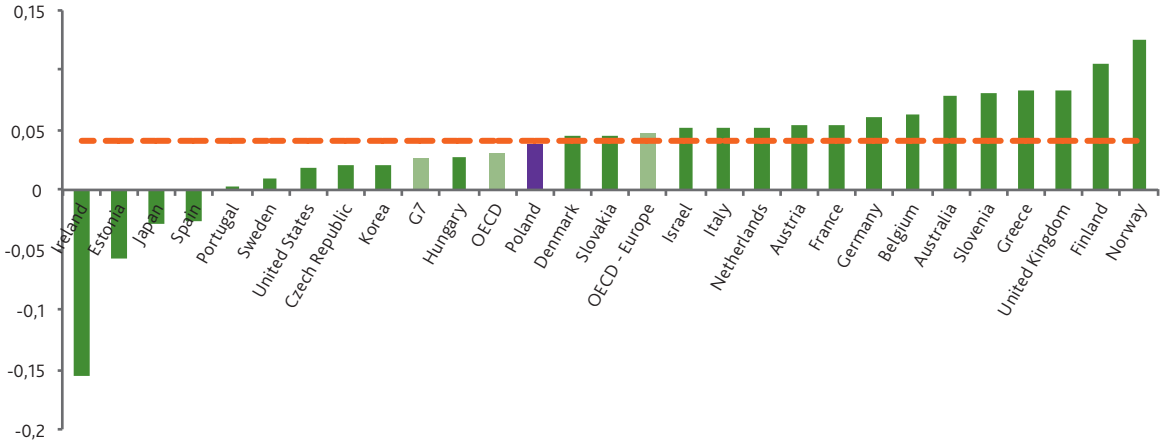
5.1 THE COSTS OF LABOUR

Despite the deep and long recession in many developed global economies the so called (average) unit labour costs increased in 2008-2011. The increase of the cost of production of one unit of the final product means that in spite of the unemployment growth and relatively lower wage pressures, the wages increased on average faster than productivity (Figure III.34). Even though this is not a big change, it indicates that the anti-crisis activities played a significant distorting role. In comparison to OECD countries, the increase of the unit labour costs in Poland is close to the average and lower than in Germany.

In the longer perspective Polish economy loses its competitiveness as compared to the main EU economies. As the wage dynamics does not differ much from the productivity dynamics in Poland, the causes behind this loss of competitiveness are (i) increase in the relative labour intensity of Polish economy and (ii) gradual strengthening of the currency. Those two factors indicate that regardless of potentially unfavourable results of introducing anti-crisis packages, maintaining the competitiveness in the course of strengthening European integration requires active support to development of Polish enterprises. On the other hand it is clearly visible that the economies with greater scale of labour costs adjustments had to adjust the employment to a lesser degree. The company forced to reduce costs may reduce the number of employees or the cost connected with the production (through the increase of productivity and reduction of wages).

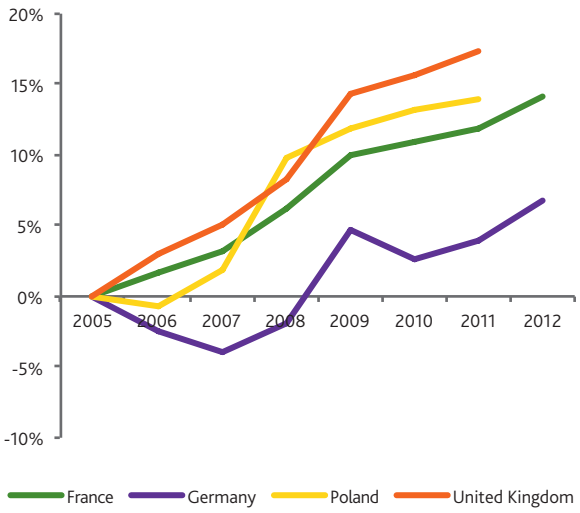
A slowdown often forces the countries to finance stimulus policies. This is however difficult, because the slowdown decreases substantially the tax base – recession means the drop of the added value, which in turn lowers the revenue from Value Added Tax, which nowadays is a main source of financing the government spending in most of the EU countries. However **the decline in employment causes also the decrease of the tax base for revenue from Personal Income Tax**. Inasmuch as this tax constitutes from 10% to 30% of the EU countries' budget revenue, the

Figure III.34. **The change of the unit labour costs in the years 2008-2011.**



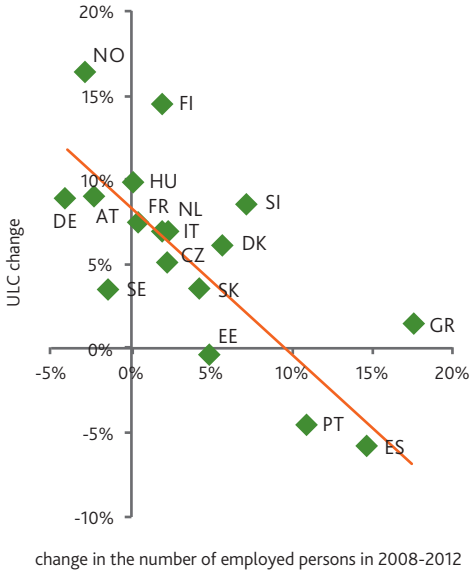
Source: OECD

Figure III.35. **Dynamics of unit labour costs in the selected EU countries (2005-2012)**



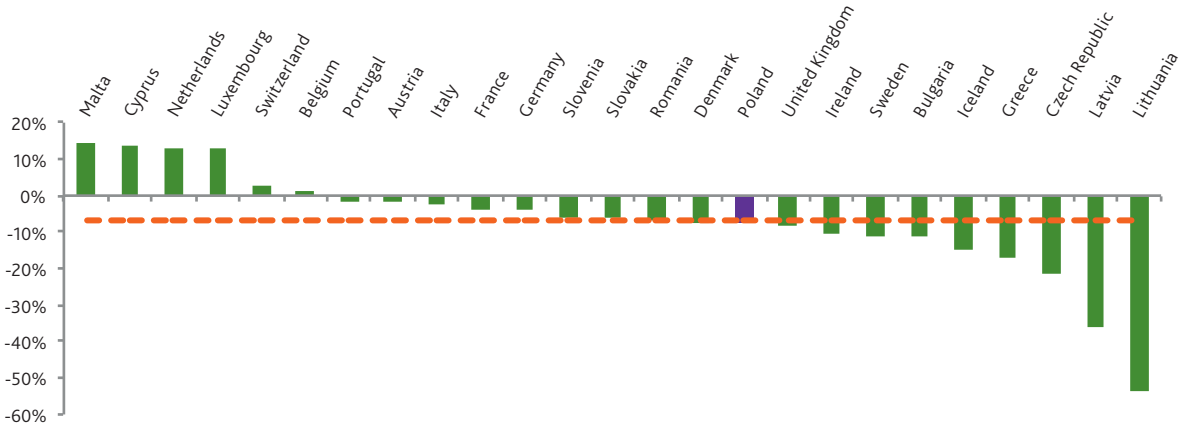
Source: OECD

Figure III.36. **Change in the number of working people and the change of unit labour costs (ULC) (2008-2012)**



Source: OECD and Eurostat

Figure III.37. **Revenue from PIT in 2010 in relation to 2007 (in real terms)**

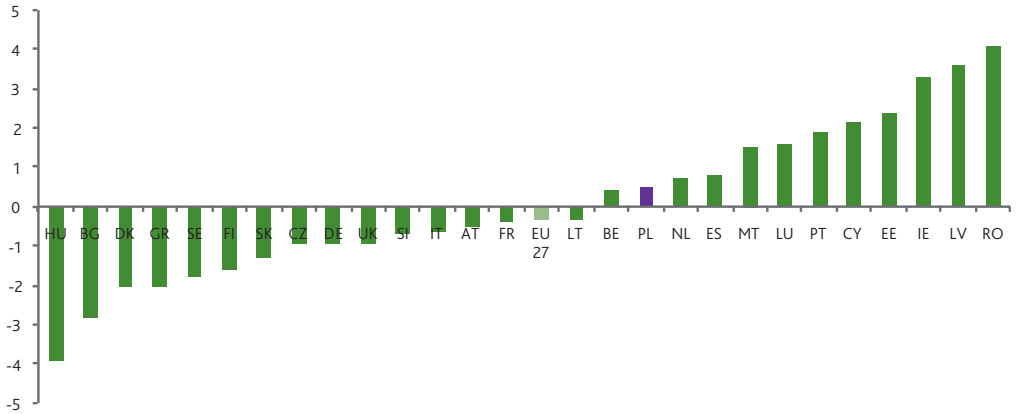


Source: Eurostat

decrease by several or several dozen per cent seriously affects the scale of the budget deficit. It is worth noting that the decrease of the revenue from PIT may occur even when the economy is formally not affected by the recession, and employment is not decreasing. The tax base for PIT is determined not by employment itself but by employment and actual wages. So if the employers may flexibly partially reduce the wage bill without adjustments with reference to employment, the revenue from PIT will decrease. This was the case e.g. in Germany, where the growth of employment was followed by very small wage increases, in real terms meaning the reduction of the total wage bill. In Poland the processes similar to the ones observed in Germany contributed to the drop in revenue from PIT, but it was also the reduction of the minimum tax rate from 19% to 18% and the removal of the so called third tax threshold. Those changes altogether caused the decrease in revenue from PIT (in real terms) by ca. 7%, i.e. an average value for the EU countries, which were certainly more affected by the recession than Poland.

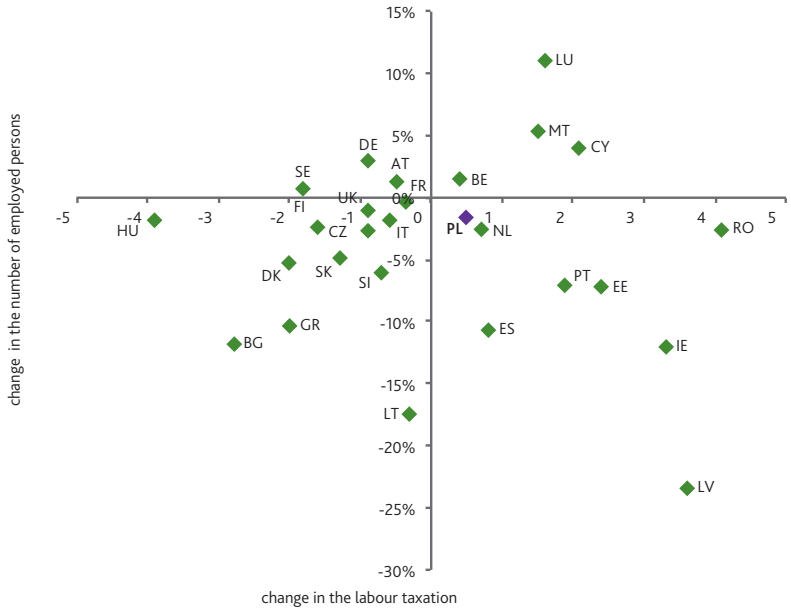
In the face of expected decrease of revenue from PIT and at the same time decreasing demand for labour, the countries applied various strategies to stop the reduction of the tax base. One of such instruments is the cancellation of entitlements to tax credits and tax reductions. For example the freezing of revenue eligibility thresholds results in the increase of the effective tax rate even when the nominal tax rates remain unchanged. In reality the effective tax rate have decreased in most of OECD countries during the crisis. Apart from Poland, Romania and Benelux the growth was observed in the countries that were affected by a very deep recession (Figure III.38). Naturally, the increase of the tax rate causes the decrease of the consumption of workers and of incentives to commence work by of the unemployed.

Figure III.38 **Change of the effective labour tax in the years 2008-2011**



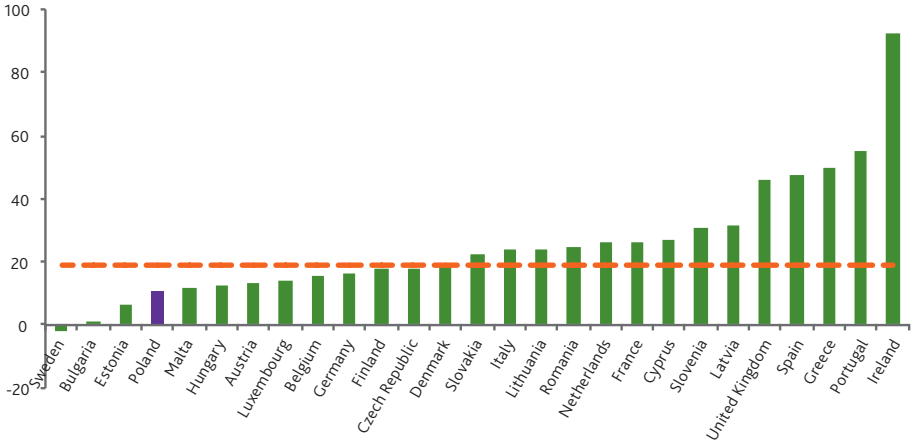
Source: Eurostat

Figure III.39 **Change of the effective labour tax and the change in total employment in the years 2008-2011**



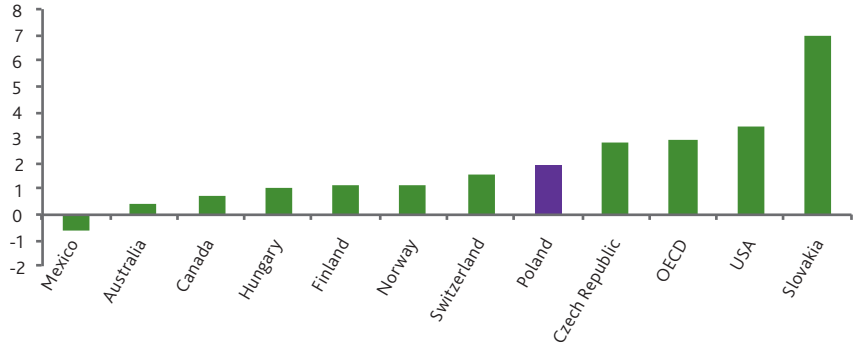
Source: Eurostat

Figure III.40. **Average public debt growth (in percentage points of GDP) in the years 2007-2012**



Source: Eurostat

Figure III.41. **Average duration of job search – change in the years 2008-2012**



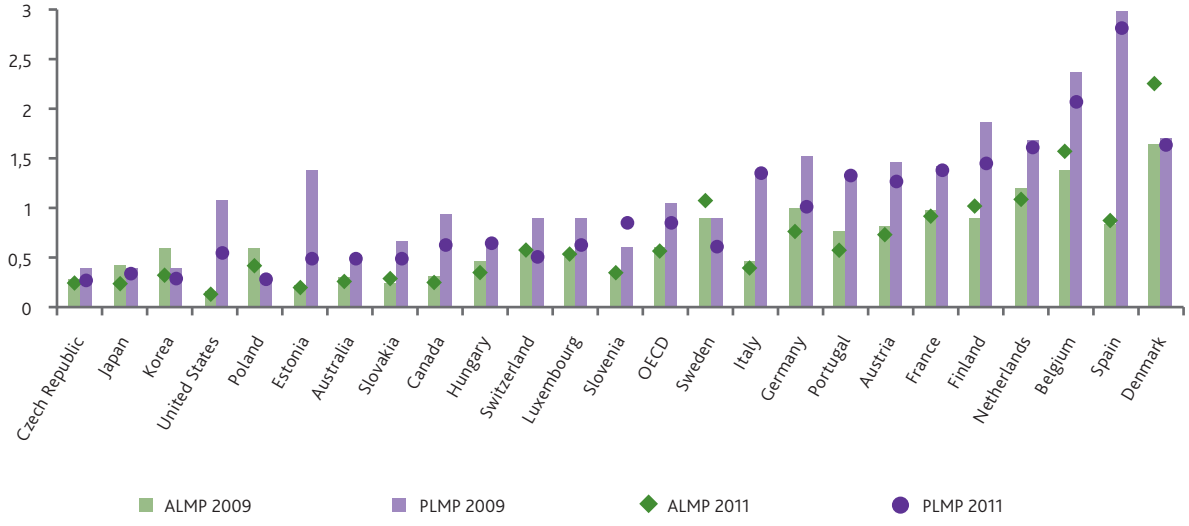
Source: OECD

Even though not in all of the countries the revenue tax base have dropped, except for Sweden all of the EU countries increased their public debt. Although in the case of some of the countries these increases were spectacular (e.g. almost 100 percentage points of GDP in Ireland), the average growth outside the GIIPS countries exceeded 18 percentage points of GDP (if the GIIPS countries were taken into consideration the average would amount to 25 percentage points of GDP). Compared to this, the growth of ca. 10 percentage points in Poland is not only below the average, but it is also the third lowest in the EU. However it has to be emphasised that the discipline of public debt growth in Poland stems from constitutional provisions, which is a very rare option.

5.2 ACTIVE LABOUR MARKET POLICIES

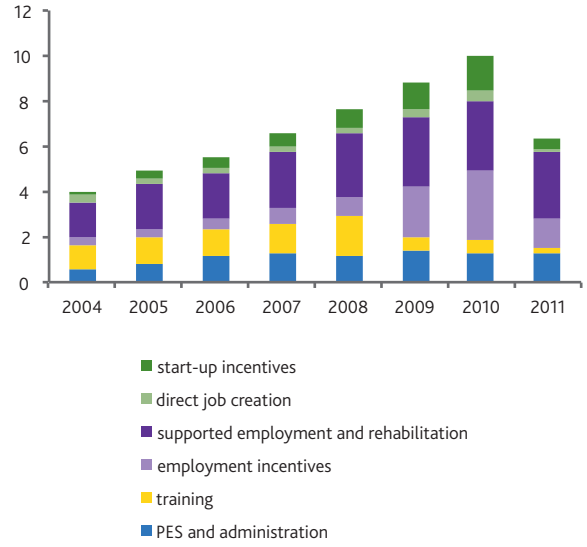
Expenditures on the labour market policies in Poland in terms of share of GDP were in 2011 at the level close to the average for the OECD countries. Spending per one unemployed person was on the other hand somewhat lower than on the average in Europe. In most of the OECD countries, including Poland, public spending on the labour market policies decreased despite the growth of the unemployment rate in the years 2009-2011. What is important is that the cuts referred mainly to the passive labour market policies, so primarily to the unemployment benefits. The share of spending for the passive policies in the total spending on the labour market policies in OECD countries reached 63% in 2009 and during three years of the crisis dropped to 59%. The spending on the active labour market policies (ALMP) in relation to GDP in OECD remained almost unchanged. The programs conducted as part of ALMP are more numerous and diversified than the passive programs. The most important categories among them are: subsidies, shortening of working hours, job creation by the governments, financial incentives for new enterprises and trainings, reduction of non-wage labour costs, help in finding a job and employment agencies. The countries that increased spending for the active labour market policies during the crisis are: Sweden, Belgium, Denmark and Finland. These countries reacted with the increase in financing of active labour market policies to the threat of great increase of the unemployment rate expected in the first years of the crisis. In Poland, despite the unemployment rate

Figure III.42. **Public spending on the labour market policies in OECD countries according to the type of policies (active – ALMP and passive – PLMP) (as GDP percentage in the years 2009 and 2011)**



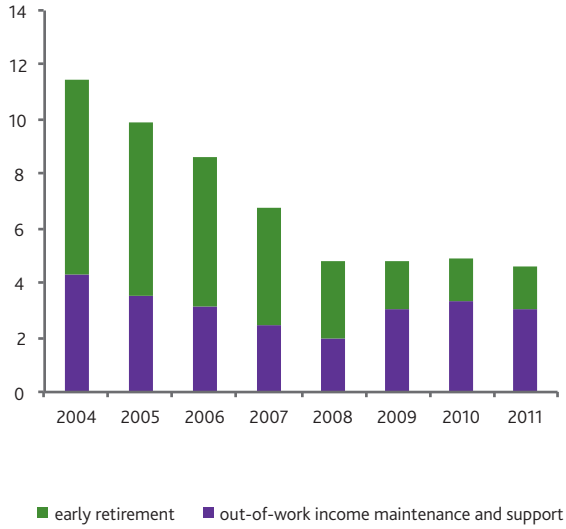
Source: OECD

Figure III.43. The spending on active labour market policies in Poland in the years 2008-2011 (in PLN billion, in prices from 2011)



Source: OECD

Figure III.44. The spending on passive labour market policies in Poland in the years 2008-2011 (in PLN billion, in prices from 2011)



Source: OECD

increase, the spending on ALMP was cut, which resulted from the decision of the Minister of Finance to reduce the limit of spending of the Labour Fund in 2011.

The change of expenditure on the labour market policies and the increase in the number of the unemployed as well as the decrease in the number of vacancies modify the conditions in which the employment services operate. All these factors contribute to the extension of the duration of job search. Countries such as Poland, Czech Republic or Slovakia experienced a substantially milder slowdown than Hungary or the United States, despite that the average duration of job search increased in Poland more than in Hungary, and in Slovakia it is two times longer than in the United States. These differences may stem from the characteristics of the labour market (e.g. lower employment creation rate), but also from the substantial worsening of the quality of employment agencies.

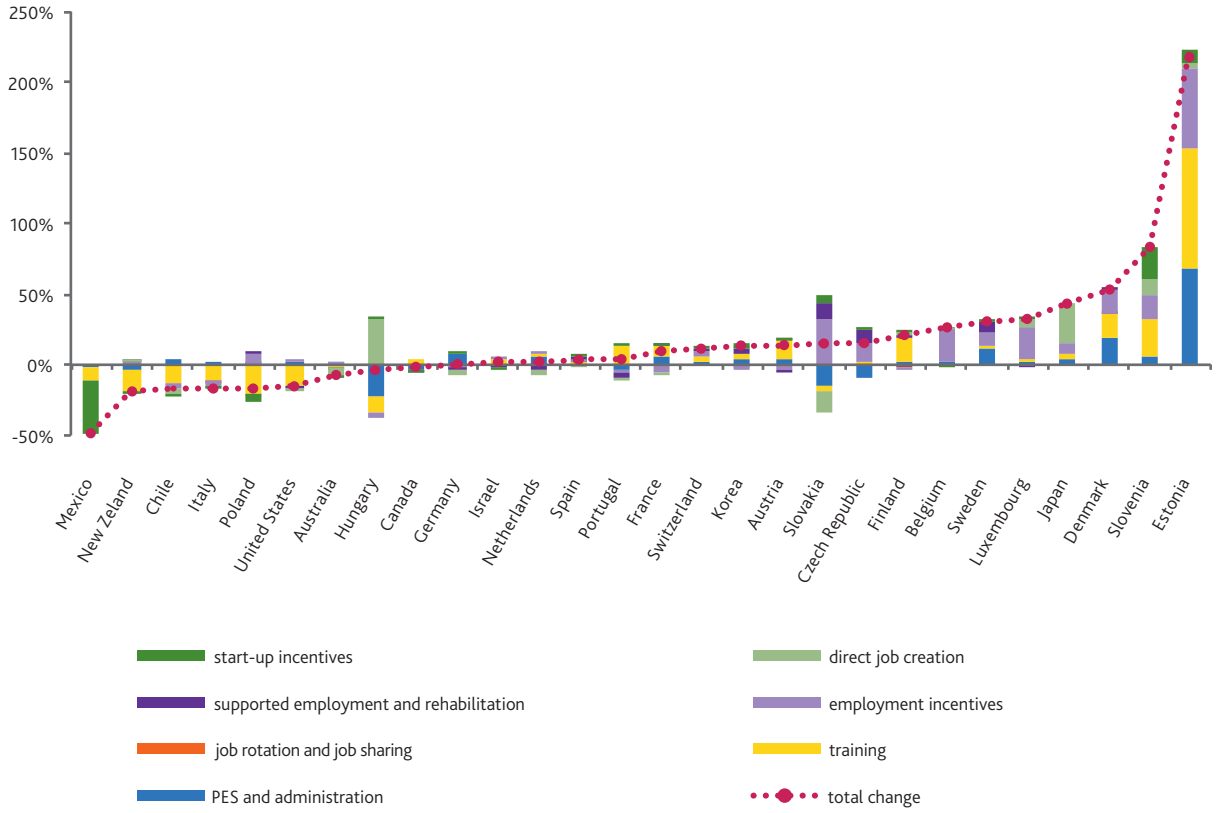
Reduction of financing of the labour market programs however is not necessarily equal to the lack of public response to the problems on the labour market caused by the crisis. In many OECD countries, as a part of ALMP new (often cheaper) instruments were introduced that are supposed to support maintaining or even increasing the so called coverage indices. This means that the higher percentage of the unemployed may have the access to the activation instruments. Insofar as the expenditure on the passive labour market policies (benefits and income support) in the majority of the developed countries is decreasing gradually, the spending on activation is merely decreasing or not decreasing at all. This results mainly from the fact that in majority of the developed countries the economic growth rate is not yet strong enough for the economy to independently generate a substantial number of new jobs. Activation instruments help the unemployed to maintain contact with the labour market.

Poland, where both the passive and active policies were subject to downsizing, is specifically distinguishable against this background. The conditions of access to the financial benefits became more restrictive and the so called freezing of the Labour Fund spending limited the availability of funds intended for activation measures. With a simultaneous pressure for fast spending of the funds from the European Social Fund, this results in the growth of the importance of expensive instruments and in smaller than would be possible coverage of the unemployed with the activities raising their attractiveness for the employers.

Insofar as in substantial part of OECD countries the maximum spending for active labour policies during recession was reached in 2011, in Poland the expenditure for active policies rose strongly until 2010, and in 2011 dropped significantly (Figure III.43). In the years 2009-2010 the spending on support to jobs and direct creation of jobs have been increased more than three times, and in 2011 it was limited to a large extent. As early as in 2009 the expenditure on trainings was reduced, even though in the years 2004-2009 it grew constantly. What is important, in 2009 one could observe that in Poland the decrease in spending for passive labour policies have been inhibited (Figure III.44), which among other things can be ascribed to the large increase of the number of people entitled to receive the unemployment benefit in the years 2009-2010. The total spending on unemployment benefits in 2010 amounted to more than PLN 2.6 billion, which constitutes 180% of the 2008 value (GUS 2008, 2010).

