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Economic and Monetary Affairs

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Austerity and Poverty in the European Union

STUDY for the EMPL Committee



DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

Austerity and Poverty in the European Union

STUDY

Abstract

Europe faces major social challenges, in which fiscal consolidation may have played a role. This Policy Department A study aims to provide the Committee for Employment and Social Affairs with an analysis of the speed and composition of fiscal consolidation strategies. It describes major social developments in Europe, with a focus on poverty, and considers and interprets the links between fiscal consolidation measures and social developments.

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TABLE OF CONTENTS

LIST OF BOXES	5
LIST OF FIGURES	5
LIST OF TABLES	6
EXECUTIVE SUMMARY	7
1. INTRODUCTION	9
2. THE SPEED AND COMPOSITION OF FISCAL CONSOLIDATION IN THE EU	10
2.1. Speed of fiscal adjustment	10
2.2. Composition of fiscal adjustment	15
2.3. Distributional impact of fiscal consolidation in nine countries	24
2.4. Summary	25
3. SOCIAL DEVELOPMENTS IN THE EU	28
3.1. What is poverty and what does the at-risk-of-poverty indicator measure?	28
3.2. Severe material deprivation	31
3.3. Joblessness	33
3.4. Unemployment and NEETs (not in education, employment or training)	34
3.5. Early school leavers	38
3.6. Net job creation and destruction	39
3.7. Inequality: the at-risk-of-poverty indicators	39
3.8. Summary	42
4. CASE STUDY: FISCAL CONSOLIDATION AND SOCIAL DEVELOPMENTS IN GREECE	44
4.1. The Greek welfare system before the crisis	45
4.2. The Greek welfare system and the crisis	46
4.3. Healthcare spending and outcomes	50
4.4. Informal civil society networks	51
4.5. Summary	51
5. FISCAL CONSOLIDATION AND DETERIORATING SOCIAL CONDITIONS: WHAT IS THE RELATIONSHIP?	53
5.1. The difficulty in establishing and interpreting a direct link between austerity and poverty	53
5.2. Co-movements between relevant indicators	54
5.3. Summary	60
6. CONCLUDING REMARKS	61
REFERENCES	63
ANNEX 1: PUBLIC SECTOR INTERVENTIONS TO THE FINANCIAL SYSTEM	66
ANNEX 2: IMPLICIT TAX RATES ON LABOUR, CONSUMPTION AND CAPITAL	67

LIST OF ABBREVIATIONS

BRRD Bank Recovery and Resolution Directive

EU European Union

GDP Gross Domestic Product

IMF International Monetary Fund

SRM Single Resolutions Mechanism

TEU Treaty of the European Union

LIST OF BOXES

Box 1:	How to measure fiscal consolidation?	14
Box 2:	Social indicators	30

LIST OF FIGURES

Figure 1:	Two indicators of discretionary fiscal measures: the cumulative change in structural primary balance and the cumulative fiscal effort from 2006 (% of GDP)	12
Figure 2:	Two measures of discretionary fiscal measures: the cumulative change in structural primary balance and the cumulative fiscal effort from the start of the fiscal consolidation (% of GDP)	13
Figure 3:	Fiscal adjustment vs social expenditures and public sector labour compensation during fiscal consolidations	18
Figure 4:	Breakdown of the change in public sector labour compensation, % change from 2009Q1 to 2013Q2	19
Figure 5:	Hourly public sector wages	20
Figure 6:	Avram et al (2012)'s results – simulated household income-based fiscal consolidation measures as a percentage of household disposable income by income decile/quintile group: change excluding and including VAT increases	25
Figure 7:	The correlation between the Gini-coefficient and the at-risk-of-poverty indicator	29
Figure 8:	At risk of poverty threshold (60 % of median equivalised income), single person, 2012	30
Figure 9:	Severe material deprivation rate, 2007 vs 2012	32
Figure 10:	Severe material deprivation rate, children under 18 years, 2007 vs 2012	33
Figure 11:	Severe material deprivation rate, elderly 65 years or over, 2007 vs 2012	33
Figure 12:	People aged 18-59 living in jobless households, 2007 vs 2012	34
Figure 13:	Children aged 0-17 living in jobless households, 2007 vs 2012	34
Figure 14:	Unemployment rate: short-term and long term (% of active labour force), 2007 vs 2013Q3	35
Figure 15:	Youth-unemployment rate, in % of active labour force (15-24 years olds)	36
Figure 16:	Elderly people unemployment rate, in % of labour force (50-74 years old)	36
Figure 17:	Youth employment rates, age group 15-24	37
Figure 18:	Young people aged 15 - 24 not in employment and not in any education and training (NEET), % of population in the age cohort, 2007 vs. 2012	38
Figure 19:	Early leavers from education and training in percentage of total population, 2007 vs. 2012	38
Figure 20:	Net job creation (% change in employment from 2008 to 2013)	39
Figure 21:	At-risk-of-poverty-rate, 2008 vs 2012	40
Figure 22:	At-risk-of-poverty-rate anchored in 2008, 2008 vs 2012	40
Figure 23:	At-risk-of-poverty rate anchored in 2008, children aged under 18, 2008 vs 2012	41

Figure 24:	At-risk-of-poverty rate anchored in 2008, elderly 65 years or over, 2008 vs 2012	41
Figure 25:	People at risk of poverty or social exclusion (AROPE), % of total population, 2007 vs 2012	42
Figure 26:	GDP outlooks for Greece, changing IMF forecasts (2007=100)	44
Figure 27:	Indicators of social hardship in Greece	45
Figure 28:	Composition of Greek government expenditure (EUR millions)	47
Figure 29:	Expenditure on social benefits and transfers (EUR per inhabitant)	47
Figure 30:	General Government expenditure, changes and composition (2009 – 2012) in Greece	48
Figure 31:	Pharmacists per 100 000 inhabitants, 2011	49
Figure 32:	Infant mortality rate (per 1000 live births)	51
Figure 33:	Discretionary Fiscal Effort and severe material deprivation	55
Figure 34:	Discretionary Fiscal Effort and the unemployment rate	56
Figure 35:	Discretionary Fiscal Effort and GDP growth	57
Figure 36:	GDP growth and unemployment rate	58
Figure 37:	Long-term unemployment and severe material deprivation	59

LIST OF TABLES

Table 1:	Main public expenditure categories net of bank recapitalisation by the public sector, %1. change from 2009 to 2013 (in current prices and constant exchange rates)	17
Table 2:	Marginal wage reduction schedule in the Greek public sector, effective 1 August 2012	21
Table 3:	General government expenditures by function, % change from 2009 to 2012 (in current prices and constant exchange rates)	22
Table 4:	Components of social protection expenditures, cumulative % change from 2009 to 2012 (in current prices and constant exchange rates)	23
Table 5:	Public sector interventions to the financial system, 2008-2012	66
Table 6:	Implicit tax rates on labour, consumption and capital (%)	67

EXECUTIVE SUMMARY

Background

Europe faces major social challenges: unemployment is high, and European citizens perceive that poverty has increased. One reason for increased social hardship is fiscal consolidation. The high budget deficits and rising public debt levels that followed the global and euro-area financial and economic crises led most EU Member States to embark on a series of fiscal retrenchment strategies to stabilise their public finances.