The increase in spending for the active labour market policies during the crisis to a large extent resulted from the increase in expenditure on supporting jobs (Figure III.45). In the countries where the spending for ALMP have dropped, mainly the expenditure on courses and trainings were restricted. The countries that increased their spending on the active labour market

Figure III.45 **The change in total expenditure on the active labour market policies (ALMP) in the years 2008-2011, and the change in the expenditure on each of the categories of ALMP as a share of total expenditure on ALMP**



Source: Own calculations on the basis of OECD data

policies the most as compared to the period before recession are: Estonia, Slovenia and Denmark. Inasmuch as Denmark and Estonia focused on trainings and employment support, the activation policy in Slovenia was aimed at the creation of more jobs both, directly and by encouraging to set up a business. What is worth noting, some of the countries during the recession, completely changed the structure of spending as part of ALMP. In Hungary active labour market policies consisting before the crisis in the support of employment and trainings, were strongly focused on direct creation of jobs. On the other hand in Slovakia the share of employment support (including the employment of people with a limited ability to work) was strongly increased within the spending on ALMP.

One of the most popular new instruments among the EU countries was the subsidising of the creation of new jobs. In many of them the addressee of programs was a particular social group, in which the unemployment constituted or could constitute a particularly serious problem. The applied criterion was most frequently the duration of unemployment. In Austria, Sweden and Portugal special subsidies referred to employment of the long-term unemployed. What is important, a special attention was paid to the youth, by extending the programs addressed at them, and older people. In Ireland a special program included the trades and professions in which the risk of bankruptcy was specifically high, just as in Korea, where the support was directed at the regions with the highest unemployment rate.

Box III.7. A dominant trend - to subsidise the creation of new jobs

One of the most popular new instruments was among the EU countries the subsidising of the creation of new jobs. In many of them the addressee of programs was a particular social group, in which the unemployment constituted or could constitute a particularly serious problem. The applied criterion was most frequently the duration of unemployment. In Austria, Sweden and Portugal special subsidies referred to employment of the long-term unemployed. What is important, a special attention was paid to the youth, by extending the programs addressed at them, and older people. In Ireland a special program included the trades and professions in which the risk of bankruptcy was specifically high, just as in Korea, where the support was directed at the regions with the highest unemployment rate.

Source: OECD

Against the changes occurring in response to the crisis in other countries, it has to be clearly stated that in Poland the structure of spending on ALMP was adjusted in a small extent to the changing economic conditions. Poland spends more than other countries on subsidies to set up a business and for trainings, and both these instruments by definition lose their effectiveness during economic slowdown. Relatively less spending than in other countries is dedicated to the supporting of creation of new jobs. Naturally, regardless of the budget structure, the question of effectiveness and efficacy of the spending is still important. In countries such as Denmark, Sweden, Austria, Korea or France the increase in expenditure on active labour market policies was connected with launching a number of programs monitoring both the process of implementation of these activities and the ex post results. This mechanism provides for both the current improvement of the functioning instruments and a systematic inspection with regard to the effectiveness and efficacy, which helps to flexibly direct the means to the activities providing greater social benefits.

5.3 EXITING THE CRISIS

The gradual improvement of economic situation in the developed countries makes one anticipate positive signals also for their labour markets. However it is not clear how fast are they implemented and how many citizens they will cover. Marelli, Signorelli and Tyrowicz (2012) point to the fact that the countries in which the adjustment on the labour market took place rather at the cost of productivity and not the employment level (so called labour hoarding), will observe the improvement of employment and unemployment rates much slower than those that allowed substantial quantitative adjustments. On the other hand, in all of the developed countries the regulations limiting the possibilities of reducing (or limiting growth of) wages have an impact, because these solutions impede the so called price adjustments. The instruments applied in some of the countries, such as a shortened working time, or the so called idle time pay enable lowering of wages but they have demanding criteria of access and often do not let the wages be reduced in a fully flexible manner.

The improvement of situation on the labour market requires reinstating the dynamic creation of new jobs, the impulses to create new jobs are particularly necessary. Comparative studies conducted by the National Bank of Poland (NBP) indicate that Polish employers as compared to other countries in a region substitute employees with capital to a larger extent (NBP 2012). This means that the demand shock of the same strength will result in the greater creation of jobs in Slovakia, Czech Republic or Hungary than in Poland.

Common belief also suggests that the increase of private investments will translate into the dynamic creation of jobs in Poland. The data however confirm those intuitions to a small extent. Based on the long-term trends NBP (2011) states that even though the cyclical nature of decisions on investment processes and of the creation of new jobs is similar, merely 1 on 15 companies starting the investment activities simultaneously plan the employment growth. Currently interviewed entrepreneurs indicate that in most of the cases the investments will be connected with the reduction of employment or the rotation of employees without a substantial change in the number of jobs. Only one in four employers declares employment growth as a result of investments (NBP 2013).

Intensification of job creation in Poland usually occurs in a response to the increasing demand and it occurs together with the growth of manufacturing capacities. In other words the employers in Poland have a tendency to create jobs only when they are not able to satisfy the demand for their own products or services. In this respect Poland stands out against other countries of the region, where the mechanisms of jobs creation are significantly more diversified and they stem from the "necessity" to a lesser extent.

Among the solutions which boost the exiting from recession by the labour markets, two instruments are most effective and most often applied. One of them are the tax discounts for the employers creating new jobs. In part of the EU countries (e.g. Belgium, France, Great Britain), there is tax rebate (or postponement) on income from new investments, if as a result the employer creates new jobs and does not eliminate other positions (the access to such rebate is dependent on the net growth). In Poland there are no similar tax mechanisms, and subsidising the creation of jobs is an expensive instrument and thus available for only a small group of employers.

The second instrument supporting the creation of jobs are the policies favouring redistribution of the existing jobs to a larger group of employees. In many countries a part-time job is applied as an instrument of a dual nature. On the one hand it makes it easy to reconcile the family and professional roles, but on the other hand, it fosters the broadening of access to the labour market for a larger group of people. In the EU countries this atypical form of employment was applied by almost 20% of all the employed on average, but in the case of Netherlands almost a half of the employed people worked on a part-time basis, more than 35% in Switzerland and in Scandinavian countries, Great Britain, Austria and Germany more than 25%. Even bigger disproportion is visible in case of women, out of which only 11% of employed were working part-time in Poland in 2011, and on the average in the EU countries it was more than 30%, and in Netherlands more than 75%.

Over the last decade in Poland the employment on a part-time basis is decreasing, but this drop is mainly due to the people working in agriculture – from 2005 the employment contract outside agriculture deprives of the possibility of an insurance at Agricultural Social Insurance Fund, and work on the basis of civil law agreements is not associated with that. Employment on a part-time basis is definitely most important for people in the post-working age, but still active. More than half of the employees in this group is hired on a part-time basis. This kind of employment plays important role among the youngest participants of the labour market, making it easier for them to finance their own education. Among young people hired on a part-time basis, more than 1/3 are farmers, and ca. 40% the people working in the services sector.

SUMMARY

The construction of the institutional environment of the labour market is essential for the absorption of shocks by the economy, and among most important of markets – product market, capital market, labour market – the labour market is the one with the widest and most specific regulation introduced by formal and informal institutions. Boeri and van Ours (2008) argue downright that the labour market is an immanently imperfect market (i.e. far from the terms of the perfect competition). This part of report focuses on institutions and policies (constituting their particular form). The first chapter presents the findings concerning the impact of each of the institutions on the performance of labour markets during crises – although the strength of each of the effects may be arguable, it seems that there is a consensus that the institutions hampering reallocation of jobs (such as high employment protection) limit the direct effects of macroeconomic shocks for employment and unemployment, but they prolong the duration of their absorption. If additionally the employers cannot carry out the adjustment via wages, the shock gets deepened by the worsening relations between wages and productivity, which impedes the end of recession and return to the growth path.

With respect to the protection of employment relationship, the EU countries are situated between two extremes – in Anglo-Saxon countries, and Netherlands and Denmark a minor protection of employment relationship (e.g. low costs of employment contract termination) is connected with a high security of employment. In the south Europe a strict protection of employment relationship co-exists with a substantially lower support for job search, retraining and social security schemes which create disincentives to labour market participation. The countries with a higher employment protection are characterised by more long-term unemployment and higher unemployment among youth. Long-term unemployment is also usually more widespread in the countries with a higher tax wedge. As a consequence, during economic slowdown the decrease in demand for labour deepens the segmentation and inequalities on the labour market (a separate chapter discusses this issue). On the other hand, the so called "open" labour markets where the access to employment – even on a part-time basis – is bigger and the applied activation instruments more egalitarian, reduce the segmentation. Also the solutions helping the graduates to enter the labour market or the people absent from the labour market to return to participation, are of substantial importance.

During several years before the global financial crisis many OECD countries carried out a number of reforms aimed at supporting the economic growth and creation of new jobs. Even though substantial differences between OECD countries with respect to the direction of reforms can be noted, generally speaking the reforms introduced in the years 1995-2007 were aimed at reducing the governmental interference with the labour market. In most of the countries the freedom of employees and employers with reference to the duration and organisation of working time was enlarged, and the social security system was modernised to ensure the balance between security and the dependence on benefits. The fact that adjustments of employment and unemployment during the Great Recession were much smaller than it would appear considering the scale of recession indicates that the reforms made the economies better prepared for the crisis. Considering this the Polish economy, moderately affected by the crisis – was subject to much larger adjustments than it would stem from the overall economic situation. If the course of the crisis was different it seems that the Polish labour market would suffer more than it the other developed countries actually did. At the same time, the dedicated anti-crisis operations had negligible impact – although in a fiscal sense they constituted a large part of the budget spending, their contribution to the stimulating of economy turned out to be rather small.

There is no single canon of labour market institutions that would ensure the efficient absorption of macroeconomic shocks. Also it is not possible to create such institutional environment in which after a negative demand shock, the adjustments on the labour market would be substantially alleviated. However the social costs of adjustments may be minimised. There are three types of solutions that aim at satisfying this objective.

First of all, the instruments helping to minimise the scale of dismissals by making it easier to reduce the working time and wages make the economy more immune to shocks and let it exit the crisis faster. Making the time more flexible just as in the case of wages directly transfers a shock from the side of employer to the employee's income, but it enables to keep both the employment and the earning capacity. Although now this type of solutions are more often applied in manufacturing than in services, analogous instruments adjusted to the specificity of services have to develop with time. Despite the crisis in the number of EU and OECD countries, including Poland, the unit labour costs have increased, which means that these solutions are not flexible enough.

Secondly, a major role of the services sector and domestic consumption enables to absorb the external shock to a lesser extent. During the Great Recession the economies with a larger share of services were characterised by smaller scale of reduction of the number of the employed. Developed services sector serves acts as an automatic stabiliser in modern economies, because it is less susceptible to the foreign demand shocks

than for example manufacturing, and it stabilises the domestic demand. On the other hand, the so called "surplus" unemployment in American economy was connected with excessive growth of employment in this very sector, which means that the growth of the services sector favours the stabilisation only when it is associated with a stable domestic demand.

Thirdly, the labour markets with a wider access to the instruments supporting jobs creation and helping to access the employment faster leave the recession faster. Although the availability of work on a part-time basis before crisis does not significantly influence these adjustments, the support for work on a part-time basis after the shock occurred may play such a role. For instance, the so called job sharing in Scandinavian countries and Netherlands helped to keep a greater number of the people employed, which brought social and individual benefits. In reference to traditionally main automatic stabiliser – tax and transfer system, it is worth noting that a relatively high tax wedge in Poland results in excessive prolongation of the negative effects of shocks on the labour market.

Although few countries conducted the actual evaluation of anti-crisis policies and their impact on the economy's behaviour, the unemployment during Great Recession in most of the countries have increased less than it would appear from the GDP decrease and earlier experiences. The expectations of the employers concerning the duration of the economic slowdown had a crucial importance for the role played by the institutional environment in the absorption of the crisis. These expectations influence the decisions of employers on optimal method of adjusting the labour input. It can be said that the anti-crisis packages affected the labour market through shaping those expectations rather than through direct actions. Against the background of diversified solutions in the EU countries, Poland applied minor instruments and merely adjusted to the needs of employers.

Immediate anti-crisis actions also have substantial negative effects. Stimulus packages require financing with current or future taxes. Prolonging crisis created growing budget pressures in most of OECD countries in the years 2010-2011, which is discussed in more detail in Part 4. These pressures translated into, among other things, the decline in spending for the labour market policies in relation to GDP, which could not be justified by the decreasing number of the unemployed. As a result these countries that decided to support the adjustment mechanisms of the labour input in the enterprises (working hours changes, wages flexibility) during the first stage of the crisis, turned out to be better prepared to the prolonging recession than those that traditionally focused on the increase of spending for transfers and ALMP. What was also important was the adjustment of ALMP structure to the stage of the business cycle – high spending on trainings and grants for commencing business activity mitigate the effects of crisis to a lesser extent than the instruments sustaining and supporting the employment.

Exiting the crisis requires instruments intensifying jobs creation and the solutions increasing the egalitarian access to employment. A challenge is not so much the stimulation of economies by means of public spending, but further modification of the institutional environment that will reduce the costs of creation of new jobs for employers, intensify the incentives to labour market participation and help in using the solutions such as job sharing, and the work on a part-time basis.

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Employment in Poland 2012 Part IV

The crisis in public finances and the second wave of recession

Jan Hagemejer, Karol Pogorzelski

INTRODUCTION

The state actively influences economic processes through its policies, especially in times of crisis, and the character of intervention depends on the adopted political model. One of the most important instruments that economic policymakers have at their disposal is fiscal policy, i.e. ability to tax economic entities and processes, and the disbursement of the public funds for various purposes. The consensus is that the role of the state is to stimulate the economy in times of slowdown and mitigate its negative effects. On the other hand, in periods of boom it may be necessary to cool down the economy, in order to reduce demand in the face of limited production capacity and increasing inflationary pressures. This ideal role of the state, however, can rarely be found in practice. Legal constraints, political considerations and international obligations result in economic policies exacerbating rather than ameliorating the negative effects of the business cycle. Accordingly, during the Great Recession the role of fiscal policy has been ambiguous.

In the first phase of the Great Recession (2008-2010), including the global credit bubble burst in the real estate market and the following collapse of the financial markets, the governments in most of the affected countries adopted a proactive stance using a wide range of measures to stimulate the economy, including tax benefits, social transfers and investment. This contributed only to a short-term recovery that failed to increase budget revenue to the level necessary to finance those measures. As a result, in many countries rapidly accumulating public debt reached unprecedented proportions. Despite the continuing economic downturn, high costs of debt service forced the use of austerity measures. In many countries austerity policies were very severe and abrupt, which probably contributed to the transition into the second phase of the Great Recession (2011-2012).

The theme of this part of 'Employment in Poland 2012' is the role of fiscal policy in the course of the Great Recession. The analysis begins with a question on the state of public finances in different countries before and during the crisis. Then we reconstruct the processes and regularities in the studied economies. For example, we analyse changes in the structure of public finances of various countries and the role of automatic stabilisers and discretionary policies. The theme of the third chapter is the collapse of public finances experienced by a number of countries during the second phase of the Great Recession. We focus on the eurozone in which national economic policies are subject to special restrictions due to the centralised monetary policy. The final chapter attempts to answer the question of how future fiscal policy may look in the light of problems with its international coordination, and the challenges of demographic changes in the developed countries.

1 PUBLIC FINANCES ON THE EVE OF THE CRISIS

National economic policies depend largely on the adopted model of relationships between the state and the economy, and also on the health of public finances. The first of these factors affects the repertoire of instruments available to the government; welfare states, mainly the Scandinavian countries, use a greater number of these tools than the more liberal countries (the United States, the United Kingdom and Canada). In turn, the condition of public finances, in particular the borrowing capabilities, determine how much can be spent to implement policies. This is vital for understanding changes in the national fiscal policies during the Great Recession.

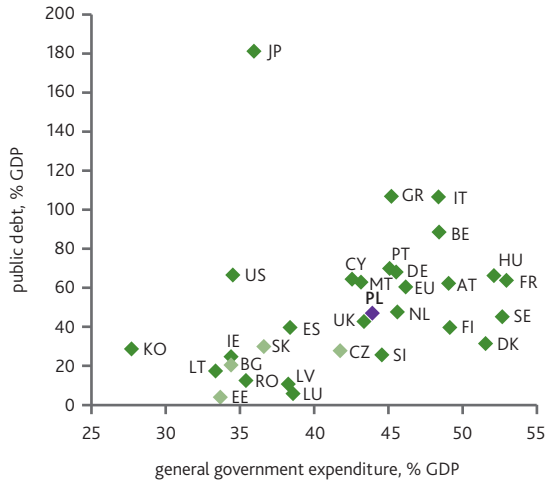
In line with intuition, countries with an extensive welfare state model had the largest public finance sectors in 2006, measured by the share of public expenditure in GDP. These were mainly the Nordic countries – Denmark, Sweden and Finland, as well as France and Austria, where the size of the entire public sector was about 50% of GDP, and social policies cost more than 40% of budget funds (Figure IV.3). At the other extreme was the United States in which the respective ratios were 35% and 20%. Most of the new EU Member States maintained a relatively small public sector, similar in size to the U.S. (exception being Hungary, with budget expenditure at 52% GDP), although social spending share was distinctly higher. In Poland the public sector reached 44% of GDP and was similar in size to that in the U.K. and Germany, and therefore did not stand out compared to other countries.

The high level of public spending in the economy is associated with high levels of taxation. Figure IV.1 summarises information about the implicit tax rates (ITRs) for labour, capital (including business profits) and consumption in 2006. The values were positively correlated with the share of the public sector in the GDP. Implicit tax rates, depending on the area of taxation, varied among the analysed countries. The largest heterogeneity could be found in the taxation of capital. The Baltic countries kept an extremely low tax burden on capital and business profits – Estonia (8%), Lithuania (12%) and Latvia (12%). Denmark, France and the United Kingdom heavily taxed capital (ITR above 40%). The rates of taxation on labour were less diverse, ranging from 20% to 45%. Most homogenous were taxes on consumption, mainly due to the fact that VAT rates are partially harmonised across the European Union.

The level of public debt depends on fiscal discipline in the medium and long run. Maintaining a budget deficit regardless of the level of economic growth leads to a significant accumulation of debt. Accordingly, the level of debt in the period preceding the Great Recession was usually the result of long-term fiscal policies. In 2006, the average level of public debt in the EU countries was 62% of GDP, while in the eurozone 69% of GDP. In both cases, it exceeded the 60% GDP threshold set by the Maastricht Treaty of 1992 and repeated in the Stability and Growth Pact in 1997.

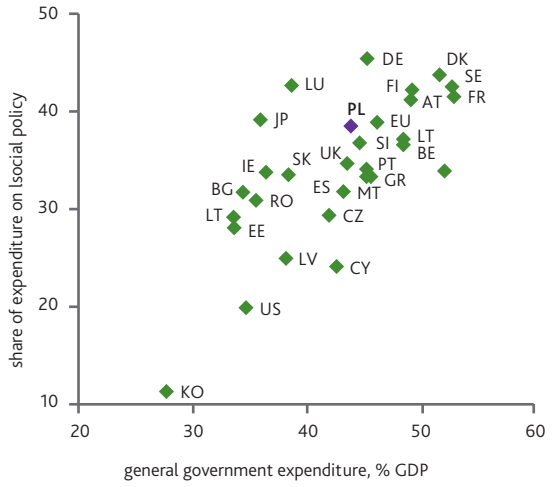
Debt levels varied greatly across economies. In 2006, the highest level of debt was recorded by Greece (106% of GDP), Italy (106% of GDP) and Belgium (88% of GDP). This level of debt had existed in those countries for at least two decades.

Figure IV.1. **Government expenditure and public debt in 2006**



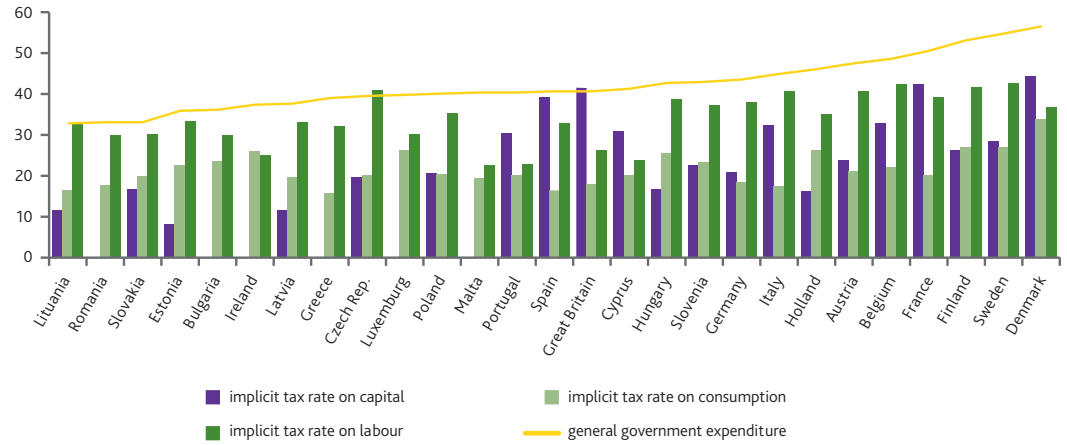
Source: Own elaboration based on Eurostat and OECD.

Figure IV.2. **Expenditure on social policies in 2006**



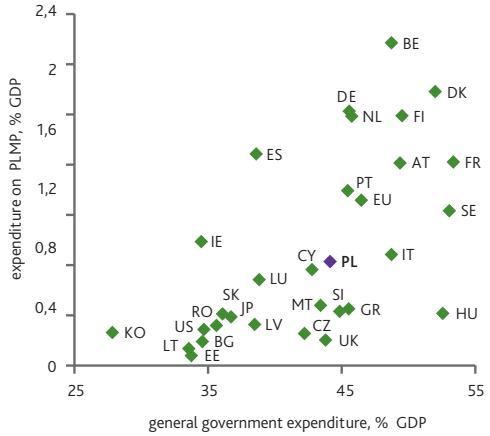
Source: Own elaboration based on Eurostat and OECD.

Figure IV.3. **Average implicit tax rates (ITR) in the EU in 2006**



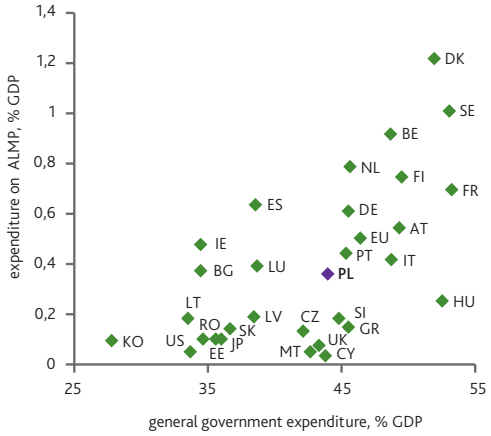
Source: Own elaboration based on Eurostat data.

Figure IV.4. **Expenditure on passive labour market policies (PLMPs) in 2006**



Source: Own elaboration based on Eurostat and the OECD.

Figure IV.5. **Expenditure on active labour market policies (ALMPs) in 2006.**



Source: Own elaboration based on Eurostat and the OECD.

In 2006, public debt also exceeded the 60% threshold in Germany, France, Austria, Portugal, and the New Member States: Hungary, Cyprus and Malta. In most new Member States public debt remained at a lower level: Estonia (4% of GDP), Latvia (8%), Romania (12%) and Lithuania (18%). This apparent fiscal prudence of New Member States was due to the high risk premium on their sovereign debt; the cost of obtaining credit in the financial markets in these countries was higher than that in more developed countries (the exception being the Czech Republic, where the interest rate of 10-year bonds was similar to those issued by the EU 15 states).

Discussion on the involvement of the governments in the economy should also include spending on labour market policies. While these expenditures represent a small part of the budget (in 2006, the average share of spending on passive and active labour market policies by the EU countries amounted to 3.5% of the budget), we focus on them due to the fact that these instruments of economic policy are able to influence the effects of the recession in the labour market. There is a significant correlation between the level of spending on labour market policies and the size of the public sector in the economy (correlation coefficient = 0.61). Thus, spending on labour market policies was higher in countries where public expenditure accounted for a significant share of GDP. There was also a strong correlation (correlation coefficient = 0.88) between expenditure on passive and active labour market policies in OECD and EU countries, although spending on passive labour market policies was on average 2.5 times higher. It is worth noting that not all countries with a large public sector spend a lot on labour market policies; these are Greece and most New Member States of the European Union.

2 FISCAL POLICY DURING THE GREAT RECESSION

A characteristic feature of fiscal policy is that the economic policymakers do not actually have full control over this instrument. To a large extent it acts via automatic stabilisers that alleviate the tax revenues when entrepreneurs earn lower profits and employees receive lower wages during an economic downturn. On the other hand, when unemployment rises, financial obligations of the state increase automatically, for example in the form of unemployment benefits and other social policy instruments. When governments find automatic stabilisers inadequate (as was the case in the first phase of the Great Recession), they may choose to apply additional fiscal instruments, i.e. discretionary policies in the form of tax cuts, subsidies to enterprises, social transfers, etc. However, the effectiveness of fiscal policy is limited by the increasing budget deficit and public debt, as was observed during the Great Recession.

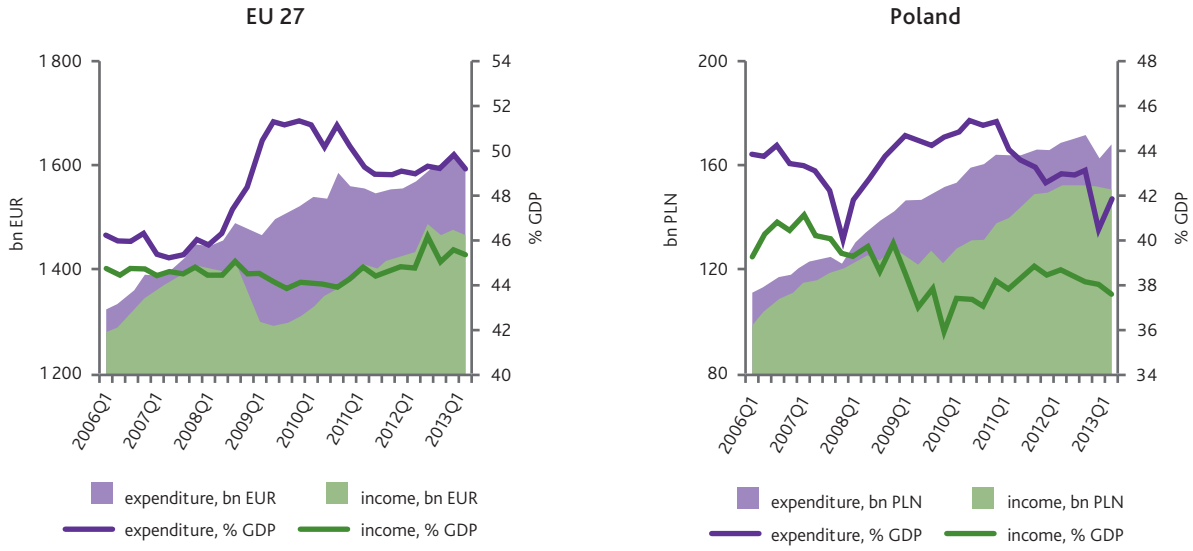
Between the second quarters of 2008 and 2009, average public spending in the European Union increased from 46% of GDP to 51% of GDP (Figure IV.6.) and remained above 50% for the following two years. In 2011 these figures fell slightly, but were still higher than before the crisis by about 3 percentage points. Government revenues followed the falling GDP. In 2009, budget revenues in EU countries were nominally lower by about 380 billion euro than the previous year, while spending increased by 130 billion euro.