The purpose of this study is to analyse the links between fiscal consolidation and poverty. The analysis is complicated by the difficulty of defining poverty and the complexities in isolating the impact of fiscal consolidation from other factors influencing poverty. Also, the reasons why fiscal consolidation was needed in the first place should be understood well, as should the choices made about the speed and composition of fiscal adjustment.

Main findings

- too little is known about poverty, because the most widely used indicator, the at-risk-of-poverty rate, is rather a measure of inequality, than a measure of poverty;
- a more useful indicator for measuring poverty is the severe material deprivation rate, which has increased somewhat in the EU from 9.1 % in 2007 to 9.9 % in 2012. While this increase is not that large, a level of almost 10 % is against the objective of promoting the well-being of EU citizens postulated in the EU Treaty;
- unemployment is a major social problem in most of Europe, which can also have substantial negative impacts on medium- and long-term economic growth;
- within Europe, the degree of polarisation between the South and the North in terms of social indicators has widened, while the East-West gap, which was generally wide before the crisis, is narrowing by some indicators but widening by others;
- there is an increasing generational divide in Europe, as younger generations have suffered more than the elderly: the severe material deprivation rate has increased from 10.1 % in 2007 to 11.7 % in 2012 for children while the same rate has declined from 8.6 % in 2007 to 7.5 % in 2012 for the elderly; 11.1 % of children lived in households in which their parents no longer work in 2012; the youth unemployment rate (15-25 age category) has increased to 23.5 % by 2013 while elderly unemployment (50-75 age group) recorded a smaller increase to 7.4 %;
- the speed of fiscal consolidation at the EU level after 2009 was very fast, as the discretionary fiscal effort amounted to almost 5 % of GDP from 2009 to 2013 in the EU as a whole. Since cyclical situation of the European economy weakened after 2010, fiscal consolidation at the EU level was inconsistent with the economic cycle. Thereby, fiscal consolidation exaggerated the output fall and increased unemployment;
- the hardest-hit countries of the EU had no choice but to consolidate their public finances, because their budget deficits exceeded 10 % of GDP and their public debts were well above 100 % of GDP, or approached this ratio at a rapid pace. Fiscal adjustments in these countries were especially harsh;
- public support to the financial sector amounted to EUR 592 billion (4.6 % of GDP) during 2008-2012 in the EU in the form of bank recapitalisation and asset relief and an additional EUR 906 billion (7.7 % of GDP) was provided in the form of guarantees and liquidity measures. If such support had been implemented in a less costly way

for taxpayers, it would have provided more fiscal space for governments for other purposes;

- social expenditure (even if we exclude unemployment benefits which are largely determined by unemployment) has increased more or been cut by less than other current expenditure, including in countries that implemented the most severe public expenditure cuts, which might have mitigated the negative social impacts of the crisis;
- changes in social expenditure are unrelated to the size of fiscal consolidation, suggesting that governments tried to preserve social spending;
- within social spending, the elderly were favoured over families and children, which might have negatively impacted poverty, as it is more widespread among children than among the elderly;
- public sector wages on average are much higher than private sector wages and public sector wage cuts were implemented in a progressive way (more cuts for high-income earners), thereby, public sector wage cuts might have not impacted the poorest segment of society;
- while wage cuts (both in the public and private sectors) adversely impact living standards, lower wages can have a positive impact on employment and also on economic growth. Higher employment and faster economic growth has the potential to benefit the poor;
- labour and consumption tax rates were reduced where these rates were high before the crisis and increased where these rates were initially low. Since labour taxes are typically progressive (with the main exception of several central and eastern European member states), while consumption taxes typically have regressive effects (since the poorest segments of the society spend a larger fraction of their income on consumption) a move from the former to the latter, although helping restore price competitiveness, might have negatively impacted the poor;
- during the period from 2006 to the end of fiscal expansion there was no significant pairwise relationship between fiscal adjustment and key indicators that can impact poverty adversely: severe material deprivation rate, unemployment rate and GDP growth;
- but during the period from the start of fiscal consolidation up to 2012/13 fiscal consolidation was adversely related to the severe material deprivation rate, the unemployment rate and GDP growth;
- drops in GDP and increases in unemployment are also closely associated, a relationship that holds both before and after the start of fiscal consolidation;
- fiscal consolidation episodes typically widen income inequality, but progressive taxation, targeted social benefits and subsidies and structural reforms can alleviate the adverse distributional impacts of fiscal consolidation.

1. INTRODUCTION

Article 3 of the Treaty on European Union (TEU) lays down the main objectives of the EU. These include, *inter alia*, promoting the well-being of its peoples, a highly competitive social market economy, aiming at full employment and social progress, social cohesion, social justice and combating social exclusion. In the wake of the global and euro-area financial and economic crisis, soaring unemployment in most EU countries and the weak economic outlook raises the spectre of poverty and social exclusion in a number of Member States, and threatens grave polarisation within the EU.

According to Eurobarometer (2012), 80 % of respondents think that poverty has increased in their own country over the past 12 months, while 67 % say it has increased in the EU and 63 % say it has increased in the area where they live¹. 18 % of EU respondents said their household had run out of money to pay for ordinary bills, food and other daily consumer items at some point during the last 12 months. The share of such respondents was especially high in Greece (45 %), Latvia (42 %), Lithuania (37 %), Bulgaria (36 %), Romania (36 %) and Hungary (34 %). The survey also suggests a growing sense of hopelessness and insecurity in a number of EU countries.

One possible reason for this increasing social hardship might be fiscal consolidation: the soaring budget deficits and public debt levels that followed on from the global and euro-area financial and economic crises led EU Member States to embark on a series of fiscal retrenchment strategies to stabilise their public finances. Fiscal consolidation, which often consists of a combination of lay-offs in the public sector, cuts in various headline expenditures and increases in taxes and other contributions, can have a direct negative impact on the poorest segments of society². This can be particularly the case if the enacted fiscal measures weaken public social protection systems, or laid-off public servants fall directly into poverty. Indirectly, fiscal consolidation also holds back economic activity, which (at least in the short-term) can negatively influence employment and, as such, adversely impact household incomes.