In Poland in 2009, a slowdown in the growth of nominal income was accompanied by an increasing budgetary expenditure. Relative expenditure peaked at the turn of 2010 and 2011, and in the following two years decreased due to a positive GDP growth rate and a slower rise in spending. Government revenues as a percentage of GDP remain at a level lower than before the crisis. A divergence between the dynamics of expenditure and revenue led to an increase in the budget deficit (purple area in the Figure IV.6).

As previously mentioned, the beginning of the Great Recession brought a decline in revenue and a simultaneous increase in public spending, which significantly deteriorated the budget balance. In the case of the EU 27, the deficit in 2009 had already reached 212 billion euro (7.1% of GDP, seasonally adjusted), and in Poland in the same year – 30 billion zlotys (8.7% of GDP, seasonally adjusted). In the end of 2010, both the EU 27 and Poland initiated the process of fiscal consolidation, so that in both cases the budget deficit was reduced to about 4% of GDP in 2013.

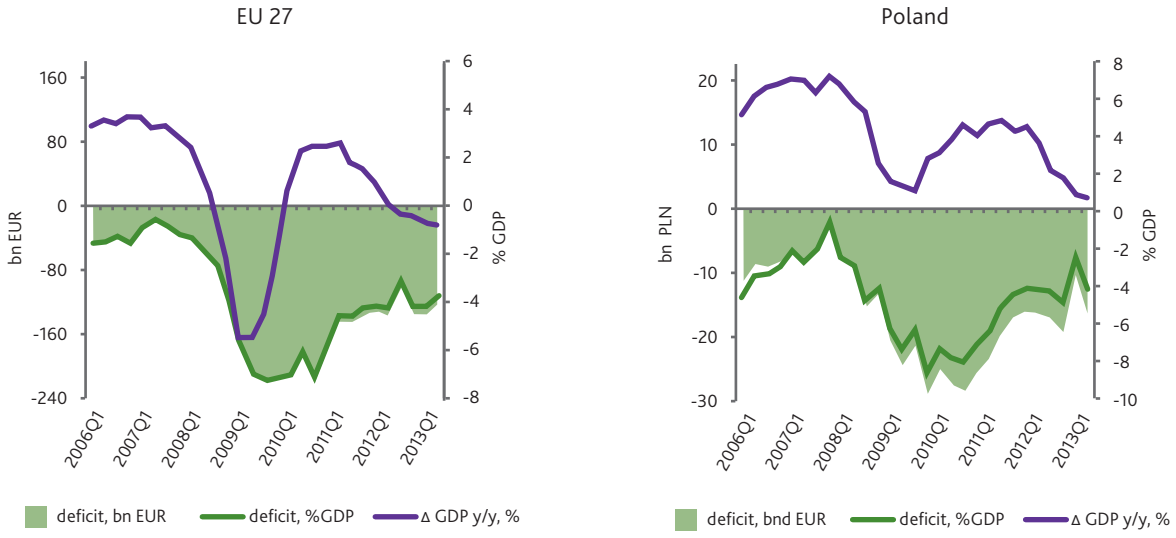
Until the end of 2010 the relationship between the level of the budget deficit and economic growth was negative, indicating a counter-cyclical response of economic policy. In subsequent years, in the EU 27 and Poland the budget deficit decreased with the again falling economic growth rates, indicating a reduction in expenditure and/or revenue growth despite the downturn in the economy. Moreover, their deterioration was partly due to fiscal tightening after 2010.

Figure IV.6. **Budget outlays and revenues 2006-2012, quarterly data, seasonally adjusted**



Source: Own calculations based on Eurostat; data for Poland are seasonally adjusted by Demetra software.

Figure IV.7. **The budget deficit 2006-2012, quarterly data, seasonally adjusted**



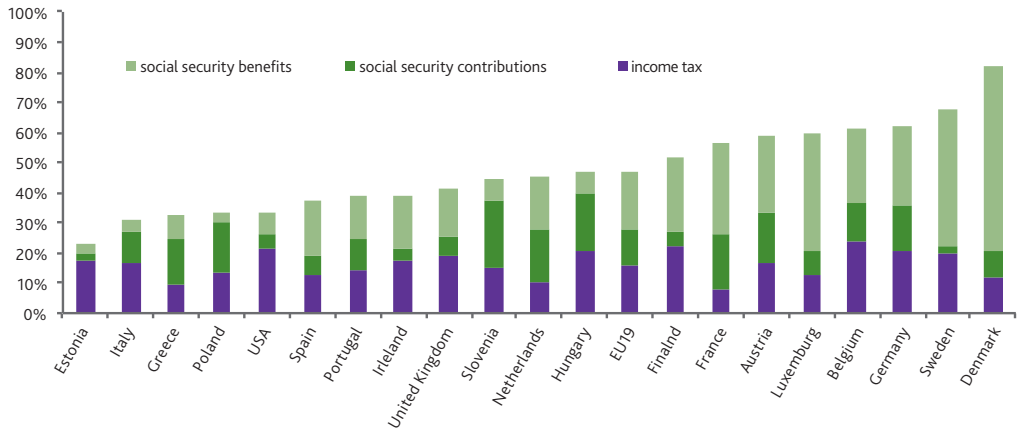
Source: Own elaboration based on Eurostat data.

2.1 AUTOMATIC STABILISERS VS. DISCRETIONARY POLICIES

As already mentioned, automatic stabilisers constitute the first line of defence for countries in economic crisis. The main mechanisms are social security and tax systems which absorb the negative effects of increased unemployment and lower wages on the disposable income of households. Fired workers do not lose their entire income, but temporarily receive unemployment benefits; the higher the benefits, the stronger the effect of the automatic stabilisers. Moreover, the tax system stabilises the disposable income of those who remain in employment during the crisis, but experience a decline in their gross pay.[1] A progressive tax system has the additional positive effect of lower PIT rates after a fall in income.

The strength of automatic stabilisers depends entirely on the structure of tax and social security systems, and ultimately on the model of the welfare state (see Chapter 1). States with high and progressive taxes and a generous social security system will have stronger stabilisers than more liberal economies. This observation is confirmed by empirical research. Dolls, Fuest and Peichl (2012) examined the extent to which automatic stabilisers would offset a decline in aggregate demand, assuming that an increase in unemployment would result in a 5% drop in the gross income of households. The greatest effect would occur in Nordic countries with a complex system of social benefits, where fluctuations in aggregate demand would be reduced by more than 70%. At the opposite extreme are countries with a clearly liberal economic model: Estonia and the United States, Poland and the GIIPS (Greece, Italy,

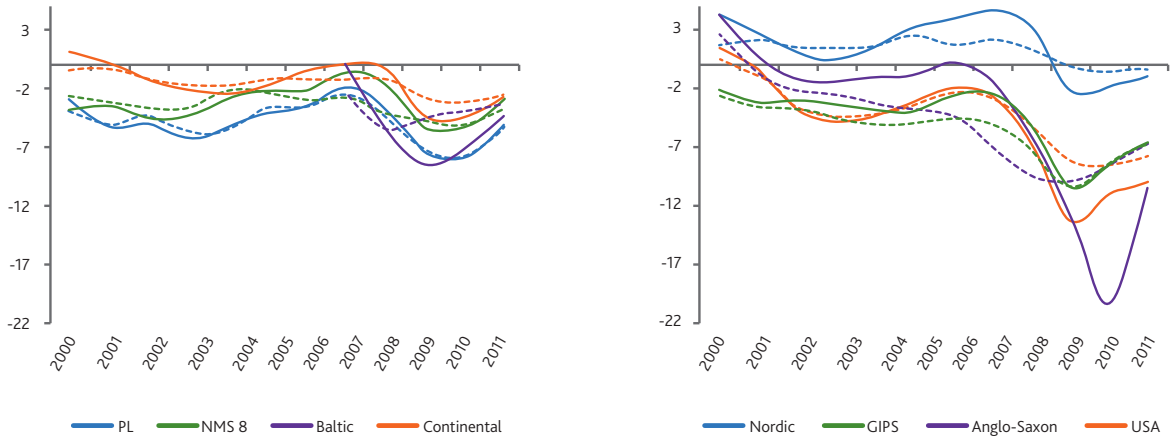
Figure IV.8. **Factors stabilising aggregate demand as a result of automatic stabilisers in selected countries of the EU and the United States in 2008**



Source: Own elaboration based on Dolls, Fuest, Peichl 2012 (Table 3).

1 For example, if gross wages fall by 500 €, in a linear tax system with a tax rate of 20%, disposable income falls not by 500 €, but by 400 €.

Figure IV. 9. **Actual public sector balance (% of GDP, solid line) and structural balance (% of potential GDP, dashed line)**



Note: The countries are grouped as follows: Anglo-Saxon (the United Kingdom, Ireland), Baltic countries (Lithuania, Latvia), continental countries (France, Germany, Austria, the Netherlands, Belgium, Luxembourg), NMS 8 (the Czech Republic, Slovakia, Hungary, Slovenia, Romania, Bulgaria, Malta, Cyprus), Nordic countries (Denmark, Sweden, Finland), GIPS (Greece, Italy, Portugal, Spain). Indicators for groups of countries were calculated as the arithmetic mean of the values for each country.

Source: Own elaboration based on data from the World Economic Outlook, April 2013, IMF.

Ireland, Portugal and Spain). Dramatic events during the Great Recession in the GIIPS countries were partly associated with the small force of automatic stabilisers. In Poland, too, social benefits (mainly unemployment benefits) played a very little role in offsetting the impact of increased unemployment.

The results of Dolls, Fuest and Peichl (Figure IV.8) show the hypothetical behaviour of automatic stabilisers in different countries, providing a crisis hits them in the same way and is only temporary. In reality, the Great Recession manifested itself in different ways and lasted much longer than an average economic crisis. Thus, the operation of automatic stabilisers has depended not only on their design, but also on the strength and duration of the economic downturn.

Did the governments rely solely on automatic stabilisers during the Great Recession? This question can be partially answered by decomposing the budget deficits into cyclical and structural components. This procedure is based on the observation that the level of budget deficit depends not only on the fiscal policy of the government (structural component), but it also fluctuates in accordance with the business cycle (cyclical component). The structural deficit reveals if public finances are sustainable in the long term – and what the budget deficit would be at the potential GDP.[2]

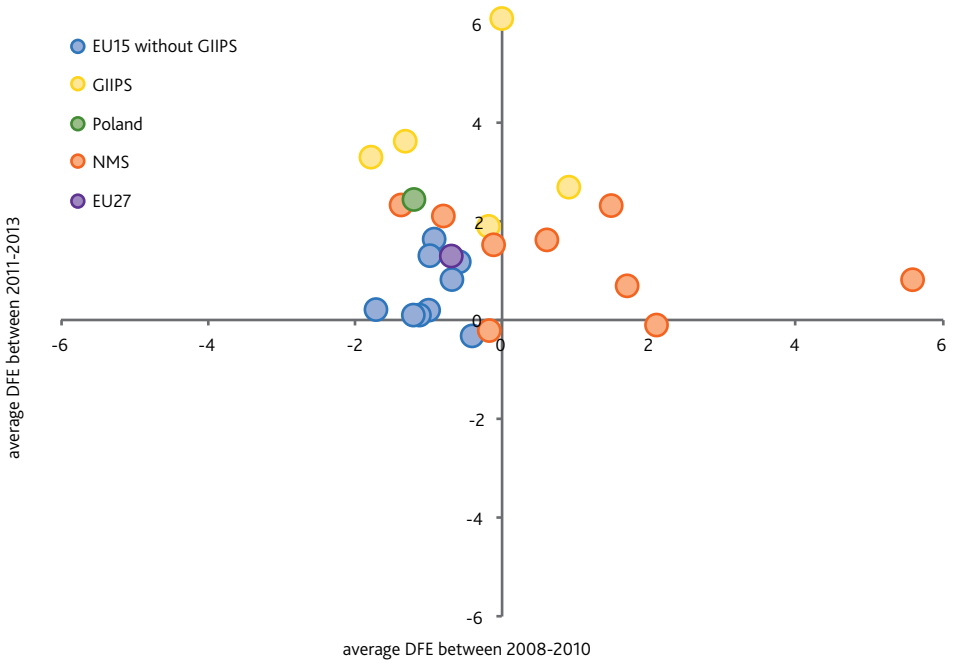
Figure IV.15 shows average values of the actual budget deficits and the structural deficits in different groups of countries, as published in the World Economic Outlook database. The level of structural deficits significantly differed between the analysed countries. Before the crisis, developed countries (nordic and continental) remained close to the structural budget balance. The New Member States had a looser fiscal policy, as with a higher rate of economic growth they could afford higher budget deficits without increasing the share of debt in GDP.

Fluctuations in the actual budget deficit with a constant structural component indicate the dominant role of automatic stabilisers in fiscal policy. Changes in the structural deficit indicate changes in the direction of a fiscal policy: an increase/decrease in tax rates, increase/decrease in expenditure not automatically connected with the GDP. The difference between the deficit and structural deficit, i.e. the cyclical component of the deficit, can be interpreted as the impact of automatic stabilisers on public finance (Bornhorst et al. 2011). The Great Recession increased both actual and structural deficits, and so fiscal responses to the Great Recession were not limited to automatic stabilisers, with much of the adjustments resulting from additional fiscal measures.

As the automatic stabilisers worked differently in the surveyed countries, much of the adjustment of public expenditure and revenue resulted from the use of discretionary fiscal policies. Some of them were introduced as large-scale aid packages, such the Economic Stimulus Act in the United States (tax credits for households or tax incentives for corporate investment), or the European Economic Recovery Plan in 2008 which included short-term instruments, such as the promotion of labour demand and job creation, strengthening the action of automatic stabilisers, supporting the mechanisms of job search and mobility in the labour market, as well as direct support for enterprises struggling with a short-term decline in demand. Sectoral policies in the EU and the United States, for example,

2 Potential output denotes the GDP under full employment, i.e. employment at the highest level not accelerating inflation. Methods of extracting the potential GDP are based on excluding the cyclical component of GDP with spectral filters and/or estimation of potential GDP using the production function.

Figure IV.10. **The direction of fiscal policy in the European Union in the first and second phase of the Great Recession, measured by DFE (% of GDP)**



Source: European Commission (2013).

consisted of subsidies for purchases of new cars (in the USA) and direct aid to companies in the automotive industry.[3]

In Poland the differences between the actual and structural deficits were small, and the correlation between the two values was high. This confirms the earlier thesis of the low significance of automatic stabilisers for the Polish economy, even during the Great Recession, and thus the particularly high significance of discretionary policy in Poland.

The impact of discretionary policies may be measured by the index of Discretionary Fiscal Effort (DFE) proposed by the European Commission (2013). It is the sum of discretionary policies on the revenue side of the budget (DFE_t^R) and policies on the expenditure side (DFE_t^G), calculated as the deviation of public spending from the hypothetical amount, at the potential output.[4]

Positive values of DFE denote fiscal tightening, while negative values denote fiscal loosening. The directions of fiscal policies in the European Union countries (measured by DFE) in the first and second phase of the Great Recession are illustrated below.

Most countries can be found in the top left part of the chart, which means that they have loosened their fiscal policy in the first phase of the Great Recession (2008-2010) and tightened it in the second phase (2011-2013). In many countries, including Poland, the scale of structural fiscal tightening was similar to the scale of fiscal loosening in the first phase. On the eve of the crisis a considerable number of countries maintained debt below safety thresholds (constitutional or Maastricht Treaty, Figure IV.32); the loosening of fiscal policy and the action of automatic stabilisers resulted in nearing or exceeding those thresholds. GIIPS countries are a special case; debts on the eve of the crisis were very high and the scale of tightening was also the highest.

In the first phase of the crisis the possible fiscal measures of supporting demand had been exhausted. The cost of both automatic stabilisers and loosening of structural fiscal policy, i.e. rapid rise of public debt and increases in its interest, occurred sooner than was expected by governments. The resulting recovery proved to be weak, and the subsequent fiscal tightening actually prolonged the Great Recession.

3 A detailed description of fiscal programmes in the first phase of the crisis can be found in Stehrer and Ward, 2012.

4 Formally, DFE is calculated using the following formula:

$$DFE_t = DFE_t^R + DFE_t^G = \frac{N_t^R}{Y_t} - \frac{(\Delta E_t - pot.E_{t-1})}{Y_t},$$

where:

- N_t^R is the sum of discretionary policies on the revenue side of the budget in period *t*;
- ΔE_t is the change in the amount of non-cyclical public spending in period *t*;
- $pot.E_t$ is the hypothetical change in the amount of non-cyclical public spending at the potential GDP where discretionary policies have not been applied;
- Y_t is the level of GDP in period *t*.

2.2 DIRECTIONS OF FISCAL POLICY IN THE FIRST PHASE OF THE RECESSION

2.2.1 PUBLIC REVENUES

The decrease in budget revenues during the Great Recession was caused mainly by the decrease in tax revenues. In the EU, components of public revenue did not behave according to a single pattern. In general, revenues decreased via the automatic stabilisers and the discretionary measures. In Poland and the EU 27 this decrease was strongest in 2009 when both automatic stabilisers and discretionary fiscal policies acted in the same direction. After 2010 tax revenues started to recover following the partial recovery of the economy. In countries where automatic stabilisers were weak, an increase in revenues (relative to GDP) required the raise in certain tax rates. Some countries applied unusual ways to consolidate public finances; in Hungary, changes in the pension system resulted in a temporary, but significant, increase in budget revenues.

During the first wave of the crisis (2008-2011), most countries reduced taxation of capital, as measured by the implicit tax rate, most notably in the U.K., Cyprus, Lithuania and Latvia. That discretionary reduction of tax burden was to stimulate economic activity; moreover, companies were often able to benefit from tax exemptions or move to lower tax brackets within the existing legal solutions.

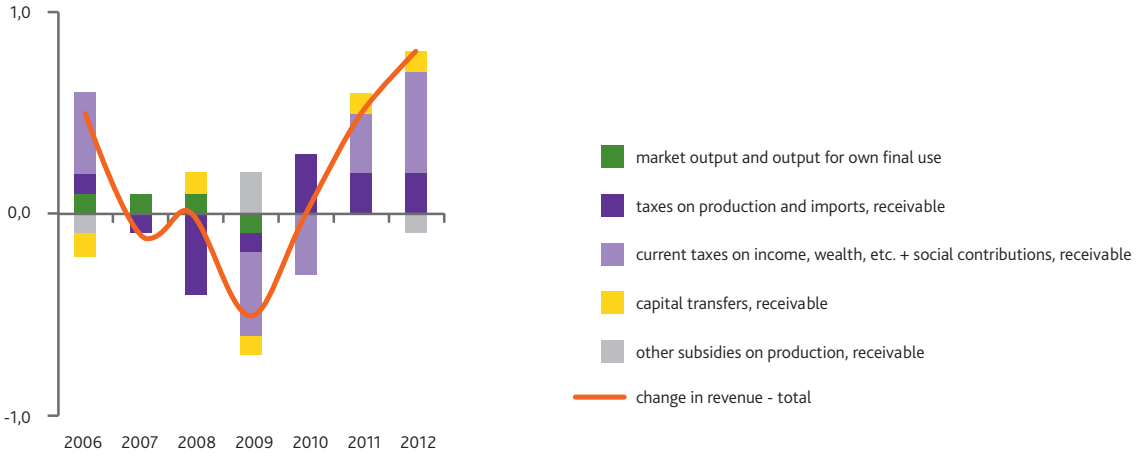
A similar mechanism applied to the taxation of labour income, with movement towards lower tax rates acting as another automatic stabiliser during the downturn. Changes on the side of labour taxation (including social security contributions) and consumption exhibited greater heterogeneity than in the case of capital taxation. The strongest decrease in the rate of labour taxation was introduced in Hungary and Bulgaria, while Romania, Latvia and Ireland significantly raised the levels of burdens imposed on wages.

In the period 2008-2011, almost all EU countries saw a drop in revenues from capital and business taxes (Figure IV.13) related to both the economic downturn and the reduction in capital tax rates. In a number of countries (and in the EU as a whole) taxation of consumption had a positive contribution to the change in revenue, mostly due to a rise in VAT and excise duties. A much less important source of additional income was taxation of labour, which generally increased over the period 2008-2011 in the EU, with the exception of a few countries where the implicit tax rate decreased or countries where the employment situation deteriorated compared to pre-crisis times.

2.2.2 PUBLIC EXPENDITURE

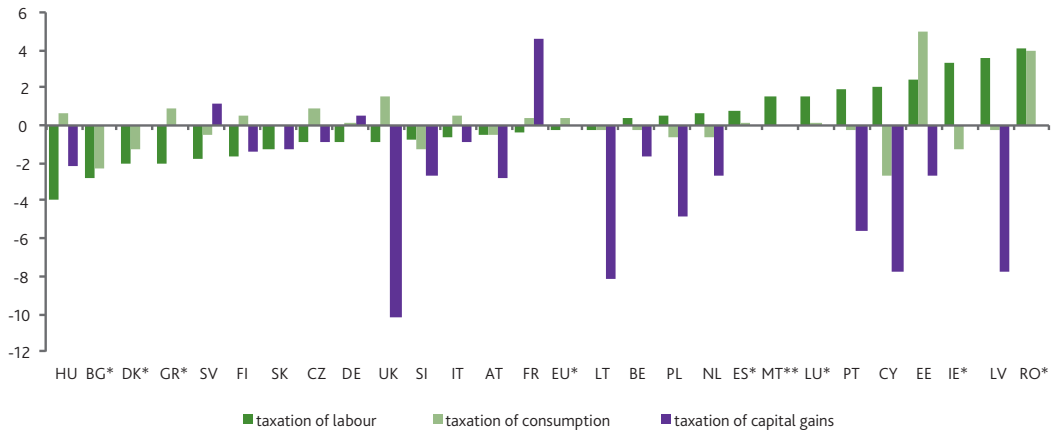
Changes in public spending showed a similar trend in most of the countries in the period: in the analysed countries there was a strong increase in expenditure in relation to GDP in 2009. In most countries an increase in total expenditure was directly attributable to an increase in transfers (Figure IV.14 shows the cumulative change in public expenditure as % of GDP since 2006), which is consistent with the expected response of automatic stabilisers. This increase was particularly distinct in Anglo-Saxon countries (Ireland, the United Kingdom), continental countries (France, Germany, Austria, the Netherlands, Belgium, Luxembourg) and the Baltic States. It should be remembered here that the scale of the downturn in the surveyed countries varied and in Anglo-Saxon countries (especially Ireland) and the Baltic States, the increase in spending on transfers was high despite the relatively weak automatic stabilisers. In the case of continental countries, the scale of the slowdown was smaller, but the automatic stabilisers were stronger. In the GIPS countries, growing expenditure on transfers displaced the investment expenditure of governments. A similar decrease in investment occurred in the New Member States (NMS8).

Figure IV.11. **Change y/y in budget revenue as % of GDP in EU 27 countries in the period 2006-2012, in percentage points**



Source: Own elaboration based on Eurostat data.

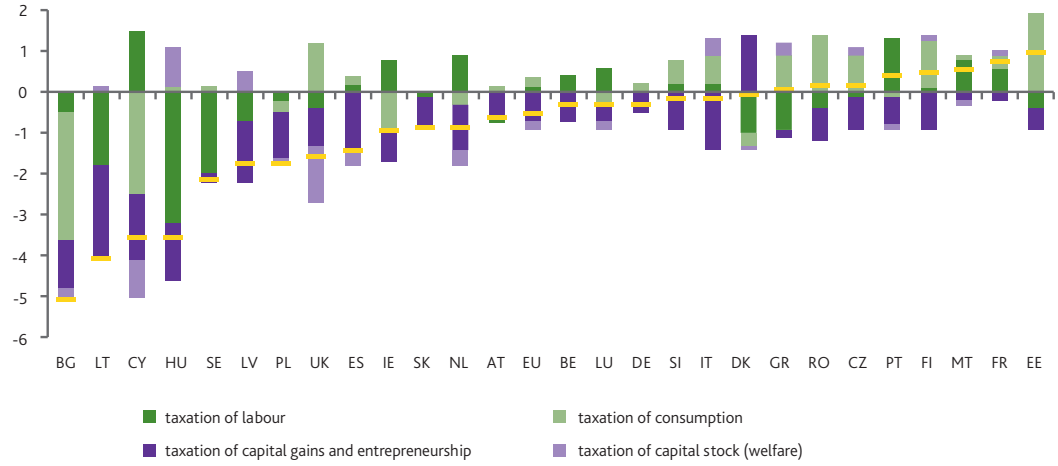
Figure IV.12. **Change in the implicit tax rate (ITR) in 2008-2011, in percentage points**



*Note: * a lack of complete data on the taxation of capital, ** a lack of complete data on the taxation of capital and consumption.*

Source: Own elaboration based on Eurostat data.

Figure IV.13. **Change in tax revenue as % of GDP in 2008-2011, in percentage points**



Source: Own elaboration based on Eurostat data.