However, there are major complications in establishing a link between fiscal consolidation and poverty. These relate to the difficulty of defining poverty and the complexities in isolating the impact of fiscal consolidation from other factors influencing unemployment and poverty. When a relationship between fiscal consolidation and increased poverty is established, it is still not straightforward to draw conclusions for policy. The reasons why fiscal consolidation was needed in the first place should be also well understood, as should the choices made about the speed and composition of fiscal adjustment.

Against this background, Section 2 in this study looks at the fiscal consolidation strategies of EU Member States, including their speed and composition, in order to assess their potential impact on the poorest segments of society. This is followed by an analysis of those social indicators that can have a bearing on poverty in Section 3, including the three key indicators adopted by the Employment, Social Policy, Health and Consumer Affairs Council (EPSCO) in the context of the Europe 2020 Strategy. Special focus is devoted to social developments impacting children and elderly people. Since Greece has implemented the largest fiscal consolidation in Europe (as a % of GDP) and social indicators there deteriorated remarkably, in Section 4 we take a closer look at the developments in Greece. Section 5 assesses the possible link between fiscal consolidation and social indicators and Section 6 offers some concluding remarks.

¹ Eurobarometer (2012) is the sixth and most recent wave of monitoring public perception on the social impact of the crisis. Fieldwork for this survey was conducted in December 2011.

² We define 'poverty' at the beginning of Section 3.

2. THE SPEED AND COMPOSITION OF FISCAL CONSOLIDATION IN THE EU

There are certain budget consolidation measures which can have a direct impact on the poorest segments of society. Public sector lay-offs lead to unemployment if there are no job opportunities in the private sector. Cuts in public sector wages reduce the disposable income of public servants, which can deepen poverty, if some public servants already belonged to the poorest segment of society. Social spending cuts can reduce the benefits people receive and limit the ability of social protection systems to support the poor. An increase in consumption taxes, such as the value added tax, has more adverse impacts on poorer people, because they spend a larger fraction of their income on consumption than the people at the upper end of the income distribution.

Beyond this, other fiscal consolidation measures can also have an indirect impact on poverty. Various spending cuts and revenue increases depress the economy at least in the short- and medium-terms³. Recent research concluded that fiscal consolidation has a more significant negative impact on the economy during a recession than during expansions, i.e. the so-called fiscal multiplier is higher; see for example literature surveys and own estimates in Baum *et al* (2012) and Auerbach and Gorodnichenko (2012). But it is also established, as we will demonstrate in Section 5, that economic contractions are strongly associated with a fall in employment in almost all EU countries, and therefore fiscal consolidation can adversely impact social conditions, including poverty.

Consequently, beyond fiscal measures that can potentially directly impact poverty, the overall fiscal consolidation strategies of EU Member States should also be assessed. Policy choices, such as the actual speed and composition of fiscal adjustment, can have major importance.

2.1. Speed of fiscal adjustment

There has been an extensive debate on the speed of fiscal consolidation, which was also referred to as the 'austerity debate'. We do not go deeply into this debate, but highlight a few key points.

First, fiscal consolidation needs – from an economic perspective – were different in different EU countries. Fiscal consolidation was clearly necessary, at least to some extent, in those Member States in which budget deficits had increased to very high levels at a time when there was a supposedly permanent fall in output resulting from the bursting of unsustainable pre-crisis bubbles. Greece, for example, had a 16 % of GDP budget deficit in 2009, when public debt was 130 % of GDP. Under such circumstances, there was no alternative to fiscal consolidation: the question was the speed and composition. The speed was probably too fast and Greece quickly entered a vicious circle with falling output, lower tax revenues and larger budget deficits, accompanied by the consequent increased consolidation needs, which exaggerated the output fall. Entering such a vicious circle was a major flaw of the Greek financial assistance programme (Sapir *et al*, 2014), though the public finance trajectory had to be rectified.

Second, what was not clear from an economic perspective was the need for frontloaded fiscal consolidation in most of Europe.

³ Using the examples of fiscal adjustment in Denmark and Ireland in the 1980s, in their seminal paper Giavazzi and Pagano (1990) introduced the notion of 'expansionary fiscal consolidations', whereby fiscal consolidation could increase output. Guajardo *et al* (2011) challenged this notion and found, using a better indicator of fiscal adjustment and an empirical strategy applied to a larger set of countries that fiscal consolidation has contractionary effects on private domestic demand and GDP.

Figure 1 shows that there was sizeable consolidation in the EU after 2009, despite the worsening growth and employment conditions (see Box 1 for the definitions of the indicators analysed), and therefore one can conclude that fiscal consolidation was frontloaded. At the aggregate EU level, as in the euro area, budget deficits and public debts did not warrant a harsh consolidation strategy at a time when the cyclical position of the EU economy had deteriorated considerably. As the literature survey of academic research on fiscal stabilisation presented in Box 1 of Darvas and Vihriälä (2013) demonstrates, such a consolidation strategy is not justified by macroeconomic theory. Instead, automatic stabilisers⁴ should be allowed to run in a cyclical downturn (in which case the structural deficit remains stable and the actual deficit worsens), perhaps even complemented by a fiscal stimulus (when the structural deficit also worsens)⁵.

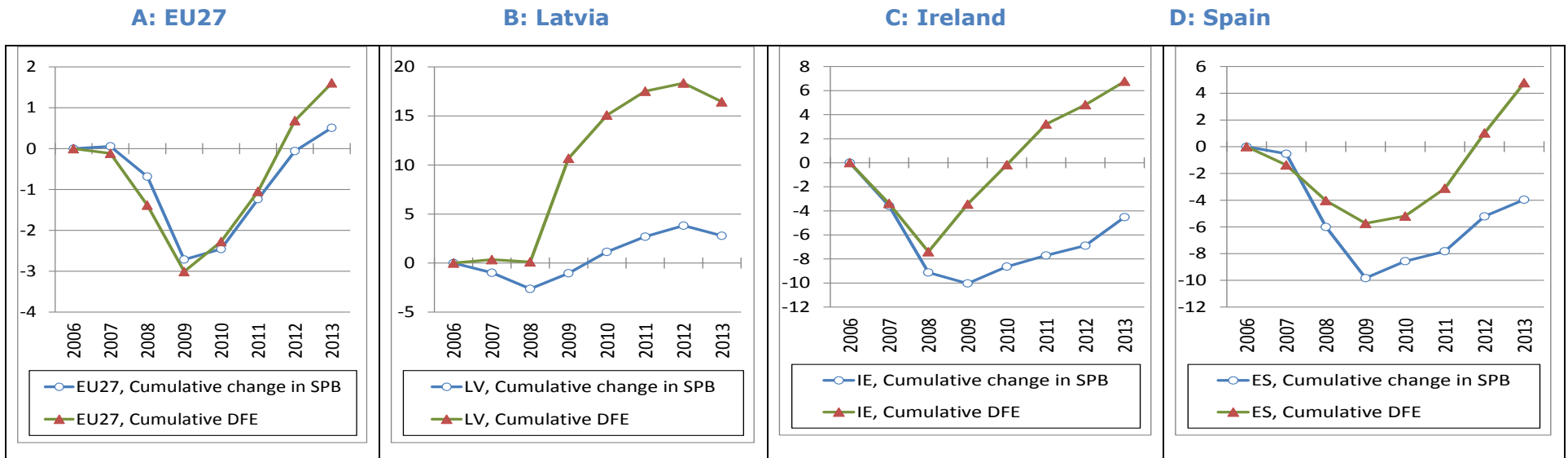
Among the then 27 EU countries, only Sweden adopted a fiscal stimulus in each year between 2007 and 2013, apart from 2011, when a 0.2 % of GDP consolidation was implemented (using the Discretionary Fiscal Effort indicator; see Box 1). In cumulative terms, fiscal easing amounted to 2.5 % of GDP in Sweden. All other EU countries adopted fiscal consolidation measures.