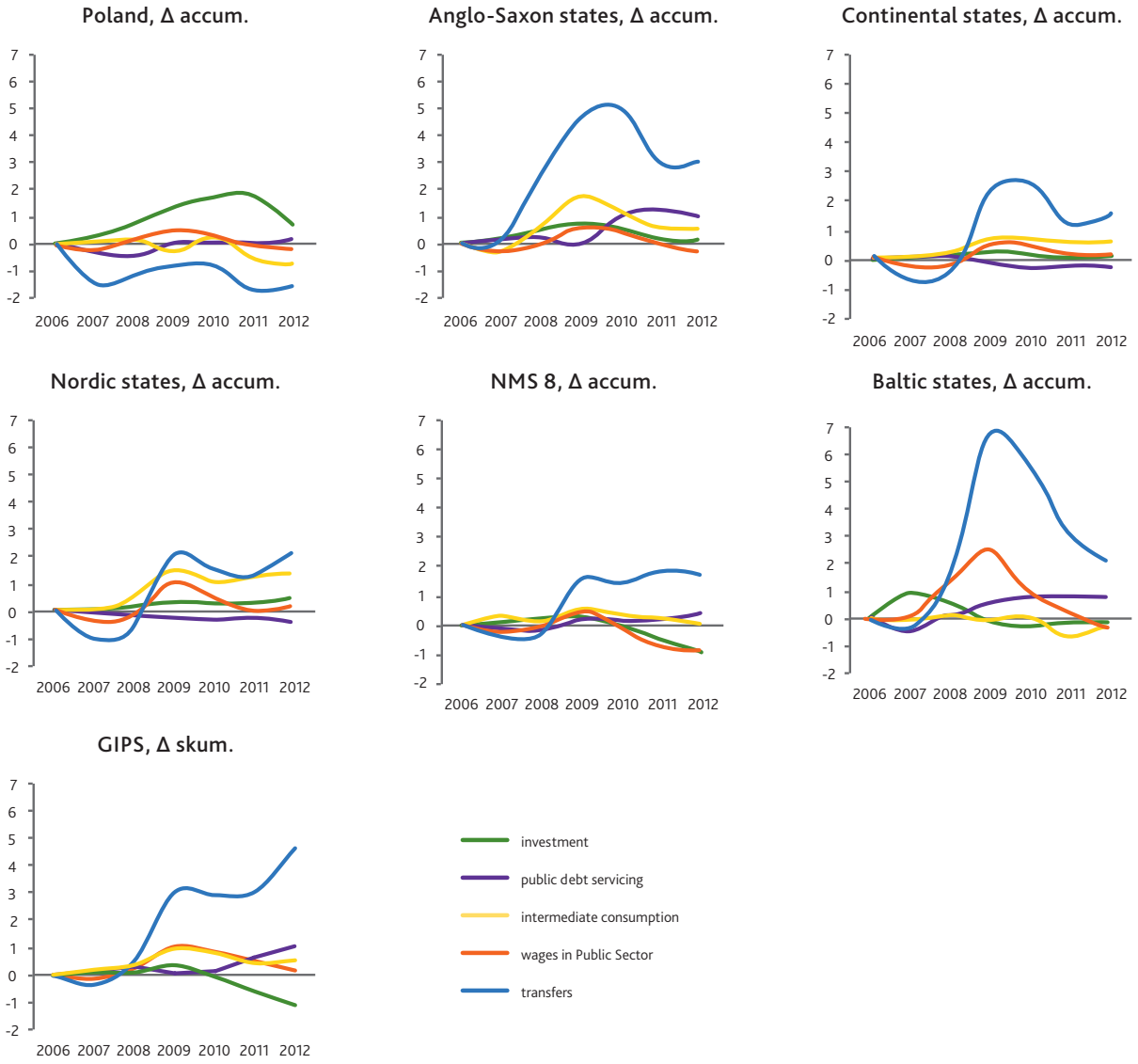
To a lesser extent, expenses increased due to spending on wages in public sector and the intermediate consumption of government. The former factor was eventually reversed.

Analysis of the data indicates that the adjustment of expenditure in Poland followed a different path than in other EU countries; changes in spending were relatively smaller. In Poland, the first signs of the crisis appeared in the second half of 2008 - it is not surprising, therefore, that social spending decreased in 2007, which was partly connected with higher economic growth. From 2008, social spending started to grow, but relatively slightly, which indicates the weak reaction of automatic stabilisers and also the small-scale of the slowdown. The main component of the increase in public expenditure in that period was increased investment, mainly due to implementation of infrastructure projects financed from EU funds, as well as investment projects related to European football championships which took place in Poland in 2012. The expenses for the whole period remained above the level of 2006. Expenditure on wages in the public sector behaved similarly to the rest of the EU.

Increased spending on debt servicing (see below) in the second phase of the crisis was experienced by many countries, especially Anglo-Saxon (mainly Ireland) and GIPS countries, which led to the need to tighten fiscal policy, also by reduced spending. Accordingly, after 2010 most countries decelerated spending on transfers, despite the second wave of recession.

The crisis had a significantly negative impact on the labour market, which caused a reaction in spending on passive and

Figure IV.14. **Change in public expenditure as % of GDP, in percentage points**



Note: The Anglo-Saxon countries (the United Kingdom, Ireland), the Baltic countries (Lithuania, Latvia, Estonia), the continental countries (France, Germany, Austria, the Netherlands, Belgium, Luxembourg), NMS 8 (the Czech Republic, Slovakia, Hungary, Slovenia, Romania, Bulgaria, Malta, Cyprus), the Nordic countries (Denmark, Sweden, Finland), GIPS (Greece, Italy, Portugal, Spain).

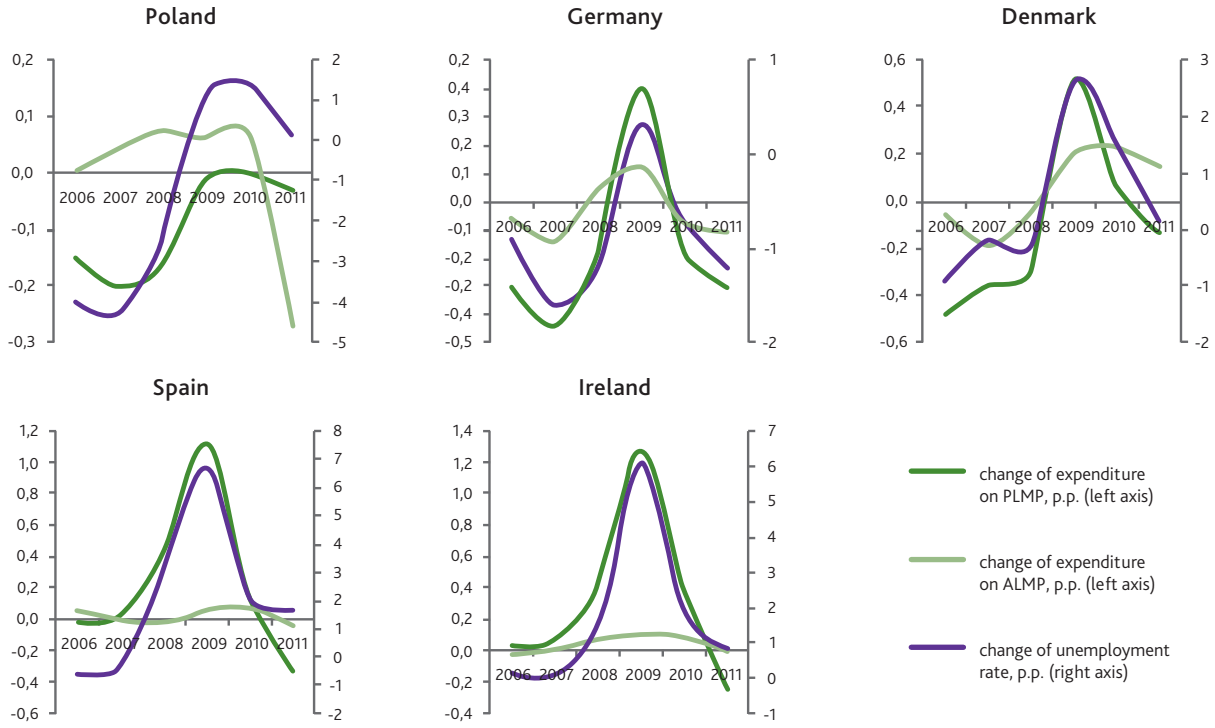
Source: Own elaboration based on Eurostat data.

active labour market policies (PLMPs and ALMPs). Expenditure on PLMPs, expressed as a percentage of GDP, is highly anti-cyclical and in a significant part acts as an automatic stabiliser (the correlation coefficient between the change in unemployment rate and the change in expenditure on PLMPs is 0.65). In most of the analysed cases, the course of changes in related spending confirms the role of PLMPs. Financing ALMPs is subject to greater discretion on the part of the government[5] and therefore expenditure on ALMPs was less responsive to fluctuations in output and unemployment. The correlation coefficient between the change in spending on ALMPs and the change in the unemployment rate was 0.28. The low responsiveness of expenditure on ALMPs to changes in unemployment indicates that governments did not use the full potential of these instruments to reduce unemployment.

In 2009 almost all countries of the European Union witnessed a steep increase in expenditure on PLMPs which was associated with the renewed increase in unemployment and a decline in GDP. Poland was an exception as it experienced only an increased unemployment rate, but without a drop in GDP and with no increase in spending on PLMPs (which indicates a discretionary tightening of this type of expenditure). In 2010, spending on PLMPs began to decline in the EU or its growth slowed down. The following year, these expenses remained well below the 2006 level (Germany, Sweden and Poland),

5 In Poland, spending on ALMPs depends on the decision of the Minister of Finances. In 2011, Labour Fund ceased to make payments for this purpose (more in the section 2.3.1), which is reflected in Figure IV.9.

Figure IV.15. **Change in expenditure on labour market policies in 2006-2011 in selected countries**



Source: Own elaboration based on Eurostat data.

with the exception of Ireland, Spain and Italy, where expenditure on PLMPs increased. Expenditure on ALMPs behaved similarly to spending on PLMPs (except Poland), but the scale of adjustment as well as the total amount of this expenditure was distinctly lower.

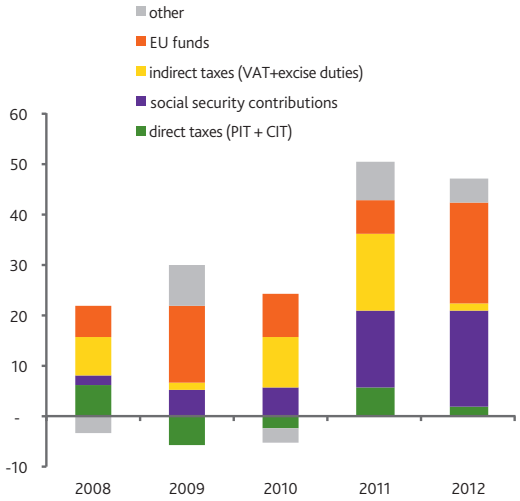
The decrease in expenditure on labour market policies after 2010, despite the continuing rise in unemployment, was a sign of discretionary fiscal tightening, limiting the role of automatic stabilisers in many countries, including Poland. Restricting the financing of unemployment prevention can have a negative impact on the chances of improving the situation in the labour market while economic growth has not reached a sufficiently high rate. In the case of Poland, a particularly worrisome aspect is the pro-cyclical nature of spending on social transfers and the low importance of ALMPs.

2.3 FISCAL POLICY IN POLAND

Although Poland belongs to a small group of European countries in which both the first and second wave of the Great Recession did not result in dramatic declines, the economic downturn did affect Polish public finances. Importantly, the main instruments used by the state were discretionary policies, and not automatic stabilisers. This was due not only to the construction of the Polish tax and social security systems (Figure IV.8), but also because of the fact that the decline in tax revenues in Poland was proportionally smaller than in the other countries in the region. Poland owed its relatively high and stable revenues primarily to the fact that it did not experience a recession in the strict sense of the word, but only a slowdown in economic growth. An important factor was also the fact that at the peak of the crisis, in 2009, Poland saw an increase in the absorption of EU funds, allowing the government to offset the decline in revenues from direct and indirect taxes. In subsequent years the EU funds contributed significantly to the growth of public revenue in relation to previous years. The largest scale of absorption (exceeding 70 billion zlotys) occurred in 2012 (Figure IV.16). However, it did not prevent the accumulation of public debt in Poland, which during the crisis approached the constitutional limit of 60% of GDP. In order to avoid breaching the threshold, in 2009 Poland moved part of the liabilities of the state budget to a newly created National Road Fund, which, according to Polish legislation, is not part of the public sector. Nevertheless, these liabilities are included as a part of the public debt according to the methodology of the European Union (EDP). The differences between the two definitions of debt are illustrated in Figure IV.17.

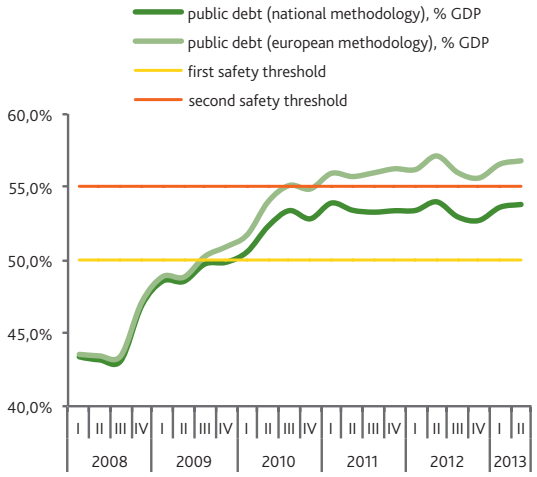
The operation of automatic stabilisers can be seen primarily in the budgets of the Labour Fund, which finances passive and active labour market policies (Figure IV.18). In 2005-2007, the Labour Fund generated a financial surplus, mainly due to rising employment in the Poland economy, which resulted in a reduction in public spending on unemployment benefits and pre-retirement benefits. At the height of the first wave of the crisis, in the years 2009-2010, the Labour Fund recorded a small deficit, which was financed with funds accumulated in previous years.

Figure IV.16. **Decomposition of changes in income sources of the public sector in Poland in 2008-2012, in billion zlotys, at current prices**



Source: Own elaboration based on reports from the implementation of the budget of Poland 2000-2012 and the GFS database.

Figure IV.17. **The public debt public sector in Poland according to national (PDP) and European (EDP) methodology, in billion zlotys, at current prices**



Source: Own elaboration based on data from the Ministry of Finance.

During the Great Recession spending on PLMPs and ALMPs increased. The expenditure on PLMPs, which can be defined as an automatic stabiliser, increased steadily from 2.3 billion zlotys to 3.4 billion zlotys in 2009-2013, and throughout this period was about 0.2% of GDP.

Changes in spending on ALMPs were discretionary as they depended largely on the decisions of the Minister of Finance. In the first phase of the Great Recession, these expenditures increased in proportion to the increase in expenditure on passive policies, i.e. by about 0.2% of GDP. During the same period a large role was also played by the following expansive policies on the revenue side of the national budget, enacted before the crisis:

1. A significant reduction in disability insurance contributions. From July 2007 they were reduced by 3 percentage points (from 13% to 10%) and from January 2008 by further 4 percentage points. This resulted in a loss of revenue for the Social Insurance Fund of about 10 billion zlotys per year, which translated into an increase in disposable income of persons employed of about 7.5 billion zlotys per year (0.6% of GDP).[6] The loss of FUS income had to be covered by a higher total subsidy from the state budget (Figure IV.19), and thus contributed to the growth of public debt.

2. A reduction in income tax rates. The two lowest rates of 19% and 30% were replaced by a single rate of 18%, and the 40% rate was lowered to 32%. The estimated decrease in related revenues and the simultaneous increase in disposable income in 2009 amounted to approx. 8 billion zlotys, 0.6% of GDP (European Commission 2013).

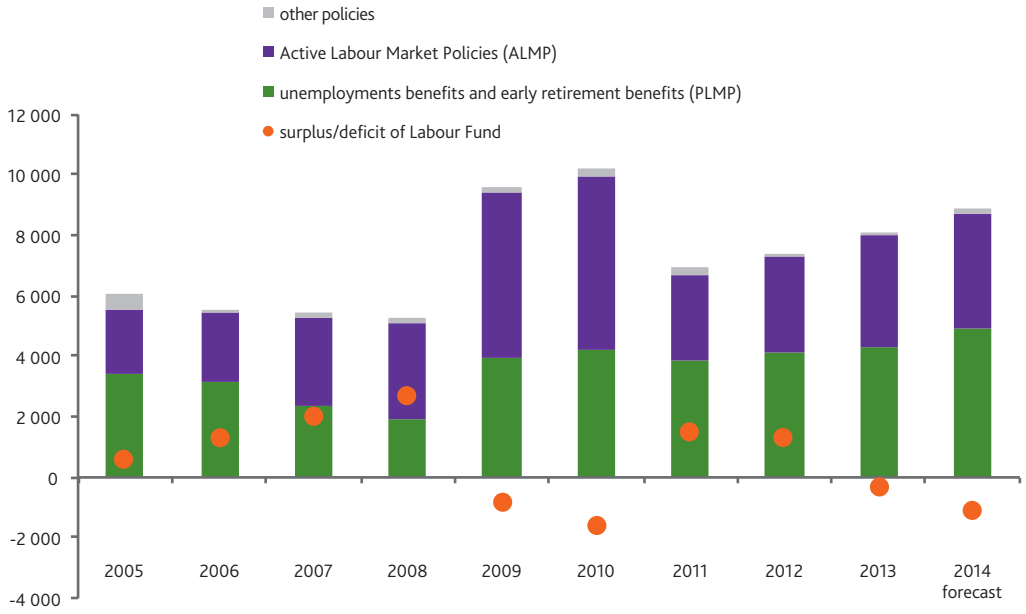
Discretionary government policies on the expenditure side also included an increase in public investment (Figure IV.16), funded mainly by the European Union. Most of the expenditure, however, would have been spent regardless of the economic climate. The extra investment boost, resulting from the government's decisions related directly to the crisis, was estimated by the European Commission (2013) at approximately 0.2% of GDP. Spending on ALMPs increased by about the same figure (Figure IV.17).

At the same time, however, the government introduced fiscal austerity, which suppressed the effect of fiscal expansion. It included the freezing of public sector wages and cuts in investment spending, which peaked in the year 2009. Therefore, the overall scale of fiscal expansion in Poland as a result of discretionary policies can only be estimated by approximation. It was about 1.3% of GDP in 2008, 0.8% in 2009 and 1.6% of GDP in 2010. These values correspond to the value of DFE for Poland, which the European Commission estimated at -1.2% of GDP (average for the period 2008-2010, a negative sign indicates an expansionary character of fiscal policy, Figure IV.10).

The nature of the discretionary policies in Poland changed dramatically in 2011. The year earlier, public debt nearly exceeded the 2nd safety threshold (55% of GDP) and the budget deficit peaked at nearly 8% of GDP. The government was therefore forced to tighten fiscal policy. DFE in the second phase of the Great Recession changed from a negative to a positive sign, which denotes a change in direction from an expansionary fiscal

6 The amount of 10 billion zlotys covers the years 2008 to 2011 and stems from the Social Insurance Fund income data contained in the reports on the implementation of the state budget for that period. A 7.5 billion zlotys increase in disposable income of the population follows from the fact that the reduction of social security contributions increased tax base for personal income tax. Additional proceeds thereof were estimated at 2.4 billion zlotys per year (Ministry of Finance 2006).

Figure IV.18. **Labour Fund expenditures on active and passive labour market policies in Poland in 2005-2013 and the plan for 2014, in billion zlotys, at current prices**



Source: Own elaboration based on data from the reports of the Ministry of Finance of the budget for 2005-2012 and the budget law for 2013.

policy to a restrictive policy. The average values in the period 2011-2013 were estimated at 2.4% of GDP, twice more than in 2008-2010. Such a large fiscal tightening was made primarily through the following discretionary policies:

1. An increase in VAT rates by 1 percentage point, and the introduction of 5% VAT on some foods. The planned increase in state budget revenues in this respect amounted to 6.2 billion zlotys per year, or about 0.4% of GDP (Ministry of Finance 2010).

2. A reduction in the contribution transferred to the second tier of the pension system (OFE) from 7.3% to 2.3% and transmission of the difference to the public Social Insurance Institution. This allowed a reduction in subsidies from the budget to the Social Insurance Fund, with regard to reimbursement of its contributions to pension funds, by 7 billion zlotys in 2011 and 14 billion zlotys per year in subsequent years, resulting in a reduction in the government's borrowing needs by nearly 1.3% of GDP per year (Figure IV.19).[7]

3. A reduction in spending on active labour market policies by 3.3 billion zlotys and retention of these funds in the Labour Fund, which reduced government borrowing needs by 0.2% of GDP.

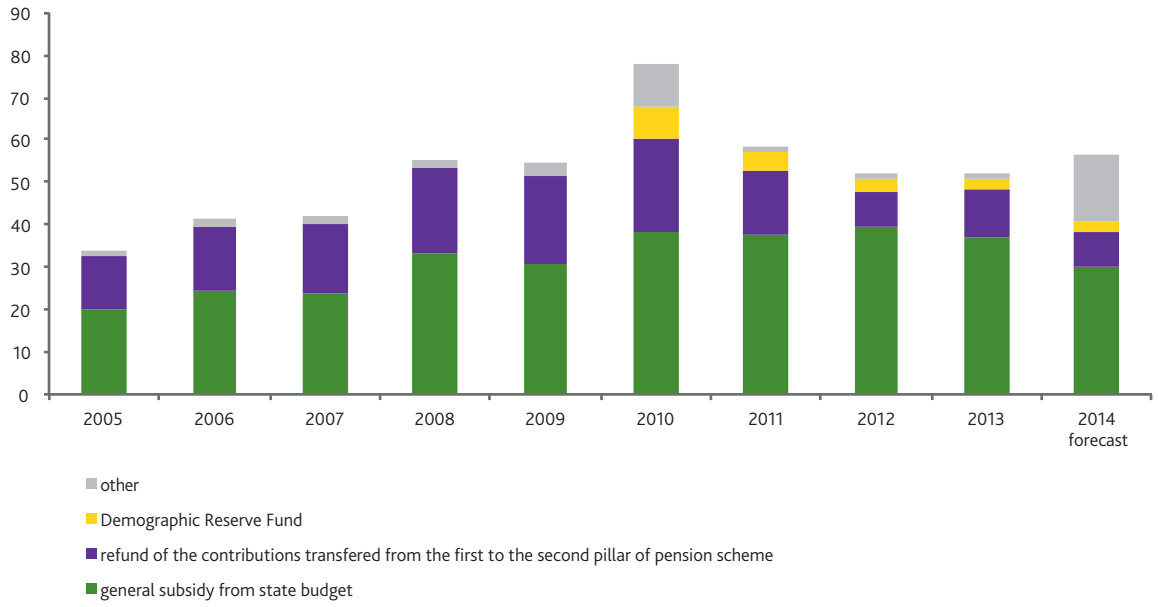
4. An increase (from 2012) of disability insurance contributions by 2 percentage points, which translated into an increase in revenue for the Social Security Fund in 2012 of about 6 billion zlotys, and a reduced subsidy for the fund. Disposable income of households decreased by about 4 billion zlotys (0.25% of GDP).

In total, these discretionary policies resulted in budget savings of 1.3% of GDP in 2011 and 2.15% of GDP in 2012 and 2013. However, to the same extent they also weakened aggregate demand in Polish economy, thus slowing its recovery. The scale of fiscal tightening was significantly higher than in other EU countries, where the average DFE also had a positive sign, but its value did not exceed 1.5% of GDP (Figure IV.10). This begs the question of why the Polish authorities and policy-makers were so determined to restore fiscal sustainability, even though the Great Recession, despite its relatively benign course, was still present in Poland. The answer lies in the relatively poor condition of public finances even before the period of the Great Recession.

Throughout the period of economic prosperity (2003-2007) Poland carried out an expansive, pro-cyclical fiscal policy, with public debt above 45% of GDP. This level is not objectively very high (see Chapter 1), but still relatively close to the constitutional barrier of 60%. In addition, the *Public Finance Act* provides two thresholds for debt (at 50% and 55% of GDP) beyond which the government is forced to implement austerity.

7 The decrease in the borrowing needs of the government was estimated based on the macroeconomic simulation in the iSword pension model (www.isword.pl)

Figure IV.19. **Other than SSC sources of revenue for the Social Security Fund 2005-2013 and the plan for 2014, in billion zlotys, at current prices**



Source: Reports on the implementation of the state budget and the draft state budget for 2014.

Therefore, the state had relatively little room for expansionary fiscal policies during the Great Recession. The first safety threshold had already been exceeded in 2009, and the second threshold was not exceeded only by changing the definition of public debt in 2010. Therefore, fiscal policy in Poland had to be tightened, regardless of the economic climate.

This is almost a textbook example of the negative consequences of time inconsistency. Governments generally have a short time horizon associated with the political cycle, which induces them to finance state spending by debt. Therefore, the constitutional limit is advantageous as it imposes fiscal discipline on governments. In the short run, however, this may prevent them from conducting appropriate fiscal policies. In Poland, this happened because the public debt had accumulated as a result of short-sighted fiscal policies before the crisis. The level of public debt was too close to statutory thresholds.

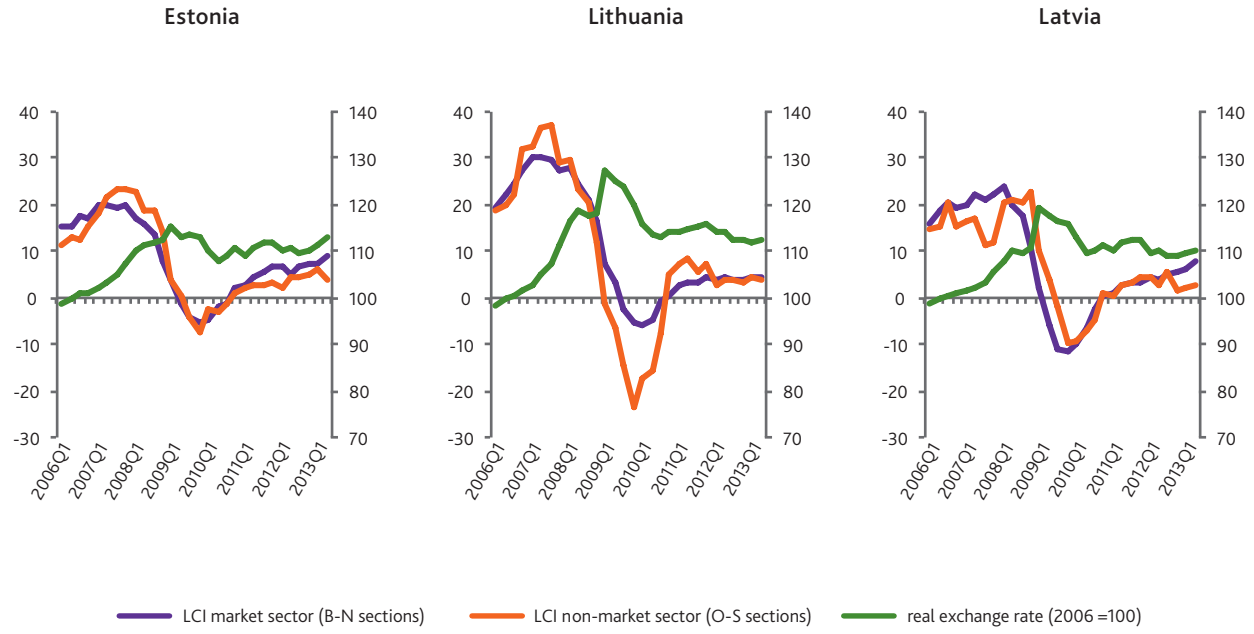
2.4 FISCAL POLICY IN THE BALTIC STATES

The Baltic countries were particularly badly hit by the first wave of the crisis. The dramatic scale of a decline in GDP, between 15% and 20%, resulted from the alignment of internal and external factors, reinforced by growing macroeconomic imbalances over the years. Despite a very good initial budgetary situation, the state of public finances worsened, which, combined with simultaneous turbulences in financial markets, meant problems with borrowing. The most difficult situation was in Latvia. IMF analysts projected that within a few years the debt of this country would come close to 90% of GDP. In 2009, Latvia received a rescue loan from the IMF and the EU of 7.5 billion euro, which was equivalent to 40% of GDP.