Figure 2 shows the total fiscal effort, using both indicators, up to 2013, from the year in which countries started to consolidate their public finances (which varies). The largest fiscal effort was made by Greece (23 % of GDP), followed by Latvia (16 %), Ireland (14 %), Romania (13 %), Cyprus (13 %), Spain (11 %) and Lithuania (10 %). Fiscal efforts were in the range of 5-10 % of GDP in Estonia, Portugal, Slovakia, Bulgaria, Slovenia, Czech Republic, Poland, Italy, the United Kingdom and the Netherlands. The average total fiscal effort in the euro area was 4.7 % of DGP and 4.6 % of GDP in the EU 27.

⁴ Automatic stabilisers, which operate through both the revenues and expenditures of the general government, help to dampen the recession without any explicit intervention by the government. For example, in a recession tax revenues decline and, since some taxes like the personal income tax are typically progressive, the effective tax rates households pay declines, *ceteris paribus*. In a recession, unemployment increases, which leads to increased unemployment payments by the government.

⁵ See Darvas and Vihriälä (2013) for an analysis of the overall fiscal stance of the euro area.

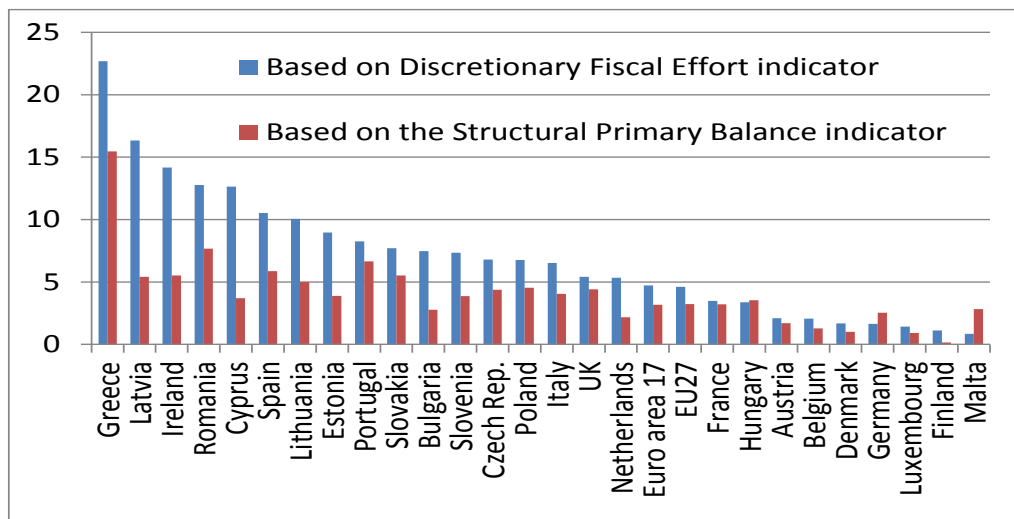
Figure 1: Two indicators of discretionary fiscal measures: the cumulative change in structural primary balance and the cumulative fiscal effort from 2006 (% of GDP)



Source: Bruegel calculation using the February 2014 version of AMECO and European Commission (2013).

Note: The blue line shows the cumulative change in structural primary balance (SPB), as revealed by AMECO. The green line with the red symbols shows the cumulative discretionary fiscal effort (DFE) as implied by European Commission (2013). We calculated the EU27 SPB as the weighted average of the euro area 17 and the 10 other EU countries, for which we derived the weights from the average GDP during 2000-2013. We calculated the DFE for the EU27 the same way, after calculating the euro area 17 DFE for 2012-13 by weighting the values of the first 17 members of the euro area, because DFE for the euro area as whole was available in European Commission only for 2007-2011. A source of non-comparability between the two lines is that we use the February 2014 version of AMECO, while European Commission (2013) calculated DFE using an earlier vintage of the structural balance.

Figure 2: Two measures of discretionary fiscal measures: the cumulative change in structural primary balance and the cumulative fiscal effort from the start of the fiscal consolidation (% of GDP)



Source: See Figure 1.

Note: See Figure 1. Croatia is not included due to lack of DFE data, while Sweden is left out because there was no fiscal consolidation in Sweden: both indicators suggest that there was a gradual fiscal expansion. There were missing values in the DFE indicators for Greece (2007-2010), Hungary (2007-2009) and Luxembourg (2007-2011): these values are approximated with the change in SPB.

Third, the EU's fiscal strategy was based on the conviction that fiscal austerity was needed to restore the trust of financial markets, to limit the increase in public debt levels, and thereby to lay the foundations for sustainable growth. Undoubtedly, low public debt levels come with great benefits. However, premature⁶ fiscal consolidation at the EU level has significant side effects, and the need for fiscal consolidation at the country level varies.

The public-debt-to-GDP ratio is indeed high and rising in euro-area peripheral countries, and therefore there was no alternative to fiscal consolidation (the only question was its pace). However, debt levels are lower in most other EU countries, such as Germany and the Netherlands, and no one questions their sustainability, though both countries embarked on fiscal adjustment. Germany has even outperformed both the national and European fiscal targets (Barbiero and Darvas, 2014). These two countries have strong policy regimes and more expansive fiscal policies better aligned to their negative output gaps, and the needs of the euro area would have not led to concerns about debt sustainability. As a comparison, the US and Japan continue to borrow at low interest rates despite their much higher public debts and deficits. Therefore, the issue is not a return to 'failed old debt-making policies' in highly indebted countries, but to ensure fiscal stabilisation at the EU level as long as private demand is weak.

Buti and Carnot (2013) challenge some criticisms of the EU's fiscal strategy and essentially conclude that fiscal consolidation was necessary in southern Europe, a conclusion that we agree with. But they are silent on developments in the aggregate fiscal stance of the euro area, which was strongly influenced by the major fiscal consolidation in Germany and other euro-area member states with strong fiscal fundamentals during the past few years. They only note that the fiscal stance of Germany is now broadly neutral: again, this assessment

⁶ We call fiscal consolidation premature when it is conducted in an economy in which the cyclical conditions deteriorate, provided that markets do not give a clear signal that public debt has increased to such a high level which threatens public debt sustainability.

does not consider the implication of the German fiscal stance for the aggregate euro-area fiscal stance at a time when the cyclical position of the euro area is very weak.

The premature aggregate EU and euro-area fiscal consolidation is hindering the deleveraging of the private sector and making it more difficult for southern euro-area member states to implement their necessary fiscal consolidations⁷. It is also pushing inflation close to zero and making more difficult the reduction in intra-euro area current-account imbalances and pushing the euro area and the EU into a strong current account surplus. This last effect can worsen global imbalances⁸. According to the May 2014 forecast of the European Commission, the EU's current account balance will reach a surplus of 1.8 % of GDP in 2014, after showing a small deficit (-0.1 % on average) in 2000-2007. In the euro area, the current account surplus is expected to reach 2.9 % of GDP in 2014 after a small surplus of 0.4 % during 2000-2007. Consumer price inflation is expected to decelerate to 1.0 % in the EU and to 0.8 % in the euro area in 2014.

Box 1: How to measure fiscal consolidation?

The most standard and accepted measure of fiscal consolidation is the change in the structural primary balance (SPB), which is an estimated indicator and aims to measure the primary balance if the economy was performing at its potential level (because e.g. in a downturn, tax revenues are lower and unemployment benefits are higher than usual) and if no temporary fiscal measures were implemented (e.g. no bank recapitalisation). Some authors use the change in the Cyclically Adjusted Budget Balance (CAB), which is inferior to SPB, since it includes one-time measures and also includes interest payments (which can increase as public debt explodes or interest rates rise, but such increase in interest expenditures should not be regarded as a discretionary fiscal stimulus). SPB/CAB estimates are easily available from the Commission's AMECO database for EU countries, even though SPB is not directly reported, it can be calculated by modifying the cyclically adjusted primary balance with the difference between the structural overall balance and the cyclically adjusted overall balance.

SPB/CAB estimates have shortcomings that are mainly the consequences of the difficulty of estimating the potential GDP (a non-observable variable that is subject to major estimation revisions) and the difficulties in measuring the impact of the output gap on fiscal revenues and expenditures (see Cohen-Setton 2013, Darvas 2013, European Commission 2013a,b). As a consequence, European Commission (2013a) concludes that the CAB methodology tends to *"yield a more optimistic view of discretionary fiscal policy in booms, while it tends to underestimate fiscal effort in recessions"*. Also, even though the CAB should properly incorporate the cyclical factors in various spending and revenue items, European Commission, 2013 concludes that *this is in fact not estimated correctly, because there are a series of "endogenous factors that are not fully corrected by the implemented cyclical adjustment"*. These include windfall/shortfall in revenues or expenditures incurred through automatic cycle stabilizers (unemployment benefits), price fluctuations in the asset or housing markets, and change in consumption patterns that affect tax revenues. Also, one-off and temporary measures are included in CAB, though they are not included in SPB.

⁷ In an elegant model, Merler and Piani-Ferry (2012) demonstrated that in a monetary union which consists of a competitive, moderately leveraged North and an uncompetitive, over-indebted South, South needs to tighten more than the North. Consequently, when fiscal consolidation is too fast in the North, it has to be even faster in the South, which depresses output and inflation more in the South, making it more difficult to progress with debt deleveraging.

⁸ Darvas (2010) warned that premature fiscal consolidation at the euro-area level would likely lead to these side effects.

A different methodology for measuring fiscal consolidation is the so called narrative approach, developed by Devries et al (2011). This methodology measures the fiscal effort “as the sum of the value that government authorities have attributed to the measures in their budget at the time of adoption” (European Commission, 2013). This method also entails its own weaknesses; the absence of a clear counterfactual is probably the most crucial one, i.e. what would have happened in the absence of government action. It is also not easily replicable and comparable across-countries, as not all governments have the same degree of transparency that would allow calculating comparable fiscal efforts through this approach. Aging population also affects the narrative approach, as it determines the health and pension related expenditures trend (non-discretionary), while this is fully taken into account in the CAB methodology, since it is linked to the potential GDP. A practical problem is that the estimates from this methodology are currently available up to 2009 and therefore they cannot be used to assess fiscal consolidation during 2010-13.

To overcome these pitfalls, the European Commission developed an alternative measure of fiscal consolidation called Discretionary Fiscal Effort (DFE) that combines the top-down approach of the Cyclically-adjusted balances on the expenditures side with the narrative or bottom-up approach on the revenue side while at the same time correcting for the one-offs effects and other temporary measures. The reasons for this choice are the following: “while on the expenditure side there are good reasons to believe that the CAB provides an overall correct benchmark to gauge discretionary government policy, on the revenue side the presence of underlying movements of tax bases imperfectly correlated with GDP plead for complementing the traditional CAB-based measure with a measure based on the narrative approach.” (European Commission, 2013).

Thus, the DFE is defined in the equation below. It comprises all nominal revenue measures N_t^R -bottom-up- less the difference of the adjusted expenditure aggregate ΔE_t (total expenditures minus non-discretionary unemployment expenditures and interest payments) and the previous period adjusted expenditure aggregate E_{t-1} multiplied by pot (one plus the medium term nominal potential. growth rate) -top-down- over nominal GDP.

2.2. Composition of fiscal adjustment

Beyond the speed of fiscal consolidation, its composition is also crucial for a number of reasons, including its possible impact on poverty.

We start by reporting data on government support for the financial sector, because large-scale support to the financial sector drains the resources of the government and could trigger or reinforce fiscal consolidation efforts. This in turn depresses the economy and can negatively impact the poor. Table 5 in the Appendix shows that in the EU as a whole, and in a number of EU countries, governments have spent significant amounts of money to shore up the financial system. Recapitalisation measures and asset relief interventions amounted to almost EUR 600 billion in the EU from 2008-12, which is equivalent to 4.6 % of EU GDP. In addition, governments provided various guarantees and liquidity support measures, which amounted to EUR 906 billion (7.7 % of GDP) in 2009, of which EUR 535 billion (4.1 % of GDP) was still outstanding in 2012.