In the conditions of a deep slump, some economists suggested that the Baltic States should eschew fixed exchange rates or conduct significant devaluation in order to stimulate exports and reduce the impact of the shock on the economy. Governments, however, chose not to follow this path of adjustment for two reasons. First, devaluation would have meant an exit from the ‚currency parity' and the abandonment of plans for rapid adoption of the euro, which was one of the main political objectives of the governments of those countries. Another equally important reason was the fear that devaluation would cause a sharp rise in the value of foreign debt. Before the crisis the share of loans in foreign currencies, primarily the euro, reached 80-90% in Estonia and Latvia and 60% in Lithuania. This could have led to a wave of bankruptcies and severe financial problems for households. Therefore, the benefits of devaluation were not so obvious, and the Baltic countries chose the way of ‚internal devaluation', consisting of cuts in wages combined with a deep consolidation of public finances.

During the first wave of the crisis in the Baltic countries, their scale of fiscal consolidation was the highest among all EU

Figure IV.20. **The pace of change in labour costs (LCI) y/y (left axis), and the real exchange rate (right axis)**



Source: Own elaboration based on Eurostat data.

members, and of the three states Latvia completed the most ambitious austerity plan. In all three countries fiscal tightening was based more on spending cuts than on raising tax revenue. Interestingly, the lists of austerity measures in the three countries were quite similar – cuts in public sector costs, increased taxes on consumption and also temporary limitation of pension contributions transferred to the second pillar, and an extended retirement age. Deep cuts in public sector wages exerted a downward pressure on private sector wages. As a result, labour costs decreased, improving the competitiveness of Baltic economies.

In Latvia the austerity measures strongly affected the public sector. There was a decline in employment and compensation expenses in the institutions of the national government (by 24% and 47%). In addition, the changes made in education and health care resulted in a decrease in nominal expenditures for these purposes by one quarter. In the case of the defence sector, expenditure was cut in half. Reduction also involved social benefits, and the government introduced temporary restrictions in granting them. In 2009, the contribution to the second pillar was reduced from 8% to 2% (in 2013 the contribution to the second pillar rose again). In 2012, legislation was adopted to gradually extend the retirement age from 62 to 65 years (raised by 3 months each year). On the revenue side, VAT was raised (from 18% to 21%). Increases also concerned excise duty on fuel, alcohol and tobacco; tax relief for biofuels was abolished, and excise duty for natural gas was introduced. Property and car taxes were also increased. In 2010 the personal income tax rate was increased from 23% to 26%, and in 2011 it fell slightly to 25%. Taxation was also introduced on capital gains.

In Lithuania, austerity measures also consisted of wage cuts in the public sector and a reduction in social benefits, particularly pensions and family benefits. There was an increase in the tax burden. CIT was increased from 15% to 20%, the tax on dividends was increased (however, in 2009, the rate of income tax had been reduced from 24% to 15 %.) The basic VAT rate increased from 18% to 19%. Excise duties on fuel, alcohol and tobacco were raised. The Lithuanian government introduced a reduction in pension contributions transferred to the second pillar from 5.5% to 2%. In 2011, legislation was adopted to gradually raise the retirement age to 65 years for both sexes (from 60 for women and 62.5 for men).

In Estonia, likewise, wages in the public sector were cut. The operating costs of the public sector decreased by 20%. Spending on infrastructure maintenance and national defence were also cut. Conditions for granting social benefits were tightened. VAT increased from 18% to 20%, and excise duties on alcohol, fuel, tobacco and social security contributions were also increased. 2009 also saw a temporary shift of pension contributions from the second pillar to the public system. In 2011, contributions to the second pillar were again increased at the expense of the first pillar. Borrowing by local authorities was restricted. Payments to the state budget from dividends of profits generated by state-owned enterprises were increased. Additional profits were acquired from the sale of land. A progressive extension of the retirement age (until 2016) to 63 years for women (from the current 60 years and 6 months) was made.

Did the Baltic internal devaluation strategy prove effective? The opinions of economists are divided. The case of the Baltic countries is sometimes given as an argument for the legitimacy of profound and rapid fiscal consolidation.[8] It is pointed out that the Baltic countries quickly returned to a path of relatively rapid economic growth. Budget cuts were successful and stabilised the fiscal situation, despite the initially pessimistic forecasts, and restored confidence to foreign investors. Thanks to savings, a drastic increase in public debt was avoided. Fiscal reforms and remaining in the ERM II enabled a rapid fulfilment of the convergence criteria by Estonia and Latvia. As a result, Estonia became part of the eurozone in 2011, and Latvia will adopt the euro at the beginning of 2014.

Although internal devaluation caused a decline in the real exchange rate, it did not result in a significant boost to exports. At the time of exit from the recession, the contribution of net exports to growth was negligible (see Appendix to Part I). Instead, the rebound of the economy depended on internal factors. In addition, the adjustment of wages did not fully absorb the impact of the shock on the labour market. In all countries, there was a sharp increase in unemployment. Despite the currently observed gradual decline in unemployment rate, it still remains above the pre-crisis level. Another problem is economic migration, significantly reducing the labour force.

2.5 FISCAL POLICY IN IRELAND

The most recent economic history of Ireland is remarkable in many ways. Until the mid-1990s it was a rather impecunious European Union country with a high level of debt (above 100% of GDP), significant foreign migration and a large public sector. Over the following few years Ireland's economic situation greatly changed. The public sector was reduced and reformed, while taxes were reduced. Due to the inflow of foreign direct investment, Ireland experienced growth exceeding 8% of GDP for six consecutive years (1995-2000). In the same period, the direction of migration was reversed and public debt was reduced below 30% of GDP (Figure IV.21). Ireland was dubbed the "Celtic Tiger" while the other countries of the European Union accused it of unfair a tax competition (Frank, Gerald 2001) that increased the inflow of foreign capital to the country. In the early 2000s the economic growth slowed down, but Ireland maintained unprecedented budgetary discipline. In 2008, however, a rapid deterioration in its economic situation resulted in a position where it began to be classified on par with the other GIIPS countries in which the Great Recession was most severe. Although Ireland seems to have coped best with the downturn, how was it that a country with such good macroeconomic foundations, at least in appearance, had experienced such a severe crisis?

The high rate of economic growth and sustainable public sector in the years preceding the Great Recession only apparently proved the soundness of the Irish economy. That period was also accompanied by increasing structural problems. One of them was accumulating imbalance in the housing market. From 1997 to 2007, the value of property in Ireland increased by over 300% (an average 13% per year).[9] This was due to the expansion of mortgage loans financed by local banks and tax and regulatory incentives.

Another structural problem concerned the Irish tax system. Taxation of income was very low. The basic corporate tax rate was only 12.5%, while the tax credits system meant that more than 30% of employees did not pay any personal income tax (Bénétrix and Lane 2011). Public finances were based largely on capital gains tax and stamp duty. Such a structure of budget revenues is very unstable.

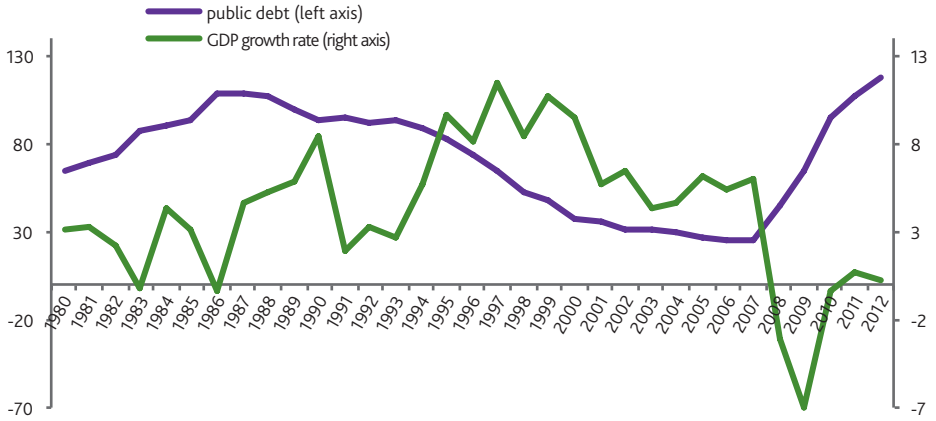
The bursting of the housing bubble in 2008 resulted in very large losses for the Allied Irish Banks and Bank of Ireland. The Irish government, in an effort to avoid bankruptcy of the two largest financial institutions in the country, gave an unlimited guarantee on their liabilities the very same year. As a result, it was forced to constantly recapitalise them until their actual nationalisation in early 2010. At the same time tax revenues steadily decreased. Both factors resulted in an increase in the budget deficit to 7.3% of Ireland's GDP in 2008, 14.4% of GDP in 2009 and an unprecedented 32% of GDP in 2011 (20 percentage points of the last figure are the cost of nationalisation of the banks).

To save the situation of public finances, the Irish government decided to introduce fiscal tightening in the order of 14.6 billion euro, or 9.3% of GDP. The program lasted from 2008-2010 and included a reduction in the state's investment expenditure and a reduction in state employment, along with a wage freeze in the public sector. Despite these measures public debt exceeded 100% of GDP (an increase of over 80 percentage points relative to 2007), and the state lost the ability to support the debt (the interest rate on 10-year bonds in 2010 exceeded 10%). Ireland was forced to ask the European Union and the International Monetary Fund for an emergency loan. In October 2010, support of €85 billion (more than 55% of the GDP of Ireland) was granted under the condition that

8 The question of how consolidation of public finances should proceed is the subject of lively discussion in economic literature. The results of recent research seem to oppose the experience of the Baltic countries. Auerbach and Gorodnichenko (2011) indicate that the impact of fiscal shocks on the economy may vary depending on the current macroeconomic situation. Public expenditure has a stimulating effect on output, private consumption, investment and employment in a period when the economy exhibits a negative output gap. When the economy is in an expansion phase, the impact of fiscal policy on macroeconomic variables is neutral (or even negative in the case of private investment, which in good times tends to be replaced by public spending). This means that early fiscal consolidation, which starts during the downturn, will be more costly to the economy than the impact of equally strong tightening at a time when the macroeconomic situation has improved.

9 Information based on the SCSI/IPD Ireland Quarterly Property Index available at http://www.ipd.com/indices/index.html?country=Ireland (latest access: 27 Nov 2013)

Figure IV.21. **Economic growth and public debt in Ireland 1980-2012, in % of GDP**



Source: IMF Historical Public Finance Database (Mauro, et al. 2013)

Ireland implemented further discretionary budget savings worth 15 billion euro by 2014. Such a large scale of fiscal tightening slowed down Ireland's exit from the Great Recession. This example shows that even low levels of public debt neither guarantee the security of the state nor the ability of flexible use of fiscal policy in the economic crisis. They may hindered by structural problems in the economy caused by improper tax and regulatory policies.

3 FISCAL TIGHTENING AND THE SECOND WAVE OF THE GREAT RECESSION

As a result of the operation of automatic stabilisers and fiscal intervention during the first wave of the Great Recession, many countries experienced a rapid deterioration in public finances. In April 2010, Greece asked the European Union and the International Monetary Fund for a rescue loan. Over the next 14 months Ireland, Portugal and Spain followed suit. The loans were granted to these countries provided they made actions towards the sustainability of public finances, i.e. reduce public expenditure and increase revenue. In other countries, the debt crisis was not as deep, but the need to tighten fiscal policy was widespread. There are many indications that this contributed to the transition of the Great Recession into its second phase. Further below, these processes will be presented in more detail.

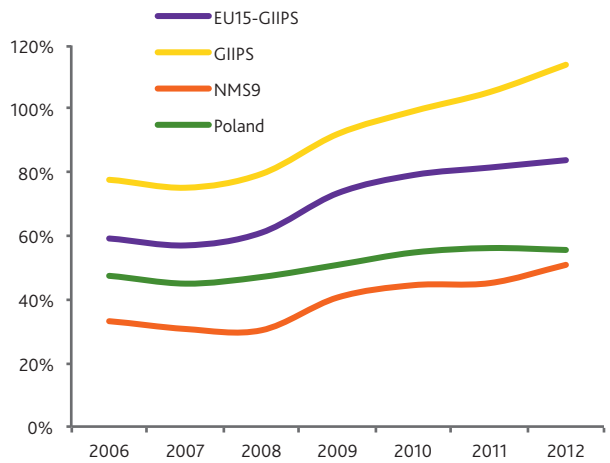
3.1 THE COLLAPSE OF PUBLIC FINANCES - DEBT CRISIS

One of the primary criteria for the stability of fiscal policy in the long term is the balance between budgetary revenue and expenditure. If the former does not match the latter, a budget deficit appears, and may be covered by raising the state debt, usually in the form of Treasury bonds. The lower the interest rate, the lower the risk that the state defaults on its liabilities. With a low level of public debt such risk is usually low, and it is easy for governments to borrow money to cover the budget deficits. If, however, the country has a high public debt relative to national income, and in addition, the economy is in crisis, the interest rate on its bonds can achieve such a high level that further borrowing to cover the budget deficit becomes impossible. In such a situation, the state is forced to announce bankruptcy, which almost always results in an economic crisis associated with the loss of sources needed to finance the budget deficit, depreciation of the currency (in countries with floating exchange rates), the withdrawal of foreign investors and inhibition of economic activity.

This threat materialised in a nearly textbook manner during the Great Recession. As a result of the operation of automatic stabilisers and discretionary policies, tax revenues in developed countries decreased and public spending increased. The resulting budget deficits caused a rapid accumulation of public debt (Figure IV.18). This raised concerns about the sustainability of public finances in the countries affected by the crisis, which in turn was reflected in the interest rates on their bonds (Figure IV.19).

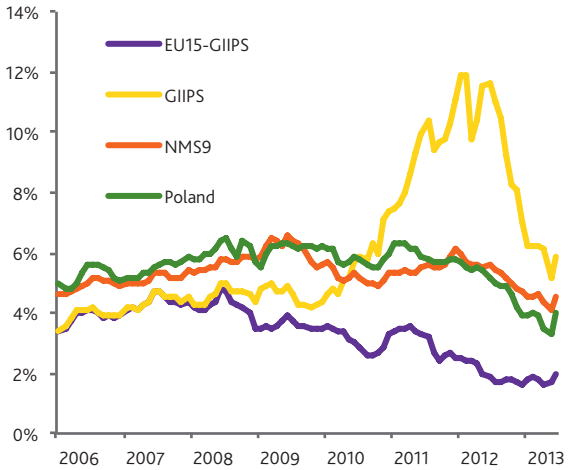
By mid-2008, the interest rates on debt securities of all eurozone countries were similar (regardless of their level of public debt) ranging from 3% to 4.5% depending on the current setting of monetary policy pursued by the European Central Bank. With the outbreak of the Great Recession, one could observe two phenomena on the bond market. First, the European Central Bank lowered short-term interest rates, which resulted in a significant decrease in the interest rates in most eurozone countries, in particular Germany, France and the Netherlands. Simultaneously, however, the interest rate of Treasury securities

Figure IV. 22. **The dynamics of public debt as the % of GDP in the European Union**



Source: Own elaboration based on Eurostat data.

Figure IV. 23. **The average interest rate on 10-year Treasury bonds of European Union countries 2006-2013**



Source: Own elaboration based on data from the European Central Bank.

of the countries with the highest levels of debt (the so-called GIIPS, namely Greece, Ireland, Italy, Portugal and Spain) began to steadily grow.

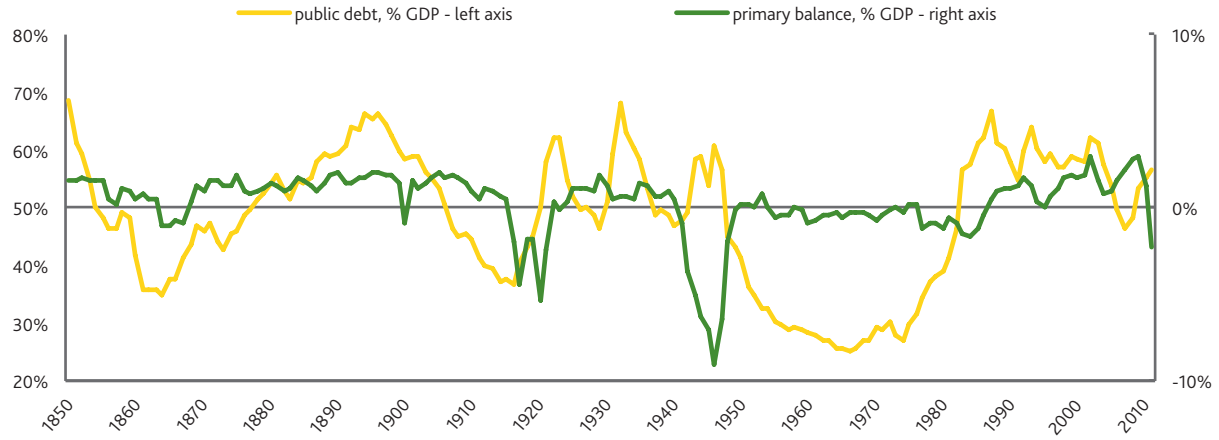
Despite remedial actions, in 2010 and 2011 the GIIPS countries lost the ability to service their debts and therefore applied for rescue loans to the International Monetary Fund and the European Union (Box I.1). Granting of these loans was conditional on the implementation of remedial programs involving significant budgetary savings, sales (privatisation) of some state enterprises, and increasing tax revenues. The results of the actions taken were reflected primarily in reduced public spending (Figure IV.6). The result was a significant reduction in economic activity, resulting in failed efforts to increase revenues (Figure IV.10). Although Spain, Ireland, Portugal and Italy stabilised their public debt, the draconian reduction in expenditure led to the return of the recession.

Greece failed to stabilise public finances and in 2012 was forced to declare controlled bankruptcy. Eurozone countries agreed to provide emergency loans to Greece in exchange for the implementation of further austerity packages, and private financial institutions had to agree that the Greek bonds in their possession would lose 53.5% of the notional value (Eurogroup 2012). In addition, countries whose central banks held Greek bonds pledged to return the interest on Greek bonds to Greece. This agreement was supposed to reduce Greece's debt by nearly 30% and help it drop to 120% of GDP in 2020. In the first year of the agreement, debt decreased from 170% of GDP (end of 2011) to 154% of GDP, but according to European Commission estimates the deepening of the recession at the end of 2013 resulted in a rise above 170% of GDP. The collapse of public finances in Greece has still not been overcome and in the next few years we should expect the next stages of its controlled bankruptcy.

Box IV.1. The modern history of public debt

High levels of public debt, which appeared in a number of countries during the Great Recession, became a source of widespread concern about the sustainability of national public finances. Not denying the validity of these concerns, it is worth noticing a broader historical perspective. Public debt is an ever-present phenomenon in public finances and its current levels in relation to GDP are not unprecedented. As far back as the earliest available statistical data, that is, from the mid-19th century, the average level of public debt in the world has varied from 35% to 65% GDP. The only extended period of low debt lasted from the 1950s to 1970s, mainly due to rapid economic growth and not the accumulation of budget surpluses (the average primary balance fluctuated around zero). In the following decade, the debt more than doubled and then stabilised thanks to improvements in the primary balance. The new millennium brought a further improvement of the balance of public finances.

Figure IV. 24. **The average level of public debt and primary budget balance in the world (10 to 55 countries, depending on data availability) in the long term.**



The Great Recession brought back the deterioration of public finances in the world. Despite the abrupt deterioration in the primary balance of state budgets, average debt reached a level characteristic for the 1990s. This does not mean that the state of global public finances is good, especially in comparison with the post-war period, but we do not seem to be particularly threatened by the risk of mass state bankruptcies. However, the presented regularities apply to average values. The situation of public finances in many countries is much worse and can actually lead to their bankruptcy.

Source: Own elaboration based on IMF Public Finances in the Modern History database.

To avoid another GIIPS scenario, other European Union countries also tightened fiscal policy, and thus reduced deficit spending and increased the implicit tax rate. These actions led to the stabilisation of public debt relative to GDP, but from the point of view of the business cycle they occurred too early. The private sector in many countries was still in crisis. The level of investment was low and unemployment was growing. The economic situation was to a large extent stabilised by the public sector. With the tightening of fiscal policy it ceased to fulfil this role and the European Union entered the second phase of the Great Recession.

3.2 STATE FINANCES AND MACROECONOMIC BALANCE

The budget deficit and public debt are directly related to the size of the imbalance in public finances, and therefore often become the object of interest for the general public and economists. There is an on-going discussion on how excessive public debt threatens the stability of the state and whether it contributes to the economic slowdown. However, after a closer look, it turns out that public debt is a very blurry term, and its impact on economic growth and the sustainability of public finances is ambiguous.

Public debt is defined most commonly as the accumulated liabilities of the public sector. However, the range of obligations that may be incurred by the state is very broad. In addition to bonds, these may be, for example, guarantees granted by the Treasury, or off balance liabilities consisting of the so-called hidden debt (such as the promise of pension payments of a certain amount), the amount of which is difficult to estimate. In addition, some state obligations may be denominated in foreign currency. Then the amount of public debt depends on the exchange rate, which creates an additional source of risk for public finances. The condition of public debt can rapidly deteriorate in the case of a strong depreciation of the domestic currency.

This situation is further complicated by the fact that the state may itself be an owner of its own obligations. This happens in the case of bonds, often held by state pension funds. It is difficult to classify this kind of obligation. On one hand, the state can easily roll them and if necessary, redeem. On the other hand, since the state also has to pay interest on them, it affects the total borrowing capacity. The sustainability of public finances is also significantly affected by institutional factors. If a country is politically stable and has a long history of adherence to its obligations, this translates into its credibility as a borrower. It will be able to have a higher public debt and its bonds will have a lower interest rate.

For these reasons, one cannot clearly indicate what level of public debt is a threat to public finances. It is different in different countries. For example, in 1990, Albania went bankrupt as it was not able to handle its external debt of only 16.6% of GDP (lower than any country of the European Union in 2012). C. Reinhart and K. Rogoff (2009) showed that more than half the bankruptcies of countries between 1970 and 2008 took place at a debt level not exceeding 60% GDP. On the other hand, Japan since 2001 has had a public debt exceeding 150% of GDP (as of 2009 more than 200% of GDP) and has not encountered any difficulties with its service. This shows that the level of public debt is only one of many factors deciding the sustainability of public finances.

Whether the cost of servicing the public debt threatens the sustainability of public finances depends on how financial markets perceive the ability of the state to meet its obligations. This in turn depends on the general economic situation and the credibility of economic policy. Political instability and economic instability result in an increased risk of a default as perceived by markets, and therefore the risk premium expected by investors also increases. With the rising risk premium, the cost of debt servicing also increases, which can lead to a further drop in the credibility of the state.

3.2.1 DIFFERENT FACES OF PUBLIC DEBT

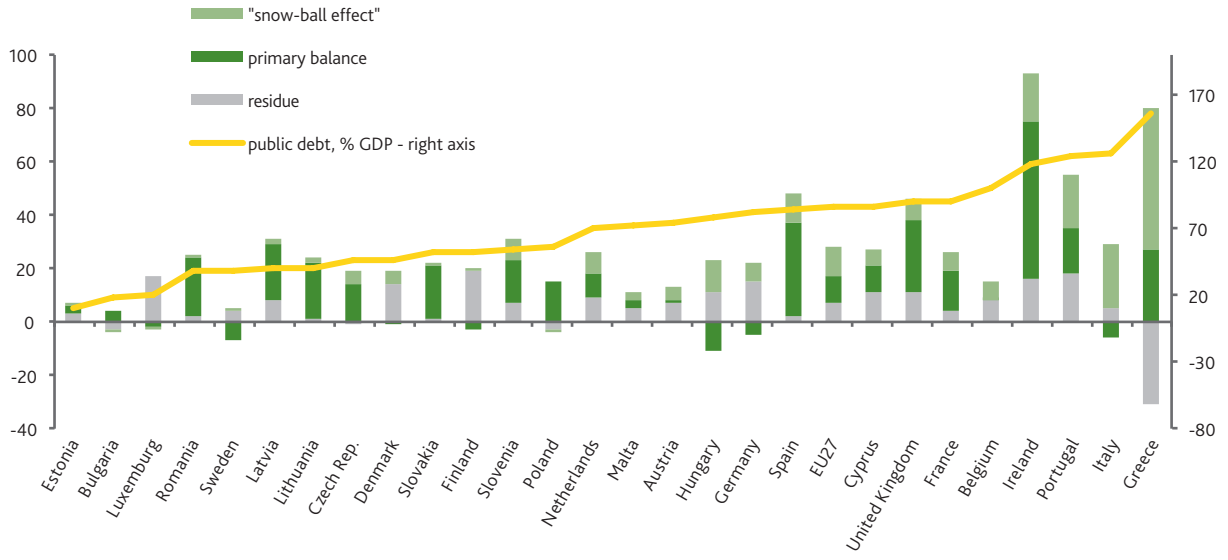
Many countries are able to function efficiently while maintaining a very high level of public debt. But this should not obscure the fact that debt is almost always destabilising public finances and the economy and constitutes a source of risk. This results from the fact that the size and cost of servicing the public debt behave counter-cyclically, i.e. grow during the recession and fall in good times. An opposite situation concerns the payment abilities of the state. Public debt can therefore relatively easily spiral out of control as a result of the so-called snowball effect. This happens when a deteriorating situation raises increasing concerns about the solvency of the state, which translates into an increase in the risk premium demanded by bondholders. This increases the cost of servicing the debt by the state, which further raises concerns about its solvency.

The second factor in the growth of public debt is the borrowing needs of the state, which, like the very size of the public debt, behaves counter-cyclically. During the recession, as a result of automatic stabilisers, the primary deficit of the state budget rises, i.e. the difference between revenue and expenditure and net cost of servicing the public debt. The level of the primary balance constitutes the answer to the question what a shortage or surplus in the budget would be if the state did not have to pay off the debt incurred earlier.

During a recession, both presented factors may bring about a situation that even a small debt can quickly grow and destabilise public finances. This phenomenon is illustrated in Figure IV.21, which summarises the causes of public debt in the European Union during the Great Recession.

As shown in Figure IV.25, deterioration in public finances in the European Union was caused by a number of factors. Undoubtedly, an important role was played by the negative primary balance, i.e. a structural shortage of budget revenue

Figure IV.25. **The level of public debt in 2012 (% of GDP, right axis) and the decomposition of its growth (% of GDP, left axis) in the EU in 2008-2012**



Source: Own elaboration based on Eurostat data.

over expenditure in the EU states. Only six countries: Hungary, Germany, Sweden, Italy and Luxembourg managed to improve the sustainability of public finances in this regard. In many countries, especially those with the highest debt, an increase in public debt was also due to the result of "the snowball effect", an increasing size of previously contracted obligations as a result of an increase in their interest rates and a decline in GDP. In this respect, a unique situation could be observed in Poland and Luxembourg where the snowball effect did not appear. Instead, there was a decline in interest rates on government bonds; combined with the increase in GDP, it favourably influenced the balance of the public finance sector.

3.2.2 CDS AND THE RISK OF STATE BANKRUPTCY

Important information about the sustainability of public finances in individual countries is contained in the credit default swap (CDS) prices for their obligations. A credit default swap is a financial swap agreement in which the seller of the CDS will provide the buyer with the agreed amount of money in the event of a loan default or other credit event of a particular economic entity. The subject of such an agreement may be particularly a Treasury bond, where it then performs the role of insurance against bankruptcy of the state. If the market price of the CDS for the debt of a given country is increasing, it means that the risk of default in that country, as perceived by investors, also increases.

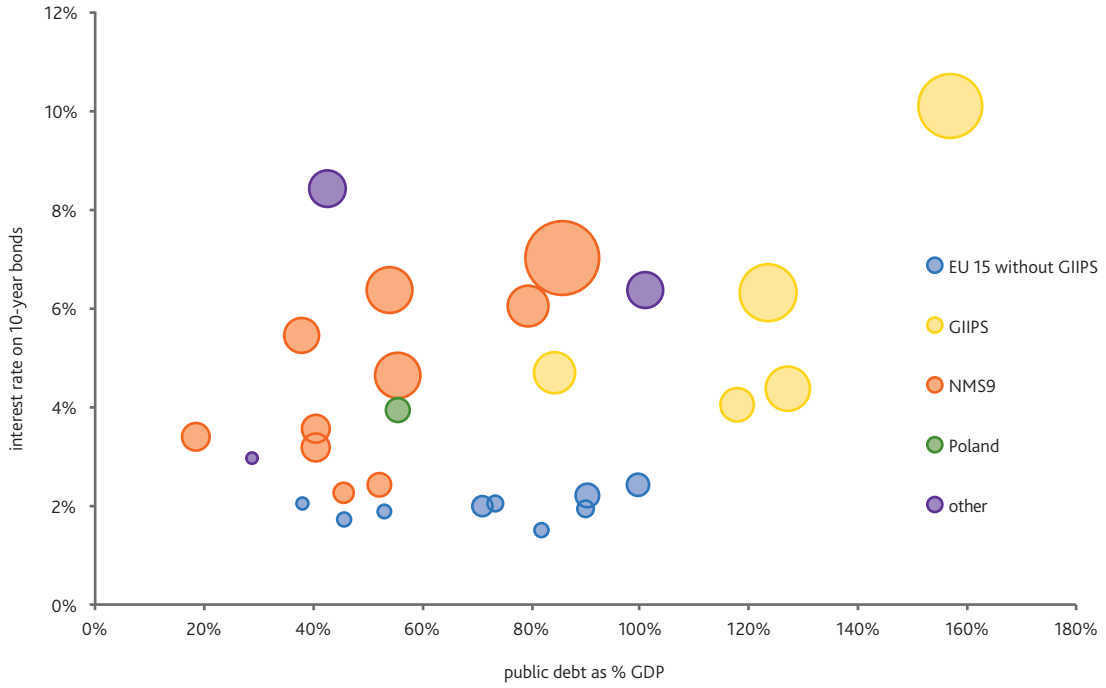
The Figure below summarises the relationship between the size of the public debt of the country (horizontal axis), the bond interest rate (vertical axis) and the probability of its bankruptcy implied by the price of the CDS (size of circles). It shows that the cost of debt servicing is only partly determined by its size in proportion to GDP. However, there is a strong correlation (75%) between bond yields and the price of the CDS. Many EU 15 countries, despite a relatively high level of debt, have a low interest rate of their bonds. In turn, bonds of the new EU Member States have interest rates similar to treasury securities of the much more indebted GIIPS countries. This shows that the cost of servicing the public debt of the country is largely influenced by its credibility in the eyes of financial institutions.

The relationship between payment credibility and the cost of servicing the public debt, however, is more complicated. As shown by Kalbaska and Gątkowski (2012), during the Great Recession there was a statistically significant increase in the degree of correlation between CDS prices in the eurozone countries (compared with the period before August 2007). This suggests that during the Great Recession a contagion effect occurred, which means that investor concerns related to the economic situation in one country caused concerns regarding other countries, regardless of their actual economic situation. In this way, an increase in uncertainty associated with the solvency of any GIIPS country increased the interest rates on long-term government bonds in all these countries, although the condition of their public finances varied. When the interest rates in those countries exceeded 7.5-8%, they were forced to ask international institutions for a rescue loan as further debt servicing proved impossible.[10]

Why did a growth rates for GIIPS country bonds above the barrier of around 7.5% prevent them from further borrowing on the financial markets? The answer follows from the fact that each state with a high level of public debt must not only sell

10 Similarly, bad news from the GIIPS countries resulted in the withdrawal of capital from the New Member States and a significant decrease in currency value in some of them.

Figure IV.26. **The size of the public debt vs. the cost of its service and PDE in OECD countries in 2012**



Source: Own elaboration based on Eurostat data.

bonds to cover the current budget deficit, but also systematically roll over the bonds issued to finance the deficits in previous years. Public debt at a level of several tens of percent of GDP is impossible to pay in a single instalment, as that would exceed the possibilities of any budget. Therefore, bonds which reach maturity are redeemed from the proceeds of the sale of new tranches of bonds. Therefore, an increase in bond rates would increase the cost of servicing not only to the current deficit, but also a significant part of the already issued debt. This is not a problem as long as the interest rate on the bonds is lower than the expected rate of nominal economic growth of the issuer. In such a situation, it is possible that the country could repay its bonds using the increasing budget revenues.

3.2.3 PUBLIC DEBT AND THE TRAGEDY OF THE COMMONS

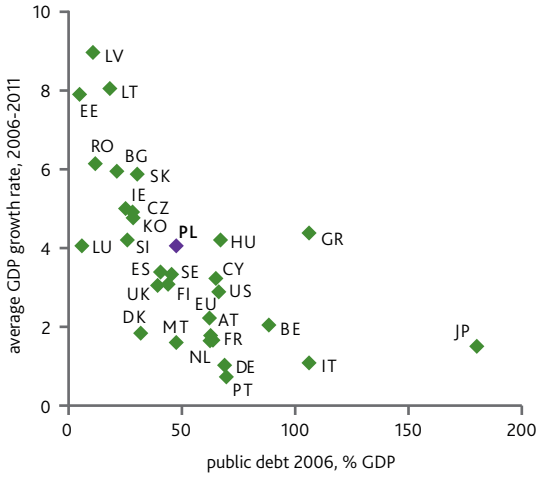
The aforementioned factors of the collapse of public finances in individual states during the Great Recession worked almost automatically. The fall in GDP launched a spiral of debt caused by a snowball effect and deterioration in the primary balance in budgets. States did not have much room for manoeuvring here. Such an explanation, however, is incomplete because it does not explain why, even before the crisis, the public finances of many countries were in bad shape, nor why, despite similar circumstances, some states, mainly belonging to the eurozone, were affected by the debt crisis more strongly than others.

According to the model approach to economic policy, states should collect financial surpluses in good times and borrow during the recession. In such a situation, public debt would be maintained at a stable level, and falling into a spiral of debt would be impossible. However, as shown by empirical data (see Charts IV.23 and IV.24), already in 2006, a period of very good economic situation, many countries had very high public sector deficits.

Maintaining a high public debt and a budget deficit is common throughout the world. This can be explained using the tools of political economy, especially in the context of the tragedy of the commons. This term is used when a given policy benefits selected economic entities and the costs are incurred by the entire group. Therefore, in decision making, economic agents do not take into account all of the costs associated with their actions. National economic policies are largely shaped by the democratic process. Voters prefer the state to spend as much as possible but impose the lowest possible taxes. These preferences are in general contradictory, but may be settled for some time through the issuance of public debt. This allows the state to shift the costs of financing the current spending onto future taxpayers. This policy explains the persistence of high levels of public debt in many countries, not only in times of crisis, but also in good times.

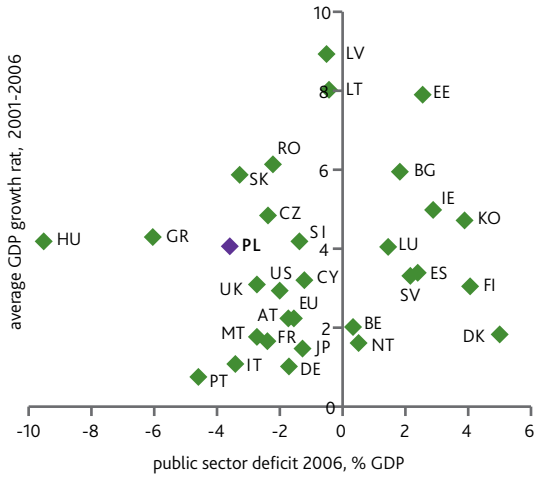
The problem of the commons affects the eurozone countries particularly strongly, which explains why the public finance crisis had the most severe consequences there (Chari and Kaho, 2004). To understand this, one has to look at the very structure of this monetary union. Each of the member states waived the conduct of its monetary policy to the European Central Bank (ECB), established as a strong independent institution mandated to ensure price stability. At the same time, fiscal policy, in particular the

Figure IV.27. **Public debt in 2006 and the average growth rate in 2001-2006**



Source: Own elaboration based on Eurostat and OECD.

Figure IV.28. **The general government deficit in 2006 and the average growth rate in 2001-2006**



Source: Own elaboration based on Eurostat and OECD.

introduction of taxes, the size and structure of budget spending and public debt management, remained the prerogative of nation states (for more information: Bordo et al. 2011).

Therefore, in the economic policy of the eurozone, an important role is played by two groups of actors: the central institutions of the monetary union, in particular the European Central Bank, but also the European Commission and the nation states. Both groups often have divergent economic goals. Central institutions represent the interests of the eurozone as a whole and the nation states focus primarily on their own prosperity. As a result, there are conflicts of interest between these two groups that undermine the stability of the monetary union.

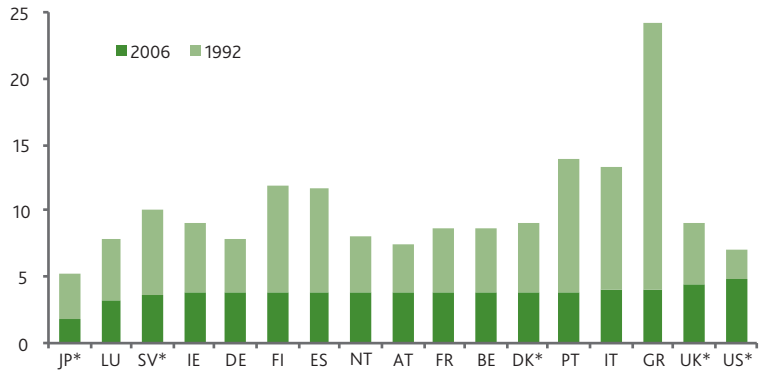
This mechanism has been quite thoroughly described in scientific literature. As early as 2002, Harald Uhlig (2002) used a DSGE model to show that countries with a centralised monetary policy and decentralised fiscal policy have a structure of economic incentives that leads to higher budget deficits than if they remained outside the monetary union. This is due to the fact that one of the benefits of the monetary union, in particular the eurozone, is the lower cost of public debt service. Bonds denominated in a common currency have in fact a lower risk of inflation and the absence of exchange rate risk in relation to debt denominated in national currencies.

To understand this, let us analyse the situation of a state borrowing in its own national currency. How much can it borrow? The first group of recipients of the bonds issued by such a country are domestic investors. The supply of savings they are able to spend for the purchase of government bonds is generally limited (especially in small countries) and this is a major barrier to increasing public debt. This problem can be circumvented by selling bonds to foreign investors. However, they will be exposed to an exchange rate risk, i.e. the risk of losses due to the depreciation of the currency in which the bonds are denominated. Both groups of investors are also exposed to the risk that the state refuses to redeem part or all of the issued bonds, for example through measures aimed at weakening the currency (depending on the exchange rate system it may be a direct devaluation or occur spontaneously as a result of rising inflation or the reducing credibility of the country in the eyes of foreign investors). The higher the debt, the higher the risk, which translates into an increase in interest rates on the bonds, a further barrier to the growth of public debt.

Both types of risk are very limited if the issuer of the debt is a member of the monetary union, particularly if the institution responsible for the value of a common currency (the eurozone - ECB) has a high credibility in the financial markets and is free from political pressure. Thus, membership in a monetary union allows its members to access lower interest rates on bonds than if, other things constant, they had remained outside. This phenomenon is clearly shown in the figure below.

In the period 1992-2006 the cost of incurring new debt in the eurozone decreased significantly. Furthermore, interest rates in the countries of the monetary union underwent a strong convergence. The greatest benefits were experienced by Greece. In 1992 the interest rate on 10-year Greek bonds was 24.1%, compared to 4.1% in 2006. Financial markets demanded that interest rate for Greek bonds were 0.3 percentage points higher than German bonds (the same demand related to bonds issued by Italy). For most new Member States, the required risk premium associated with staying outside the eurozone was generally higher. In the same period, Poland had to pay 1.5 percentage points more than Germany, and Hungary as much as 3.4 percentage points more. Thus, before the crisis, financial markets perceived the Greek and Italian bonds as safer than securities of much less indebted Latvia and Slovakia. The existence of the monetary union was seen as a guarantee of solvency for the heavily indebted economies of Italy and

Figure IV.29. **Changes to interest rates on 10-year Treasury bonds in 1992-2006, %**



Source: Own elaboration based on Eurostat and OECD.

Greece, even though it was not explicitly included in EU legislation. Historically, low interest rates on the debts of these countries further reduced the incentives to consolidate public finances (although in 2006, Italy recorded a surplus in its primary budget balance).

Lower interest rates on debts leads to higher indebtedness. Each country within the monetary union had an incentive to maintain the highest possible public debt using the low cost of servicing, and at the same time hoping that the other members of the union will maintain discipline of their public finances. The assumption of constancy of behaviour of the other members of the eurozone resulted in the aforementioned tragedy of the commons. Each country is hoping that it will continue to benefit from the low interest rates available in the monetary union and, therefore, has a debt greater than it would have had outside the monetary union. If all countries think and act this way, fiscal discipline is not going to be maintained. The danger of default in one of the countries affects the credibility of the whole monetary union and results in the growth of debt servicing costs to all members. Thus, lower debt servicing costs can only be found in those monetary unions where member states maintain a relatively low level of debt.

In fact, members of the eurozone also exhibited different preferences of economic policy with respect to important macroeconomic factors, such as the level of debt or inflation, as well as the use of fiscal policy instruments. In Germany, fiscal discipline is relatively strong compared to the GIIPS country group, so politicians of those countries seem to be aware of this and predict that Germany will maintain low levels of debt. In addition, Germany may wish to maintain the credibility of the monetary union at the price of financial assistance to countries at risk of default, which provides a further incentive for excessive borrowing.

To prevent this, the eurozone countries are obliged to respect the Stability and Growth Pact, and in particular, maintain a budget deficit at a level not higher than 3% of GDP and public debt below 60% of GDP. This agreement, in spite of sanctions against states failing to comply with its provisions, has never been observed. One of the first countries to break it was Germany, followed by France in 2003, soon to be followed by other eurozone countries. As a result, even during the relatively good economic situation in 2003-2007, eurozone countries, especially GIIPS (except Ireland) maintained a high level of public debt (Figure IV. 5) This made it difficult for them to flexibly manage their public debt during the Great Recession.

4 STRUCTURAL REFORMS AND FUTURE FISCAL POLICY. PROSPECTS OUT OF THE CRISIS

4.1 IS THE CRISIS COMING TO AN END?

According to the International Monetary Fund (IMF 2013), in 2013 global economic growth is expected to accelerate slightly to 3.3%, compared to 3.2% the previous year. A more significant acceleration is predicted for 2014 when global GDP growth is projected to be 4.0%. Thanks to an expected acceleration in global demand, the 2014 growth rate is also expected to rise in the major developed economies of the world: the United States, Germany, France and the United Kingdom. The European Central Bank predicts that the rate of growth in the eurozone in 2013 will remain negative (-0.6 %), and in 2014 will amount to 1.1% (ECB 2013). According to the "Inflation Report" (NBP July 2013), economic growth in Poland will increase from 1.1% in 2013, to 2.4% in 2014, and to 3.0% in 2013.

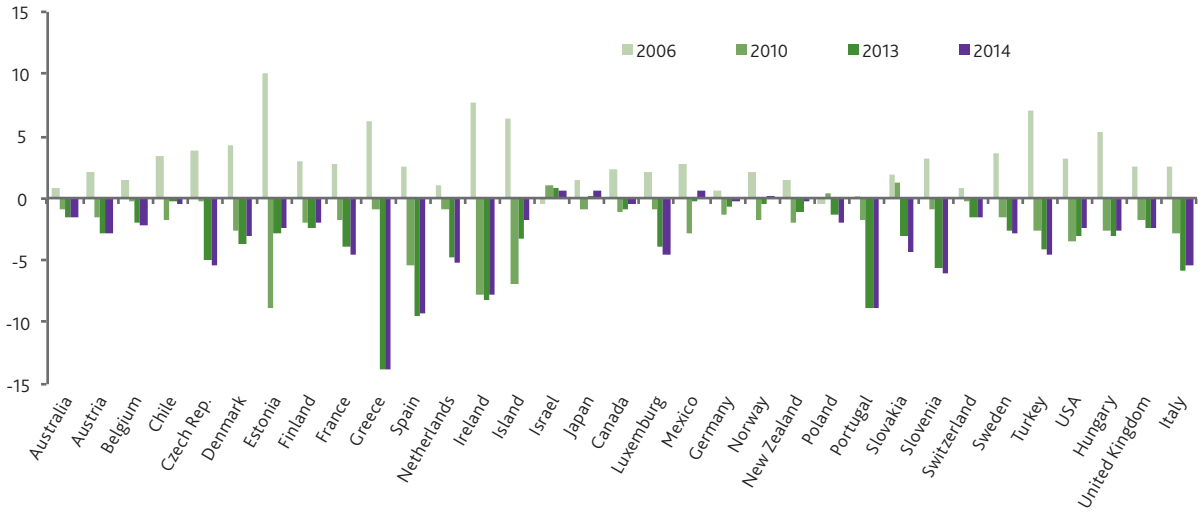
It should also be noted that in 2014 the output gap forecast by the OECD, i.e. the difference between actual and potential GDP, would still be negative for all OECD members (except Israel, Japan, Mexico and Norway), and therefore the most important world economies will still be in a slowdown phase. European Commission forecasts for the eurozone indicate a closing of the output gap in 2016 and 2017. In Poland, according to forecasts from the National Bank of Poland, the output gap will remain negative at least until the end of 2015, while the GDP growth rate will exceed the potential output growth rate after 2014.

Restoration of the growth rate will take place under a restrictive fiscal policy. In Europe there has been significant fiscal effort to limit the growth of public debt, which forced cuts in social spending, public consumption, wages and employment in administration, public spending on infrastructure, and in many cases resulted in an increase in tax base and tax rates. These factors adversely affect domestic demand, which remains low, while the signs of acceleration are mainly related to an increase in external demand. Despite fiscal efforts in countries with the deepest recession, the debt to GDP ratio remains at a high level and is even increasing (Figure IV.27).

In 2012, 18 EU countries reported deficits beyond the threshold of 3% of GDP, against which the *Excessive Deficit Procedure* was applied by the European Commission. In the coming years these countries will have to continue restrictive fiscal policy, slowing down the pace of economic recovery. This applies to the GIIPS countries, to Benelux, France and to most of the new EU Member States, including Poland.

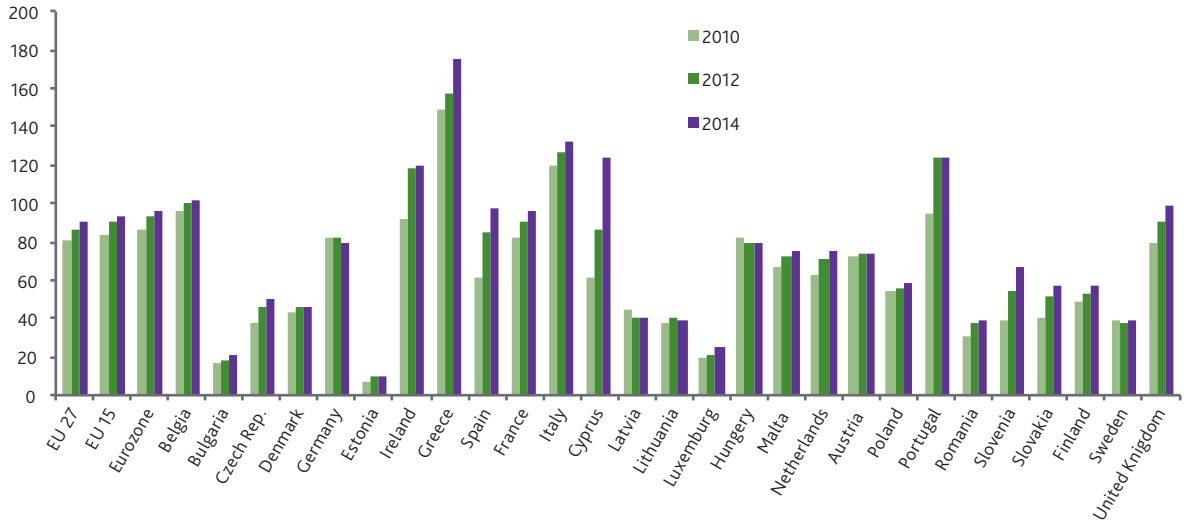
In some EU countries the tightening of fiscal policy had inhibited the growth of public debt in relation to GDP. In those countries the acceleration of economic growth expected in the coming years will allow them to restore part of the budget revenue so that public debt will gradually decrease. The debt reduction will help alleviate the danger of default among the most indebted countries, and reduce the likelihood of collapse of the eurozone.

Figure IV.30. **Output gap in OECD countries**



Source: OECD Economic Outlook 2013 (2013 and 2014, OECD projection).

Figure IV.31. **ESA95 public debt as % of GDP, 2010, 2012 and forecast for 2014**



Source: AMECO, European Commission (spring 2013 forecast).

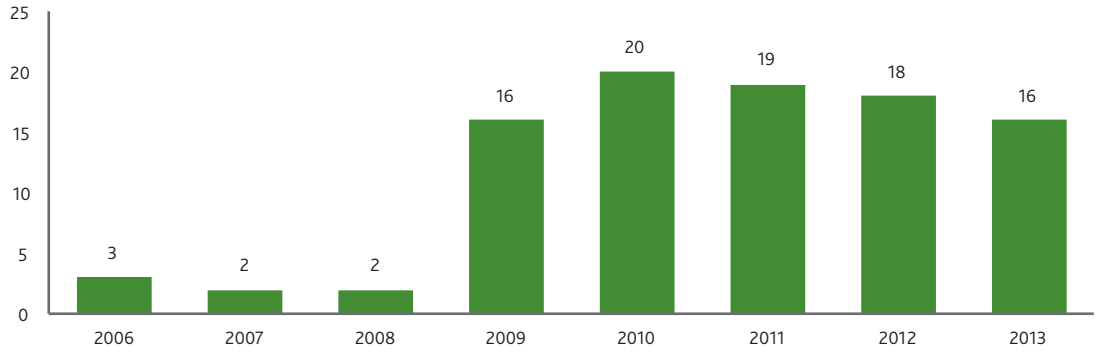
This in turn will lower the sovereign risk perceived by investors, and will contribute to a decline in debt service costs. As a result it will be easier to maintain fiscal discipline.

However, achieving the level of debt contained in the Stability and Growth Pact, i.e. 60% of GDP, will require two decades of significant fiscal effort from most indebted countries, assuming nothing happens that will require a significant increase in public expenditure. Further fiscal tightening, requiring tax increases and spending cuts, could bring further deterioration in the financial situation of households. European countries have already experienced steadily growing unemployment for several years. Public support for ambitious fiscal reform programmes is diminishing, which may raise concerns that from a political point of view, implementation of further fiscal tightening will be difficult.

This scenario is particularly likely in countries such as Greece, Spain and Portugal. In these economies, the slowdown has been caused by not only significant fiscal tightening, but also by deep structural problems. These countries, located on the periphery of the original EU 15, had based their advantage in international trade primarily on low wages, especially compared to Germany, France and the United Kingdom. Before entering the eurozone, wage increases did not affect their competitiveness thanks to successive devaluations. But then, the labour competitiveness of GIIPS countries gradually decreased, as indicated by the gradual increase in unit labour costs.