Financial-sector support was very high in Ireland, Greece, Belgium, Cyprus and Spain. However, in eight EU countries (Bulgaria, Czech Republic, Estonia, Lithuania, Malta, Poland, Romania and Slovakia), no support was provided, while support was tiny in Finland and small in Hungary, Sweden and Italy. In the central and eastern EU members, foreign banks dominate domestic banking systems. The foreign parent banks supported their subsidiaries

and branches established in other countries and therefore there was no need for support from the governments of host countries⁹.

Could support for the financial sector have been implemented in ways that were less costly for the taxpayer? At the height of the crisis, public support was motivated by financial stability concerns. However, by analysing eight bank restructurings between 2008 and 2013 in different countries¹⁰, Dübel (2013) concluded that in all cases a significant potential for creditor participation was wasted, to the detriment of taxpayers, even if there was more emphasis on the depth of creditor participation with more recent restructurings. These eight cases underline that even given the financial stability motive of financial-sector support, bank restructuring could and should have been implemented in a less costly way for taxpayers, which would have provided more fiscal space for governments for other purposes¹¹.

Excluding public sector bank recapitalisation, Table 1 looks at the changes in the main public expenditure aggregates from 2009 to 2013. Since we report a number of expenditure categories, showing data for all EU countries would make the table difficult to read. We therefore grouped EU countries: EU countries that were members of the EU before 2004 (a group we call EU15), have many different characteristics relative to the member states that joined the EU during the last decade (a group we call CEE13). In turn, we split the EU15 aggregate into three categories: the three countries that relied on full macroeconomic financial assistance programmes (Greece, Ireland and Portugal); Italy and Spain, two countries which also faced major market pressure; and the remaining 10 other EU15 countries. We split CEE13 into two groups: the three Baltic countries that faced double-digit economic contraction and major social hardship, and the remaining 10 countries. Since the crisis and fiscal consolidation started earlier in the Baltics than in other EU countries, the sample period is 2008-13 for the Baltics.

Table 1 shows that for EU28 and all EU country groups, social payments increased more than other primary expenditures, or fell less than other primary expenditures in the three euro-area programme countries. While the aggregate social payment amounts are in themselves not informative on the effectiveness of social protection, and inflation has eroded the real value of social expenditures (see the last line in Table 1), this development suggests that governments might have tried to cushion the negative impact of the crisis on society. We will elaborate on this issue in more detail later and will find that even if we exclude unemployment benefit payments (which are quasi-automatic and reflect the increases in the number of unemployed people), other social expenditures were also preserved relative to non-social expenditure categories.

⁹ It was certainly helpful for public finances that foreign bank ownership saved governments in host countries from supporting banks resident in their country. At the same time, foreign banks decreased their activities in host countries, which can have adverse effects. See Figure 1 in Darvas and Wolff (2013) for the share of EU-owned subsidiaries in host country banking systems and Figure 2 of the same paper for change in foreign banks' exposure to the domestic economy.

¹⁰ Ireland: Anglo Irish Bank (2009), Germany: Hypo Real Estate (2009), Denmark: Amagerbanken (2010, 2008), Spain: Bankia/BFA (2012, 2010/11), France/Belgium: Dexia (2012, 2008), Netherlands: SNS Reaal (2013), Cyprus: Laiki Bank (2013, 2012), Greece: Alpha Bank (2013).

¹¹ The large public supports were the main reasons for a more recent shift in policies, embodied in proposals for the Bank Recovery and Resolution Directive (BRRD) and the Single Resolution Mechanisms (SRM), which are negotiated between the Council and the European Parliament at the time of writing this Study. On the BRRD, see http://ec.europa.eu/internal_market/bank/crisis_management/index_en.htm, while on the SRM see http://ec.europa.eu/internal_market/finances/banking-union/index_en.htm.

Table 1: Main public expenditure categories net of bank recapitalisation by the public sector, %1. change from 2009 to 2013 (in current prices and constant exchange rates)

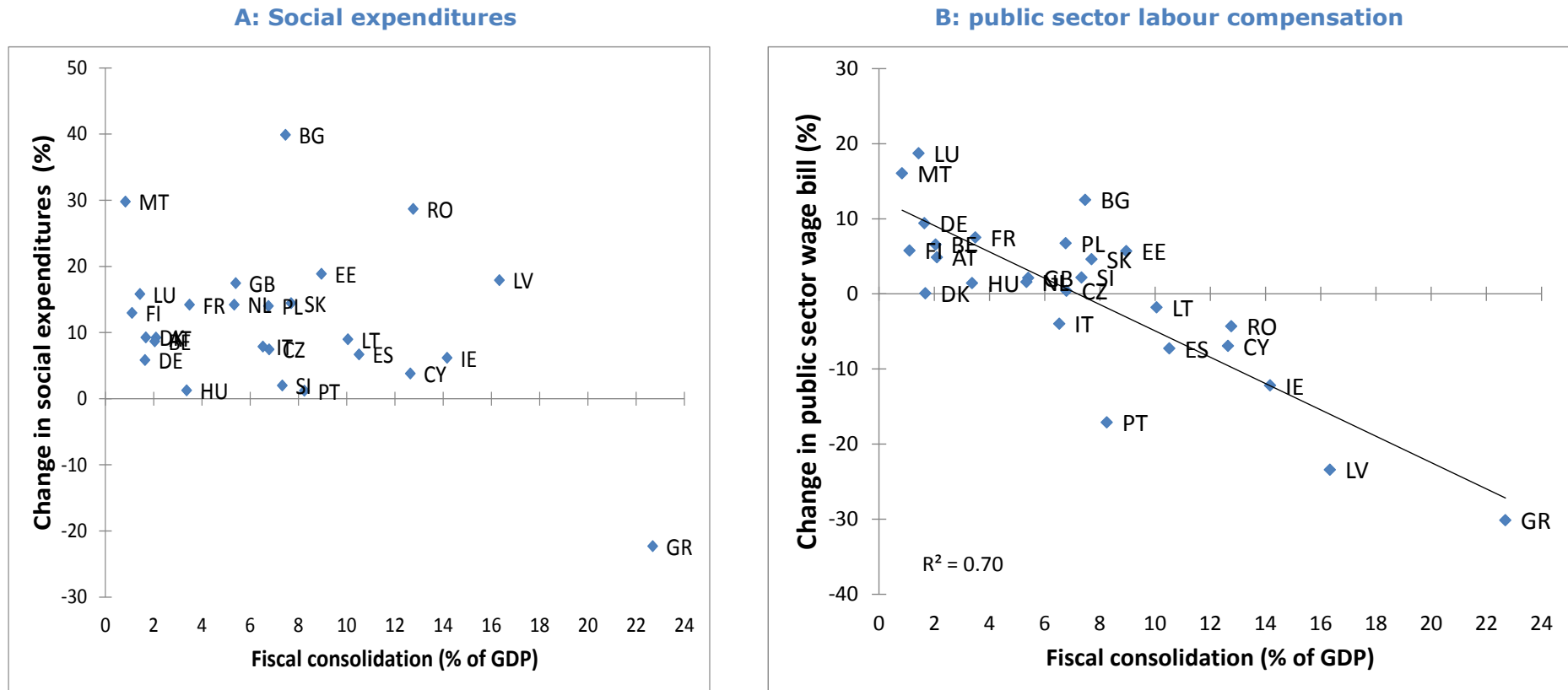
	Share	% change in current prices, 2009-2013					
	EU28	EU28	Greece, Ireland, Portugal	Italy, Spain	10 other EU15	Baltics 3	10 other CEE
Total expenditure	100	6	-15	-2	9	1	9
Interest expenditure	5	20	10	31	15	167	25
Primary expenditure	95	5	-17	-4	9	-1	8
Social expenditures	43	10	-8	8	12	14	13
Compensation of employees	22	2	-21	-6	7	-8	3
Other current primary expenditure	22	3	-24	-9	7	-6	12
Capital expenditure	8	-13	-31	-41	-1	-13	-8
Memorandum: inflation		10	6	9	9	13	12