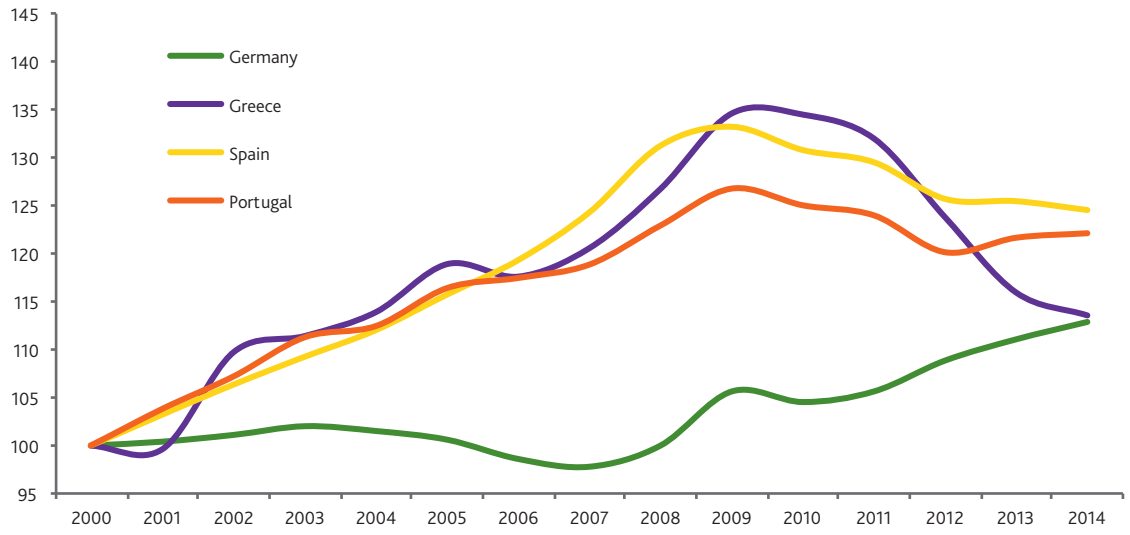
No longer able to use nominal adjustments, those countries were forced to reduce wages in the second phase of the crisis, which should in turn help regain their international competitiveness in future. Reducing labour costs (e.g. by reducing

Figure IV.32. **Number of countries against which excessive deficit procedure (EDP) was applied**



Source: Own elaboration based on http://ec.europa.eu/economy_finance/economic_governance/sgp/corrective_arm/index_en.htm

Figure IV.33. **Unit labour costs (nominal), 2000=1000, 2013 and 2014 forecast**



Source: Eurostat.

labour taxation) are crucial for the growth of the countries of southern Europe, especially in the context competition with China (in the case of Portugal, over 50% of export value relates to goods in direct competition with the Chinese economy, The Economist, 2010).

In the longer term, this problem will also apply to the economies of the New Member States, including Poland. The process of catching up with developed countries will negatively affect growth in labour productivity and will increase wages. Any build-up of imbalances was largely inhibited by adjustment of the exchange rate, as exemplified by the devaluation of the zloty in 2009, thanks to which the pace of economic growth remained positive. The process of convergence with EU economies, which is adversely affecting international competitiveness, will become more significant at the time of accession of the other economies in Central and Eastern Europe to the eurozone, as well as implementation of other economic policies, such as the climate policy.

4.2 EU COUNTRIES AND THE CRISIS. CO-ORDINATION OF FISCAL POLICY

Financial crises have more profound consequences for the labour market and long-term growth than the usual cyclical economic downturns (ILO, 2011 includes a review of scientific literature on this topic). The global financial crisis has shown that over the years the global economy has accumulated growing imbalances, mainly including high levels of internal and external debt (both in the private and public sectors). The bursting of the housing bubble in the United States worsened the economic situation of many countries, mainly by influencing global financial markets, but also indirectly revealing their structural problems. A large number of the EU states proved to be unprepared for long-term support of their economies with an expansionary fiscal policy.

These observations have led policymakers to the conclusion that it is necessary to increase control of the increasing imbalances. In the case of strongly interconnected economies, such as the European Union and the eurozone economies, it turned out that the existing mechanisms of fiscal policy, such as the Maastricht Treaty or the Stability and Growth Pact, are ineffective. Furthermore, in many countries the execution of procedures targeting excessive deficit occurred too late, i.e. when public debt had reached a size that was difficult to control.

It seems that the economic policies, including the fiscal policies of EU countries, will be subject to increasing international co-ordination. Macroeconomic co-ordination, however, is going to go beyond the framework of fiscal policy. In the "six-pack" adopted by the EU, monitoring will also cover macroeconomic imbalance indicators, and eurozone members may be asked in the future to submit recovery plans.

So far, the supervision of fiscal discipline has been centralised within the European Commission. The six-pack limits the powers of the Council of the European Union, which previously often vetoed decisions of the European Commission, and introduces a legal responsibility for fiscal discipline at the level of Member States.[11] The framework of the fiscal pact signed in March 2012 by all EU countries provided for tightening fiscal rules for excessive deficit procedure (see Box IV.3). For example, countries that do not comply with EU recommendations to

11 Wyplosz (2013) indicates a similarity to solutions in the United States (where individual states are obliges to maintain fiscal discipline). The increased responsibility of Member States strengthens the no bail-out principle – no help to countries at risk of default.

Box IV.2. Fiscal pact, six-pack and two-pack

The Fiscal Pact, i.e. the "Treaty on Stability, Coordination and Governance in Economic and Monetary Union" is an agreement by the 25 Member States of the European Union in March 2012, setting out rules for fiscal discipline. Its rules are to strengthen the provisions of the original Stability and Growth Pact. The most important of them are:

- The rule of a balanced budget – the deficit is to be no greater than 3% of GDP. The structural deficit is not to exceed 0.5 % of GDP (1% of GDP for countries with debt well below 60% of GDP).
- Debt Limit – member countries whose public debt exceeds 60% of GDP are required to reduce the excess by at least 1/20 per year.
- Automatic correction mechanism – the failure of conform to these rules will trigger an adjustment mechanism, which should be developed by the Member States in accordance with the rules laid down by the Directive of the European Commission in June 2012.
- The inclusion into national law – not later than 12 months after the entry into force of the agreement. Failure to do so is punishable by up to 0.1% of GDP, imposed by the European Court of Justice.

The solutions included in the fiscal pact are meant to strengthen the six-pack (five directives and one regulation), which came into force in December 2011. It established a system of early warning based on the analysis of a set of indicators measuring macroeconomic imbalances, e.g. current account balance, international investment position, indicators of international competitiveness, also including factors such as indebtedness of the private and the public sectors. If detailed analysis indicates the actual occurrence of imbalances, the state in question may be required to submit a reorganisation plan, as is the case with the existing excessive deficit procedure.

Two-pack (adopted by the European Parliament in June 2012) is designed to further coordination of fiscal policy at the stage of constructing the budgets of Member States of the eurozone. This implies the need for reviewing national budgets by the European Commission, and in the case of an excessive deficit procedure opened against a country, the European Commission will be able to intervene if it finds the planned measures are not sufficient for the implementation of the EDP.

Source: EC, http://ec.europa.eu/economy_finance/articles/governance/2012-03-14_six_pack_en.htm

reduce their budget deficits below 3% of GDP may be penalised by an amount of up to 0.2% GDP. These penalties, however, apply only to eurozone countries.

Are fiscal penalties an actual threat to the eurozone countries, and do they constitute a factual element of exerting discipline? A clear imperfection in these solutions is the clause on special circumstances, in which a country may avoid a penalty, despite the failure to meet safety thresholds. For example, the poor economic situation in Spain was considered such a circumstance, when Spain failed to perform a previously agreed reduction in budget deficit in 2012. In turn, a so-called two-pack adopted by the European Parliament in June 2012, assumed, among others, consolidation of the debt of the most indebted countries, to enable repayment at a lower rate, thanks to "communitarisation".[12] This proposal allowed the repayment of debt with a lower fiscal effort, but is a certain violation of the previously emphasised "no bail-out" principle, as the responsibility for the accumulated debt will become distributed among all the EU countries. These solutions resulted from the declining political support for fiscal tightening in the most indebted countries.

12 The main goal of the two-pack is to increase the role of the European Commission in the supervision of national budgets (see the Box IV.3).

4.3 FISCAL POLICY AND STRUCTURAL REFORMS IN TIMES OF CRISIS

Analysis of the period of the Great Recession also points to significant differences in the pace of adjustment of the EU and the United States. The crisis caused a decline in GDP in the United States that entailed significant adjustment in the labour market, but it was much more short-lived than in the European Union. What were the causes of this difference? The answer to this question is not simple, but it seems that the rapid adjustment in the U.S. was due to the following factors.

- Fiscal expansion in the United States was significant. During the crisis, the government introduced programmes to support demand (such as support for the automotive industry), and also increased expenditure on public healthcare.
- The expansionary fiscal policy was followed by expansionary monetary policy: in the first phase of the crisis interest rates were close to zero. Further support for the economy included quantitative easing, involving the purchase of securities by the Federal Reserve banks.

- The U.S. economy has a much lower rigidity than the EU economies. It has greater labour mobility and a more flexible labour market (both in terms of real rigidities – ease of creation and destruction of jobs, and nominal rigidities – wage adjustments).

It seems that repeating the positive elements of the American economic policy is impossible in the eurozone and the European Union, because of inconsistencies in economic policies of the Member States, and also because of the significant differences in the level of income). Difficulties in the implementation of the Fiscal Pact also reflect discrepancies in the economic models adopted by the new Member States. Structural differences affecting the shape and functioning of the labour markets prevent a similar degree of flexibility as in the United States, which is sometimes a result of a conscious choice.

According to OECD analyses, the basic problems of the labour market in EU countries, not only in times of crisis, include a low employment rate of near retirement workers, poor labour market participation of women, as well as a high level of labour taxation. The latter factor distorts the relation of prices in the economies, and the level of employment is far from optimum. OECD studies also point to the inefficiency of mechanisms for granting disability pensions and sickness benefits, employment protection and the allocation of unemployment benefits (OECD, 2013, Box I.4). They weaken the incentives to seek work in those groups where participation rate is already low.

The anti-crisis policy in many countries reduced the effective labour taxation through direct reduction in tax rates or the introduction of additional incentives. This was carried out, among others, in Austria, Belgium, the Czech Republic, Denmark, Finland, Hungary, the Netherlands, Poland and Sweden. Some countries also reduced social security contributions (Austria, Germany, Hungary, Poland and Slovakia), which in the short term could lead to improvements in the labour market.

As a result of the deteriorating situation of public finances in 2011-2013, parts of these reforms were withdrawn or eased. For example, in Poland this was done by raising the social security contributions of employers, as well as freezing tax thresholds which, with the increase in average wages, resulted in an increase in the effective income tax rate. As a result, that change was not a real structural reform, but rather a short-term discretionary policy aimed at the intensification of automatic stabilisers. Similarly, between 2011 and 2012, tax rates and social security contributions were raised.

Introducing painful labour market reforms is not easy in a deteriorating macroeconomic situation, falling incomes and rising unemployment. However, the debt crisis forced a review of pension systems and social security, as both had led to an increasing fiscal burden: either due to increasing unemployment or long-term trends related to the ageing of the population. The availability of early retirement was restricted (including Austria, Belgium, Greece, Spain, Poland and Slovakia), the retirement age was raised (Belgium, France, Greece, Spain, Hungary and Poland), and the minimum pension contribution period was extended (in France, Greece and Spain). In addition, in some countries, the pensions level was decreased, which indirectly resulted in a longer working life (Greece, Spain and Hungary). Other changes were associated with accumulation of costs of pension reforms, which resulted in the role of capital pillar pension systems being limited in Hungary and (partially) in Poland.[13]

Some of the aforementioned reforms were carried out in the context of activating the elderly. One has to remember, of course, that the rise of the labour participation of the elderly, without a simultaneous increase in demand for labour, results in those people becoming beneficiaries of unemployment benefits or other public assistance programmes. Therefore, this type of policy, without a concurrent programme for supporting the employment of older workers, may fail to produce the expected savings for the budget.

In summary, during the Great Recession, most of the chronic structural problems in Europe were not solved. Labour taxation remains high, while participation rate is low, particularly in the social groups most at risk of long-term unemployment. In addition, wage rigidity in European countries has not changed, and in some cases has even increased, indicating the low efficiency of reforms in this area (Babecky and Dybczak 2012). In addition, during the global financial crisis, about half of the world's economies raised the minimum wage (ILO, 2011). Programmes that increased the flexibility of employment, such as short work programmes (in German *Kurzarbeit)* in Germany, which reduced overtime and increased employment, or the anti-crisis package introduced in Poland (allowing a more casual extension of temporary contracts), were only short-term. The mobility of workers in the European Union remains low, despite the fact that the EU established free movement of production factors, including labour, as early as 1992.

These considerations suggest that the EU economies face structural problems that affect their ability to adapt to changing market conditions, especially those that are sudden or unexpected, as it was during the Great Recession. Future economic policies, including fiscal policy and labour market policy, will have to be directly focused on removing these problems or mitigating their effects. In the medium and long term, apart from problems of adjustment to cyclical fluctuations and short-term one-time disturbances in the economic situation, there will be an increasing problem with the progressive loss of competitiveness of developed countries, as well as the ageing of the population.

13 The related savings were estimated to be 0.8 percentage point of GDP in 2011 and 1.1 percentage point in 2012. Further curbing of the role of capital funds in the pension system was announced for 2013.

Box IV.3. Selected structural problems in the EU countries

As part of the annual Going for growth review, the Organisation for Economic Cooperation and Development has identified the main priorities for structural reform among its members. The document mentions the following priorities for EU countries in 2013:

- Elimination of early retirement (Austria, Belgium, Finland, Poland, Hungary, Luxembourg and Slovenia)
- Increase in the retirement age (Belgium, Finland, Slovenia)
- Capping of the pension system (Austria, Denmark, Estonia, the Netherlands, Poland, Sweden, the United Kingdom)
- Reduction of unemployment benefits, or the period they are received (Belgium, France, the Netherlands, Portugal)
- Strengthening active labour market policies (Belgium, Finland, France, Greece, Ireland, Italy, Luxembourg, Portugal, Slovakia, Spain)
- Reduction of labour taxation (Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, the Netherlands, Poland, Sweden)
- Removal of tax regulations that reduce the participation rate among women and single parents (the Czech Republic, Germany, the Netherlands, Slovakia, the United Kingdom)
- Reducing the duality of the labour market (France, Germany, Italy, Luxembourg, the Netherlands, Portugal, Slovenia, Spain, Sweden)
- Reforming of state support for childcare and parental leave (the Czech Republic, Germany, Ireland, Poland, Slovakia, the United Kingdom)
- Increasing the mobility of workers (European Union)

Source: OECD (2013)

4.4 CHALLENGES OF FUTURE FISCAL POLICY IN THE EU

The financial crisis and the debt crisis have shown that passive labour market policies aimed at supporting the unemployed do not bring sufficient mitigating effects, especially when they are stronger than normal cyclical fluctuations. Passive labour market policies are also expensive, and the prolonged recession may lead to the prolonged unemployment of workers. Therefore in the future we should expect a further tightening of criteria for granting unemployment benefits and the granting of inability pensions. OECD analyses suggest the need to reinforce active labour market policies in many EU countries, as well as in the United States. The importance of active labour market policies will therefore lead to an increase of the expenditure on: training (in particular those relating to the employment of graduates), support for the establishment of small businesses, adjustment of the education system to the current needs of the labour market, and increasing the role of apprenticeships in the learning process.

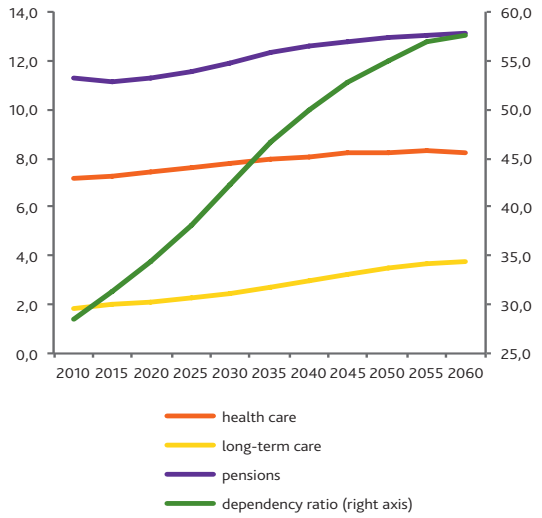
The European Commission Programme "Towards a job-rich recovery"[14] proposes a number of measures to limit the most important structural problems of the economies of the Member States. The main objectives of EU policy include support for economies by stimulating the demand for labour, consisting of partial financial assistance in creating new jobs. This policy is to be combined with the promotion of self-employment and establishing new businesses. In addition, it encourages support for low income earners to create incentives for remaining employed and combatting the informal economy. The document also calls for a greater interdependence between wage rates and labour productivity and the demand for labour, which is most important in countries with a high degree of unionisation, where wages are largely determined in the course of collective bargaining. The Commission also calls for the spreading of training and education in new technologies, which should enhance the qualifications of the workforce. According to the Commission's parallel plans related to tightening measures of the Climate-Energy Package and other similar initiatives, part of the revenues from the 'green taxes', such as tax on greenhouse gas emissions, will reduce labour taxation.[15]

Labour markets in developed countries are increasingly being influenced by the ageing populations in these countries. The need for fiscal stability necessitated an increase in the retirement age in many economies. Participation rate among the elderly is low, which in the long run may be a barrier to the

14 *Towards a job-rich recovery*, communication of the European Commission to the European Parliament, European Council, European Economic and Social Committee and the Committee of the Regions (2012) 173 final

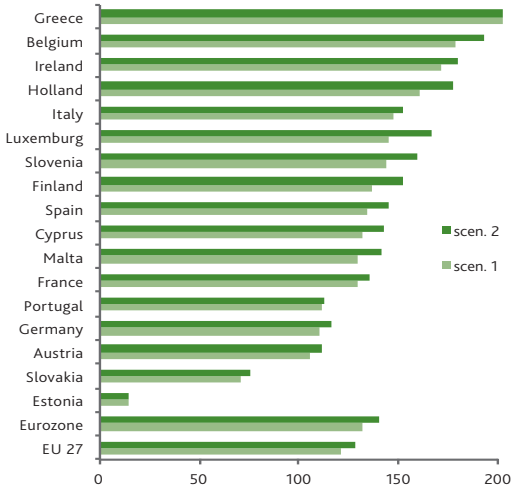
15 From the point of view of economic efficiency, environmental taxes are beneficial, as they take into account the cost of pollution in the product's value, contrary to labour taxation which distorts relative prices in the economy.

Figure IV.34. **Expenditure related to population ageing and the demographic dependency ratio in the EU 27**



Source: European Commission (2013), the expense as % of GDP, the demographic dependency ratio for persons aged 15-65.

Figure IV.35. **Projected public debt in the EU 27 countries in 2035, % of GDP**



Source: Eichengreen et al. (2011), Scenario 1: interest rate adjusted for economic growth of 1%, Scenario 2 - 3% growth.

long-term growth as the supply of labour is going to decrease. State spending policy will probably be restricted as much as possible to reduce non-wage sources of income for older people while increasing spending on their activation. One significant element will be the systematic rise of expenditure on health care with the growing share of elderly in the population.

The ageing population will also have a negative impact on the stability of public debt in the EU states in the medium term. According to the European Commission forecasts (2013), the ratio of people below 15 and above 74 years of age to the people of working age will increase from about 40% to near 70%. This change will force significant adjustments in expenditure. For example, according to the European Commission forecasts, demographic changes in the EU 27 will lead to an increase in spending on total health, pensions and long-term care by about 3% of GDP in 2035 compared to 2010, and by 5% of GDP in 2060. A simple projection presented in Eichengreen et al. (2011), based on similar demographic forecast, indicates an increase in public debt in the European Union to the level of 121% or 128% by 2035, depending on the assumptions for interest rate.[16] In all the countries of the EU, except Slovakia and Estonia, the authors expect an increase in debt exceed 100% of GDP.

According to European Commission forecasts, the population in Poland will fall from 38 million in 2010 to about 37 million in 2035 and 32 million in 2060, which will have a long-term negative impact on the Polish GDP. Despite adverse changes in the demographic ratio, from 20.9% in 2010 to 40.4% in 2035 and 70.7% in 2060,[17] spending on public pensions is going to fall in the forecast horizon as a result of the 1999 pension system reform.[18] On the other hand, according to the EC forecasts, expenditure on health care in Poland will increase from 4.9% GDP in 2010 to 6.1% GDP in 2035 and 7.1% GDP in 2060. Spending on long-term care will double, from the approximately 0.7% of GDP in 2010.

Additional 3% to 5% of GDP per year on expenses related to the ageing of the population will be a significant burden to the budgets of EU countries. Maintaining a stable level of debt will force a gradual decrease in spending in other areas or an increase in taxes. The changing population structure of voters will also be not without significance for the shape of future budgets.

16 It was assumed that if no additional expenditure related to population ageing was included, the debt would be stable.

17 The ratio of the 65+ population to the numer of people aged 15-64.

18 This results from a significant decrease in the level of future pensions compared to the present pensions, which will probably force an increase in other forms of social expenditure. These calculations do not take into account the reform of the pension system planned for 2013.

SUMMARY

Our analysis shows that on the eve of the crisis, public finances in the analysed countries were in very diverse shape, and depended on several factors. First, the countries differed in economic growth rate before the crisis. Secondly, they differed in the degree of fiscal discipline in the long and medium term. Thirdly, the welfare state models varied. On the eve of the crisis long-term fiscal discipline also influenced the diversity of public debt in the countries. At one extreme were the GIPS countries (i.e. without Ireland), where the initial level of public debt was very high and significantly above the Treaty of Maastricht thresholds, while fiscal discipline was low. At the other extreme were the Baltic countries, where the level of public debt was very low. All those factors determined the strength of the fiscal policy response to the crisis, as well as the ability of the countries to conduct prolonged active fiscal policy.

In the first phase of the Great Recession most governments adopted a proactive stance with a wide range of measures to stimulate the economy. That strong reaction resulted primarily from a desire to quickly stimulate demand, affected by the burst of the property market bubble. The first phase of the crisis also resulted in a significant decline of the budget revenues of the analysed countries due to the action of automatic stabilisers; i.e. the economic downturn reduced the tax base and hence tax revenues. However, our analyses show that lower revenue and higher expenditure was largely due to discretionary fiscal policies: tax rate cuts and programmes to support demand, public investment activities, labour market policies, etc.

In most countries, fiscal policy, including active and passive labour market policy, was counter-cyclical in the first phase of the Great Recession. This means that with the decline in economic activity, public revenues were falling while expenses were rising. This pattern was enhanced by discretionary fiscal measures. Poland is a specific case; although its tax revenues fell in the first phase of the recession, spending on transfers decreased, too. The growth of public expenditure was driven by public investment. While it can be expected that this kind of spending would have a greater positive impact on growth in the medium term, its importance to stimulate demand and mitigate the negative situation on the labour market is not as great as the effect of direct short-term spending to support employment.

A counter-cyclical fiscal policy meant that in the first phase of the Great Recession, budget deficits grew in the surveyed countries, not only in their actual size, but also in structural terms. The adverse impact of the deficit on public finances was related to the initial level of deficit and the size of the structural deficit. A negative budget balance resulted in a rapid increase of public debt. The extent to which the countries were prepared for increased debt service cost depended on their level of indebtedness; in the case of highly indebted GIPS countries, expenditure on public debt accounted for a significant proportion of total public expenditure.

Those countries benefitted from membership to the elite club of the eurozone. Due to the high assessment of its credibility in the financial markets, they could borrow at low interest rates. When their debt blossomed to the hitherto unseen size, the market valuation of the probability of bankruptcy led to a sudden increase in the effective interest rate on debt, which in turn prevented further debt servicing in Greece, leading to its controlled default, which threatened the other GIIPS countries.

The increase in public debt was not only significant in the GIIPS countries, but also the other EU states. The analysis in Part IV indicates that it only partially resulted from expansionary fiscal policy, manifested in the negative primary balance. The increase in debt was largely caused by a snowball effect, i.e. an increase in operating costs resulting from an increase in the interest rate. This was the result of mechanisms, which we term the tragedy of the commons, i.e. the effects of the fiscal policy in GIIPS countries on the other eurozone members.

Despite a relatively low economic recovery and the continued poor situation in the labour market, the European Union decided to perform a coordinated fiscal tightening process in most countries through the execution of excessive deficit procedures. Tightening of fiscal measures to reduce the growth of public debt, or debt altogether, during the economic downturn led to a decline in aggregate demand. In many countries there was a concurrent increase in the implicit tax rate on consumption or labour, and a reduction in public spending. Despite the continuing bad situation in the labour market, spending on labour market policies was also reduced in all groups of countries. The most glaring example is Poland, with a rapid decrease in spending on active labour market policies. The second wave of the crisis in the EU was also more drastic than in the United States, where fiscal tightening was not as severe and where expansive monetary policy was used to support economic growth.

In most EU countries, fiscal tightening brought the expected results, i.e. the debt growth rate was largely limited. Economic growth will increase, but in line with forecasts, European Union countries will remain in a slowdown phase until at least 2016-2017. The further pace of debt reduction will depend on market interest rates on bonds, and primarily on fiscal effort and economic growth. In the case of the most indebted countries, debt reduction to the safe thresholds set by the EU may take as long as two decades. The risk factor in this case is the recovery of the competitiveness of the eurozone countries, in particular the GIIPS countries. In the face of the low domestic demand, their future economic growth will depend on their international competitiveness.

The period of the Great Recession showed that a co-ordination of fiscal policy is needed in the EU, and especially for eurozone countries where the level of integration is high. This is increasingly important in a situation where monetary policy pursues common objectives, and the tragedy of the commons motivates countries to violate fiscal discipline. Solutions implemented by the EU in the second phase of the crisis, i.e. the Fiscal Pact, and the "six-pack" and "two-pack" were designed to increase the accountability of Member States for discipline of public finances. The latter of these solutions is also meant to support the repayment of debt by the most indebted countries.

The problem of fiscal discipline is not the only problem faced by the developed countries, as European labour markets are characterised by significant structural problems that were not resolved during the crisis. These markets are not flexible and have low employment rates due to the poor results of labour market policies. Moreover, the level of labour taxation is too high, which affects the competitiveness of European countries in the global market. The long-term plans of the European Commission attempt to solve these problems in the future, mainly by increasing the role of active labour market policies and a reduction of taxation.

It seems that within several years, the effects of the current downturn will expire. But the crisis has shown that the lack of fiscal discipline and the structural problems can quickly erode the foundations of apparently stable countries and economic alliances, such as the eurozone, and take a number of developed countries to the brink of bankruptcy. Soon, the developed economies will have to face a much more persistent problem – the costs of the ageing population.

Analysis and forecasts mentioned in this Part of the Report indicate that the declining fertility rates and lengthening life expectancy will result in smaller populations in most European countries and in the mid-term will lead to a significant increase in the ratio of the elderly to the employed. This will translate into increased costs of maintaining pension, health care and long-term care systems for the elderly. If other expenses are not adjusted, in most European countries in 2035 public debt will significantly exceed 100% of GDP. Thus, fiscal policy will likely be based on reducing other expenditures, as well as raising tax rates for those remaining in the labour market. These adjustments are expected to be much greater than those that were necessary during the Great Recession and will be permanent.

List of Figures

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Recommendations for public policy

RECOMMENDATIONS FOR PUBLIC POLICY

The 2008 financial crisis escalated into the most severe recession since the Great Depression – the Great Recession. It turned out to be a global shock which highlighted the relationships between the economies and a multiplicity of channels through which the disturbances may be transmitted from one economy to another. Far-reaching public intervention aimed at stopping the wave of bankruptcies of the banks have fulfilled its primary objective, and at the same time the fears concerning the consequences of worsening of the public finance condition and the occurrence of the double-dip recession have come true. Poland went through an economic storm with relatively little harm, however particularly second wave of the crisis casts a shadow on the coming years and establishes the requirements for the policy-makers. The analyses presented in the report show that unlike most of the European countries the policy pursued so far in Poland was of a procyclical nature and the functioning of automatic stabilisers was rather weak. In the recent years it resulted from discretional policies that consisted in significant decrease in labour taxation (through lowering the disibaility pension contributions and flattening the tax scale) during economic boom which was directly followed by the financial crisis. This led to a substantial growth of the structural budget deficit which also during previous several years of transformation had a tendency of maintaining at the level of at least 2% GDP. The growth of public debt resulting from it narrowed down the scope of options concerning discretional fiscal activities lasting more than one year and it forced the government to search for additional revenue and savings. This happened despite the positive economic growth and fairly stable budget revenues, thus in more comfortable conditions than the ones in which most of EU countries were functioning. If the Great Recession turned out to be the triple-dip recession, then the government would not have any room to maneouvre in terms of fiscal policy. To avoid this type of risk it is necessary to make the planned changes in spending conditional to a greater extent upon the cyclical position of economy, leading to anticyclical conduct of policy, and particularly to limit the structural easing of fiscal policy.

Proper identification of the mechanism of diffusion of disturbances is essential for choosing adequate anticrisis actions. For instance, if the disturbance results from more limited access of entities to loans due to a banking crisis, the actions should be directed at increasing the liquidity of the banking sector, lowering the costs of loan (expansive monetary policy), and introducing loan guarantees. If the disturbance stems from the decrease in demand, governmental actions should aim at reducing the insecurity among consumers and investors, and the expansive monetary and fiscal policy may help to mitigate the consequences of the shock. In the face of pressure put on public finance, which was common in Europe and is rather not short-term, the identification of most effective uses of public funds is crucial, as well as focusing of their use in a response to those disturbances that can be effectively counteracted by governmental, particularly fiscal, policy. Even though the so called "anticrisis packages" are popular among politicians, the employees and companies are the ones who adapt to shocks and crises. The governments may support those processes, but not necessarily through fiscal policy and formalised institutions. Simulations presented in the first part show that the key difference between German economy and e.g. Spanish one are the different proportions between the price (wages) and quantitative (employment) adjustments in a response to analogous disturbances. Supporting the flexibility of wages, models of wage negotiations and social dialogue favouring the minimising of employment reduction by wage adjustment (and alternatively adjustment of hours worked) constitutes a mild action but the one which is essential from the point of view of even distribution of the effects of crises and mitigating their social severity. The analyses presented in the third part show that also the instruments rendering working hours more flexible help to reduce the scope of dismissals and to make it easier to come out of the crisis faster. However in Europe they are used mainly in manufacturing, and often they have a status of special measures introduced into legislation only after the crisis occurs. For this scope of flexibility together with the flexibility of wages to function smoothly and to support the reduction of the decreases in employment in the face of worse economic situation, these instruments should be adjusted also to the specificity of the services sector and should form an integral, not occassional, element of the organisation of labour. Especially that a developed services sector plays the role of automatic stabilizer, similarly to internal consumption, which enables mitigating the effects of external shocks affecting manufacturing in the first place, or the fluctuations in the construction sector.

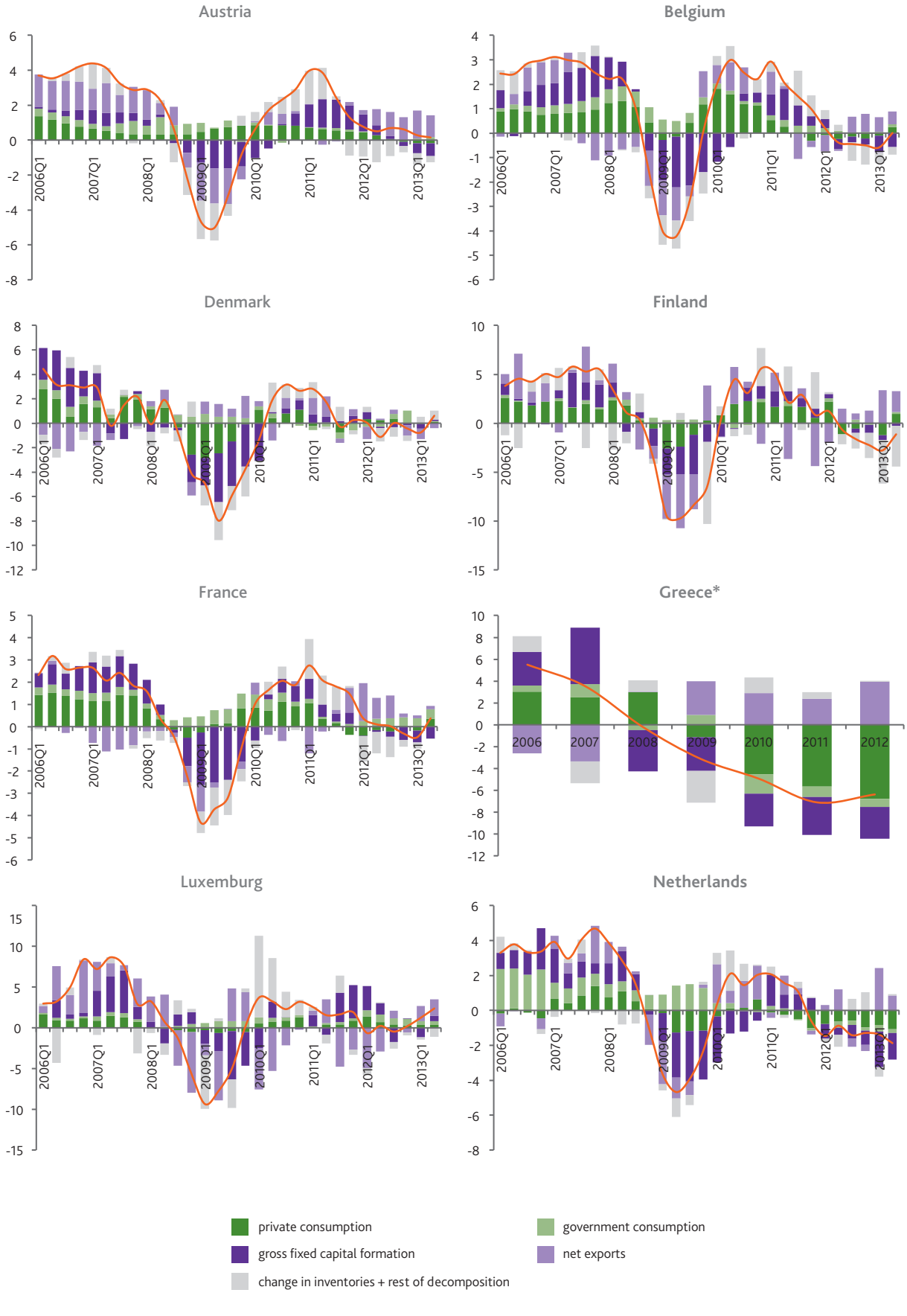
Business cycle fluctuations do not affect all the socio-demographic groups to the same extent. The Great Recession notably worsened the situation of the youth on the labour market, posing new challenges for the labour market policy. Although this problem is most urgent in the countries of southern Europe, it also affects Poland. The labour market policy requires even larger diversification and flexibility than it did so far: to be more oriented on the people neither working nor studying, especially those who delay the moment of entering the labour market or who withdrew from the labour market discouraged by fruitless search for job. First of all, apart from traditional instruments of activation policies, these aspiring to become priority challenges require instruments helping in smooth transition from the system education to the employment, supporting combining work with education, encouraging the long-term unemployed to remain active on labour market. Incentives to work on a part-time basis and the so called job-sharing are examples of such instruments. Secondly, in the face of sectoral diversity of the effects of crisis, illustrated for example by its particularly strong impact on construction (and as a result on young and prime-age males), and considering the fact that the buildup of problems connected with e.g. collapse in a given sector may be diversified regionally, what becomes supremely important is the making of the portfolio of activation actions offered by the public employment services on the local level flexible, so that the activities can respond to the needs of local labour markets.

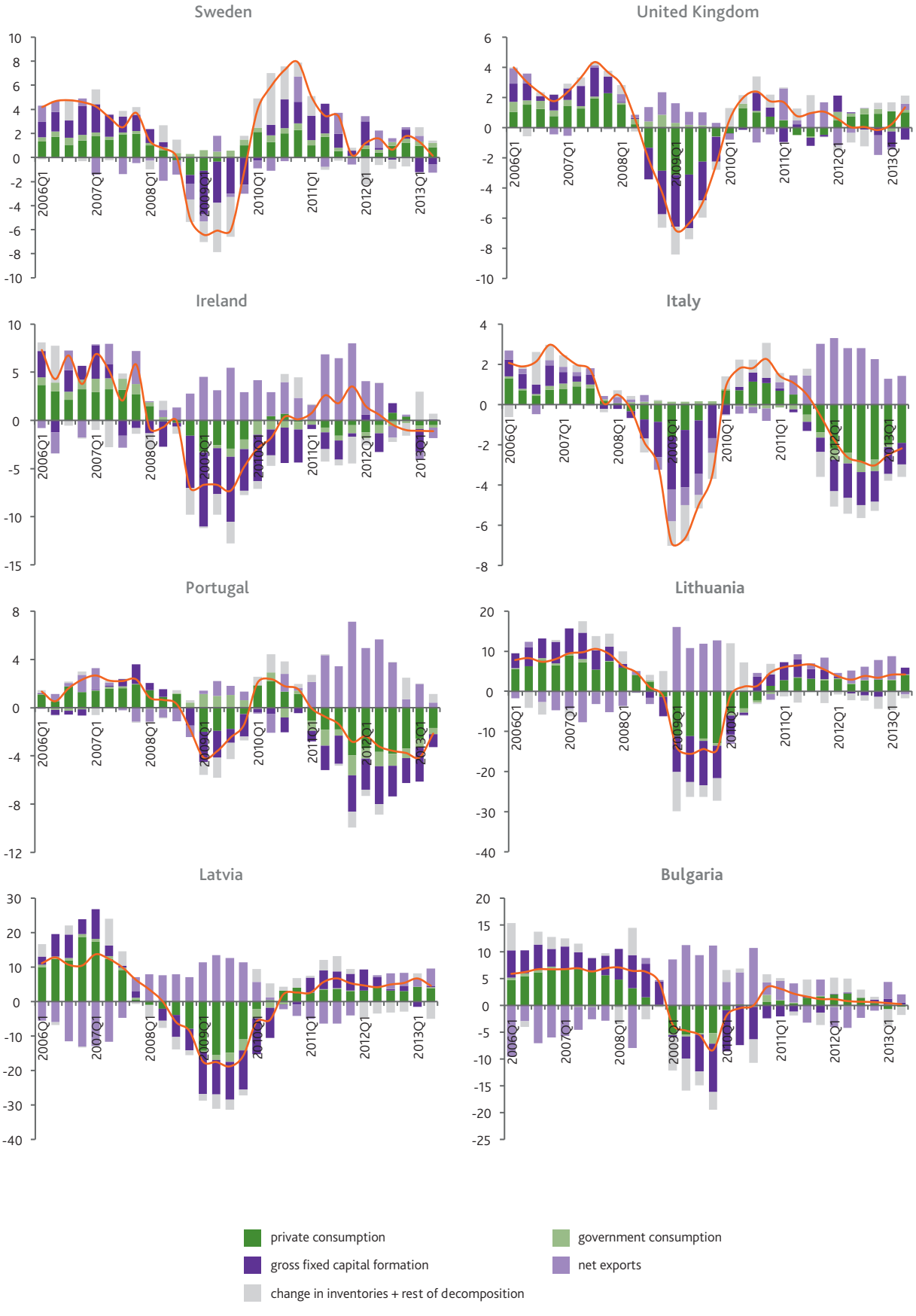
However one cannot forget that the cyclical changes overlap the medium-term processes - both in the structure of economy and in the structure of population. The recent cyclical changes affected young people to a greater extent, but the problem of population ageing becomes more pronounced. Thus, the problem to which socio-demographic groups should the public support be addressed, having at one's disposal limited measures and taking into consideration the cyclical phenomena on one hand and medium-term ones on the other, becomes even more valid. Over the next 50 years the demographic situation shall change significantly – the share of older people in the total population will increase, and the total population will decrease. According to the forecasts of European Commission, the total spending on the healthcare, long-term care and maintaining of the old-age pension system in the EU 27 countries shall increase by ca. 3-5 percentage points of GDP. Poland is the only country where the decrease in spending connected with the old-age pension system over time is expected, which means that the replacement rates shall drop, which will be mitigated by prolonging working lives and retiring later, but only partially. Firstly, it is necessary to prepare long-term plans of changes in the structure of public spending and revenues, taking into consideration the demographic changes. Secondly, a substantial decrease in the old-age pensions will require additional budget for the social-related measures. Thirdly, due to natural delay in the effects of policy potentially influencing the change in the number of births, probably the only possible manner to mitigate the consequences of demographic transition is the immigration policy (policy encouraging the Poles who emigrated to return home will not be enough to balance the decrease in the working age population). The challenges connected with the crisis should not discard this perspective.

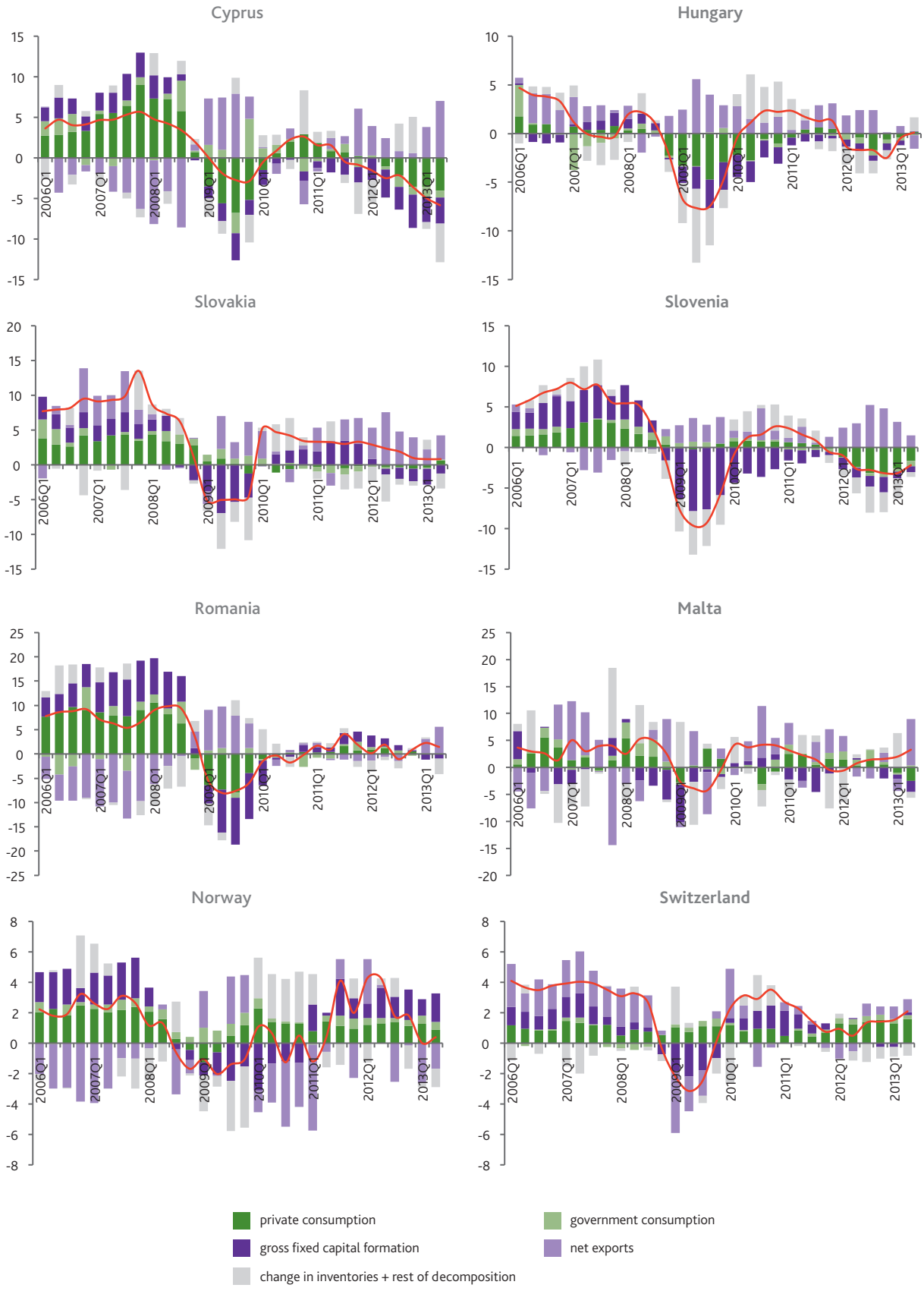
Appendix

Appendix to Part I

Figure I.1. Decomposition of real GDP growth, quarter to corresponding quarter of previous year, 2006-2013




Sweden
United Kingdom
Ireland
Italy
Portugal
Lithuania
Latvia
Bulgaria
2006Q1
2007Q1
2008Q1
2009Q1
2010Q1
2011Q1
2012Q1
2013Q1
private consumption
government consumption
gross fixed capital formation
net exports
change in inventories + rest of decomposition



Note: Because of missing quarterly data since 2011, decomposition for Greece is based on annual frequency data.

Source: Own calculations based on Eurostat data.

Appendix to Part II

Table II.1. Results of multinomial logit model for outflows from long-term unemployment to employment

Explanatory variables	Model 1			Model 2			Model 3			Model 4		
	T	F	M	T	F	M	T	F	M	T	F	M
gender (ref. male):												
female	0,65			0,66			0,67			0,67		
age group (ref. 30-44):												
15-24	1,63	1,59	1,64	1,81	1,78	1,83	1,38	1,31	1,45	1,48	1,39	1,56
25-29	1,30	1,23	1,39	1,32	1,29	1,38	1,17		1,32	1,18		1,31
45-54	0,74	0,66	0,78	0,74	0,67	0,77	0,75	0,69	0,80	0,76	0,70	0,79
55-64	0,52	0,46	0,53	0,52	0,44	0,52	0,54	0,50	0,54	0,55	0,49	0,55
education level (ref. secondary):												
tertiary	1,67	1,70	1,52	1,76	1,80	1,61	1,80	1,75	1,77	1,91	1,89	1,88
primary	0,66	0,60	0,71	0,60	0,53	0,66	0,75	0,68	0,80	0,69	0,61	0,74
region (ref. Central):												
Southern												
Eastern	0,90	0,84		0,88	0,82			0,86			0,85	
North-Western			1,14			1,16			1,19			1,23
South-Western	0,90											
Northern												
class of household's locality (ref. city with 100 thousand people or more)												
town with 20-100 thousand people			1,13									
town with less than 20 thousand people									1,16			
rural area	1,11	0,87	1,38	0,90	0,71		1,15		1,40		0,77	1,13
marital stutus (ref. married)												
not married	0,78		0,65	0,77		0,62	0,76		0,66	0,75		0,63
main source of household income (ref. wage, salary)												
income from agricultural holding	1,90	1,89	1,89				2,36	2,41	2,25			
self-employment	1,25		1,40	1,27	1,19	1,40	1,27	1,22	1,35	1,30	1,24	1,41
pension	0,89		0,89	0,87	0,89	0,88	0,89		0,89	0,87		0,87
other		0,86			0,89				1,14			1,15
household with child under 6 (ref. no):												
yes												
time since starting job search (ref: 12-17 months):												
18-23 months	0,90		0,83	0,91		0,83	0,88		0,81	0,90		0,82
24-36 months	0,81	0,88	0,76	0,80	0,88	0,73	0,82		0,76	0,82		0,74
over 36 months	0,68	0,74	0,65	0,65	0,71	0,61	0,69	0,76	0,65	0,67	0,75	0,63
year of outflow (ref. 1995-1998):												
1999-2004	0,38	0,44	0,34	0,36	0,41	0,32	0,38	0,43	0,32	0,35	0,40	0,31
2005-2008	0,61	0,70	0,53	0,64	0,74	0,57	0,58	0,69	0,50	0,60	0,71	0,52
2009-2012	0,67	0,73	0,62	0,71	0,74	0,69	0,65	0,73	0,59	0,67	0,71	0,63
job experience (ref. yes):												
no	0,73	0,68	0,79	0,70	0,65	0,77						
last employer (ref. public ownership):												
private ownership							1,30	1,41	1,20	1,37	1,50	1,25
job class (ref. non-qualified manual jobs):												
highly-qualified clerical jobs												0,77
medium-qualified clerical jobs							1,21	1,22		1,23	1,25	
qualified manual jobs							1,21	1,18	1,19	1,21	1,18	1,18
economic sector (ref. industry):												
agriculture												
services							1,10	1,13		1,13	1,20	
constant	0,85	0,58	0,84	0,83	0,57	0,84	0,61	0,41	0,64	0,58	0,38	0,63

Note: Numbers presented in the table are odds ratios. Base level of dependent variable is staying in unemployment. Results with statistical significance lower than 5% are not shown in the table. Colour indicates values greater than 1. For odds ratio values greater than 1, outflow probability is greater in given group than in reference group. In case of odds ratio smaller than 1, reference group has higher outflow probability than analyzed group. Column names mean as it follows: model 1 – general model, model 2 – general model without outflows to agriculture, model 3 - model restricted to people who had previous job experience, model 4 - model restricted to people who had previous job experience and without outflows to agriculture, T – total population, F – women only, M – men only. Region names according to GUS.

Source: Own calculations based on Polish labour force survey (BAEL) 1995-2012 (panel data are not available for the period 1998 to 1999).

Table II.2. Results of multinomial logit model for outflows from long-term unemployment to inactivity

Explanatory variables	Model 1			Model 2			Model 3			Model 4		
	T	F	M	T	F	M	T	F	M	T	F	M
gender (ref. male):												
female	1,50			1,51			1,46			1,46		
age group (ref. 30-44):												
15-24												
25-29	0,88		0,72	0,87		0,71			0,74	0,88		0,73
45-54	1,51	1,42	1,71	1,51	1,42	1,71	1,53	1,46	1,66	1,53	1,46	1,66
55-64	3,20	3,34	3,28	3,20	3,35	3,28	3,16	3,36	3,11	3,16	3,37	3,11
education level (ref. secondary):												
tertiary												
primary												
region (ref. Central):												
Southern		1,21			1,21		1,17	1,26		1,17	1,26	
Eastern												
North-Western	1,32	1,35	1,28	1,32	1,35	1,29	1,36	1,35	1,37	1,36	1,35	1,37
South-Western		1,15			1,16		1,11	1,15		1,12	1,16	
Northern	1,20	1,20	1,20	1,20	1,20	1,20	1,22	1,16	1,32	1,22	1,16	1,32
class of household's locality (ref. city with 100 thousand people or more)												
town with 20-100 thousand people												
town with less than 20 thousand people	0,90	0,83		0,90	0,84							
rural area	0,90	0,89	0,89	0,90	0,89	0,89			0,87			0,87
marital stutus (ref. married)												
not married	0,84	0,77		0,84	0,77		0,88	0,81		0,88	0,81	
main source of household income (ref. wage, salary)												
income from agricultural holding												1,54
self-employment	1,17	1,23		1,17	1,23			1,21			1,21	
pension	1,18		1,36	1,18		1,36	1,20		1,34	1,20		1,34
other												
household with child under 6 (ref. no):												
yes	1,12	1,18		1,12	1,18		1,16	1,25		1,16	1,25	
time since starting job search (ref: 12-17 months):												
18-23 months	0,83	0,85	0,81	0,83	0,85	0,81	0,83	0,83	0,83	0,83	0,83	0,83
24-36 months	0,90	0,90		0,90	0,90		0,88	0,89	0,86	0,88	0,89	0,85
over 36 months	0,87	0,84		0,87	0,84		0,86	0,84		0,86	0,84	
year of outflow (ref. 1995-1998):												
1999-2004	0,60	0,67	0,50	0,60	0,67	0,50	0,60	0,67	0,52	0,60	0,67	0,52
2005-2008	0,63	0,70	0,55	0,63	0,70	0,55	0,66	0,73	0,59	0,67	0,73	0,60
2009-2012	0,84		0,72	0,84		0,73			0,80			0,80
job experience (ref. yes):												
no												
last employer (ref. public ownership):												
private ownership							0,83		0,74	0,83		0,73
job class (ref. non-qualified manual jobs):												
highly-qualified clerical jobs							1,25		1,27	1,24	1,25	1,26
medium-qualified clerical jobs									1,24			1,24
qualified manual jobs												
economic sector (ref. industry):												
agriculture												
services									0,86			0,86
constant	0,24	0,35	0,25	0,24	0,35	0,25	0,23		0,27	0,23	0,31	0,26

Note: Numbers presented in the table are odds ratios. Base level of dependent variable is staying in unemployment. Results with statistical significance lower than 5% are not shown in the table. Colour indicates values greater than 1. For odds ratio values greater than 1, outflow probability is greater in given group than in reference group. In case of odds ratio smaller than 1, reference group has higher outflow probability than analyzed group. Column names mean as it follows: model 1 – general model, model 2 – general model without outflows to agriculture, model 3 - model restricted to people who had previous job experience, model 4 - model restricted to people who had previous job experience and without outflows to agriculture, T – total population, F – women only, M – men only. Region names according to GUS.

Source: Own calculations based on Polish labour force survey (BAEL) 1995-2012 (panel data are not available for the period 1998 to 1999).

Notes

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