Source: Bruegel using AMECO.

Note: For the Baltics the 2008-2013 period is shown. EU15 refers to member states before 2004. 10 other CEE refers to 10 member states that joined the EU during the last decade, not including the Baltics. The aggregates involving countries with different currencies were calculated using constant exchange rates (the average of 2009-2013) and therefore exchange rate fluctuations do not affect the values shown. Social expenditures in the sum of 'Social benefits other than social transfers in kind: general government' and 'Social transfers in kind supplied to households via market producers: general government'. Capital expenditure is the sum of gross fixed capital formation and capital transfers (see Appendix 1 for the definitions). Capital transfers also include public sector support to bank recapitalisation. Since we do not have detailed data on bank support, for countries in which the 2009 value of capital transfers was more than 10 % larger than in 2006 and 2007, we used the average of 2006-07 capital transfers for 2009, instead of the 2009 actual capital transfers. We made such a correction for: Belgium, Cyprus, Finland, Greece, Ireland, Latvia, Malta, Netherlands, Poland, Portugal, Slovakia, United Kingdom and United States. We also corrected the 2013 capital transfers data for Slovenia (unusually high transfer), Slovakia (negative transfer), Netherlands (unusually low transfer) and Greece (unusually high transfer): for Slovenia, Slovakia and the Netherlands we used 2012 data, while for Greece we used 2014 forecast (because 2012 data was also unusually high due to recapitalisation).

In Figure 3, we assess the association between the size of fiscal consolidation and the changes in social expenditure and public sector wage bill. Panel A of Figure 3 clearly indicates that there is no systematic relationship between fiscal adjustments and social expenditures; that is, countries that implemented larger fiscal adjustments did not cut social expenditures more. This is a benign development. The only significant exception is Greece. However, there is a strong negative relationship between the public sector wage bill and the size of fiscal adjustment, as shown by Panel B of Figure 3: countries that implemented larger fiscal adjustments reduced more their spending on public sector workers.

Figure 3: Fiscal adjustment vs social expenditures and public sector labour compensation during fiscal consolidations

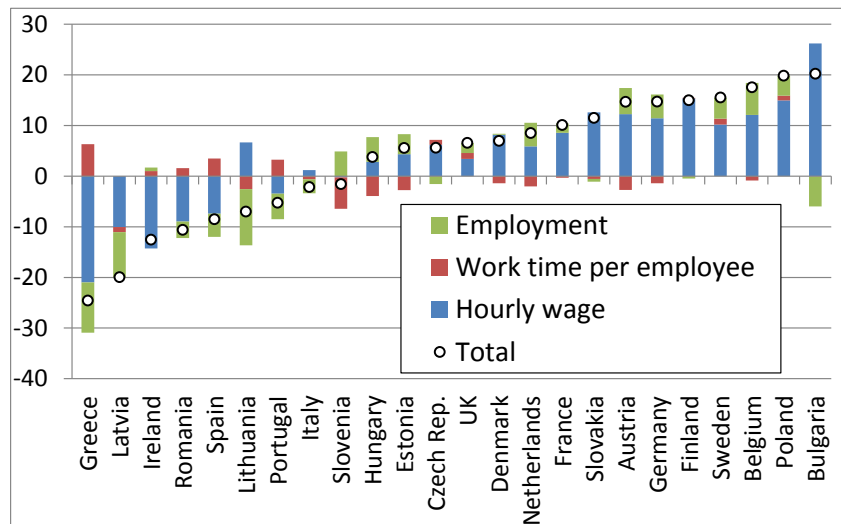


Source: Bruegel calculation using data from Eurostat and European Commission (2013c).

Note: For each country, we checked the start date of fiscal consolidation and calculated the change in the indicators from that date till 2013. Social expenditures in the sum of 'Social benefits other than social transfers in kind: general government' and 'Social transfers in kind supplied to households via market producers: general government'. The public sector wage bill is 'Compensation of employees: general government'. Changes in the wage bill can result from changes in public sector employees and changes in wages. *Missing DFE values for Greece (2007-2010), Hungary (2007-2009) and Luxembourg (2007-2011) completed with the change in structural primary balance (see Box 1 for explanation).

Reducing public sector labour compensation can take three forms: reducing wages, laying off public sector workers and increasing the working time of those who remained employed¹². Figure 4 shows that countries adopted different mixes of these methods: in Ireland, Romania and Spain, most of the reduction in total labour compensation resulted from cutting hourly wages, while in Latvia about half of the reduction was the result of wage cuts and lay-offs. Wages were cut the most in Greece (by 20 %), but also employment was reduced by 10 %, while those who remained employed work more hours per week now than in 2008.

Figure 4: Breakdown of the change in public sector labour compensation, % change from 2009Q1 to 2013Q2



Source: Bruegel calculation based on data from Eurostat.

Note: Data for Cyprus, Luxembourg and Malta is not available. This figure shows developments between 2009Q1 and 2013Q3, while Panel B of Figure 3 included the changes in total public sector wage bill from the start of fiscal consolidation till 2013, using annual data.

When assessing the possible impact of public sector wage cuts on poverty, wage levels prevailing in the public sector before the wage cuts have to be considered, in order to assess whether or not public servants belonged to the poorest segment of society. Figure 5 sheds lights on this issue. For example, in Greece, where public servants suffered massive pay cuts, wages were not high compared to other euro-area countries, even though the figure does not correct for differences in price levels. However, as Panel B of Figure 5 reports, public sector hourly wages in Greece were twice as much as in the whole economy. Moreover, average wages in the public sector were several times higher than average wages in certain sectors, such as agriculture, manufacturing, construction, trade and accommodation services and various other professional and entertainment services.

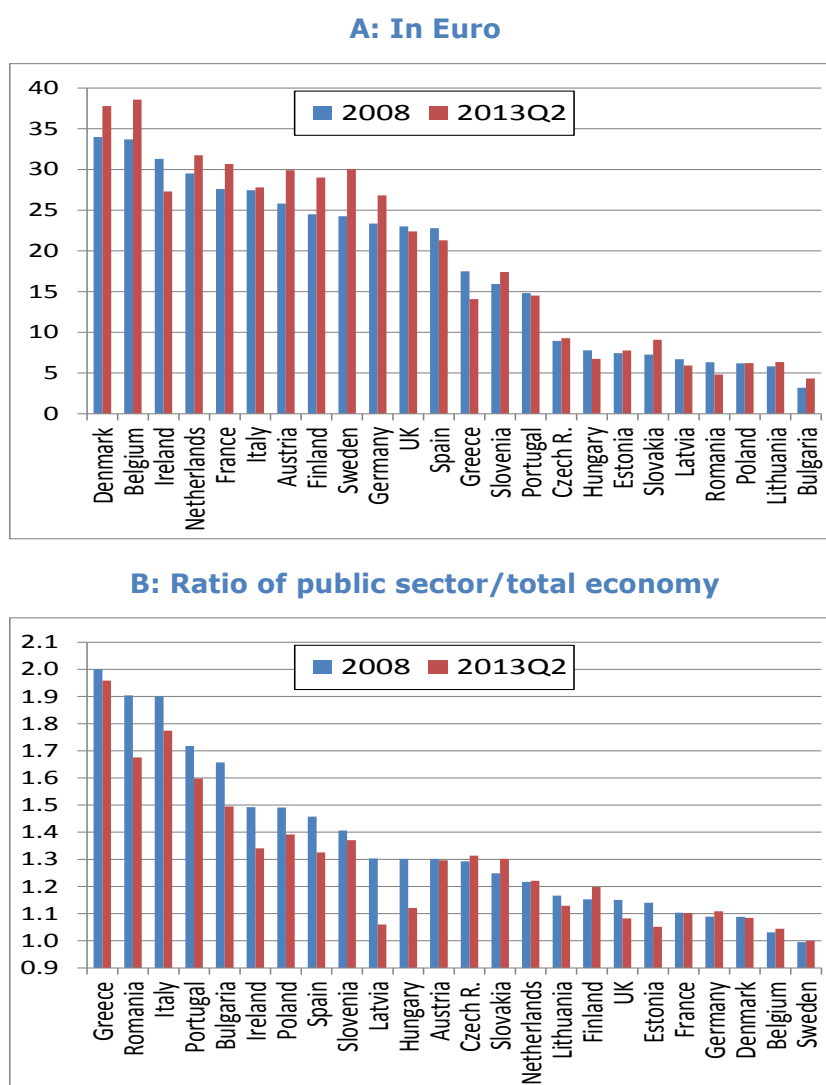
It is interesting to observe that public sector wages are higher than the average of other sectors of the economy in all EU countries but Sweden (Panel B of Figure 5). In Greece, Romania, Italy, Portugal and Bulgaria, public servants earned 65-100 % per hour more than employees in other economic sectors. In eight other countries (Ireland, Poland, Spain, Slovenia, Latvia, Hungary, Austria and the Czech Republic), public servants took home 20-50 % per hour more than private sector workers. Certainly, this ratio is influenced by the structure of the economy. For example, if the share of the financial services sector is high, average wage level in the private sector can be high too. Also, qualifications and

¹² Total labour compensation = hourly wage * hours worked = hourly wage * employment * work time per employee.

productivity matter for wages in the private sector, and the black economy may matter too, since the black economy (corruption and unreported pay) is likely lower in the public than in the private sector. However, even when keeping these qualifications in mind, the conclusion that most public servants do not belong to the poorest segment of society still seems to hold.

While there are wage differences within the public sector itself and therefore some public servants may have had small salaries even before the pay cuts, such a huge difference between public and private sector hourly wages suggests that public servants did not belong to the poorest segment of society. Furthermore, public-sector wage reductions in Greece (the country in which wages were cut the most) were highly progressive in 2012 (Table 2): public servants with monthly salaries of less than EUR 1 000 faced only a 2 % cut, while higher earners faced much larger cuts.

Figure 5: Hourly public sector wages



Source: Authors' calculation using data from Eurostat.

Note: Total labour compensation per hours worked is reported, which consists of: (a) gross wages and salaries paid in cash; (b) direct remuneration (pay) and bonuses; and (c) wages and salaries in kind (housing, company cars, meal vouchers, etc). On panel A we report euro values and therefore for non-euro area countries the change in the exchange rate influences the developments from 2008 to 2013. For example, while public sector wages increased in domestic currency unit in the UK and Hungary, due to the depreciation of the exchange rate of the British pound and the Hungarian forint against the euro, wages in euro actually declined. Also, in Panel A nominal euro values are indicated, which have different purchasing power in different countries and there a cross-country comparison of wage levels has to consider the differences in price levels.

Table 2: Marginal wage reduction schedule in the Greek public sector, effective 1 August 2012

Wage level	Reduction
below EUR 1 000	2 %
EUR 1 000-EUR 1 500	10 %
EUR 1 500-EUR 2 500	20 %
EUR 2 500-EUR 4 000	30 %
above EUR 4 000	35 %

Source: IMF (2013).

Returning to the main messages of Table 1, the expenditure category that suffered most was capital expenditures in all country groups¹³. We therefore conclude that social payments were preserved or increased, even in those countries that implemented the most severe cuts in public expenditure, while cuts in public sector wages may have had a limited impact on poverty, since salaries in the public sector were much higher than the average salary in the rest of the economy.

Beyond the main expenditure categories reported in Table 1, Table 3 looks at the functional composition of public expenditures, while Table 4 zooms in on the components of social protection expenditures, for the same country groups as in Table 1. Unfortunately, data is available only up to 2012 and therefore 2013 measures are not reported.

For social expenditure, we separate unemployment payments from other social expenditure, because unemployment payments are quasi-automatic: when unemployment goes up, larger payments have to be made unless unemployment benefit rules are changed.

In the EU as a whole and in all country groups shown, social protection other than unemployment increased by more (or was cut by less) than total public expenditure. When combining the countries that experienced the sharpest fiscal consolidation in the euro area (Greece, Ireland and Portugal), social protection other than unemployment fell by 5 %, while other expenditure categories (except interest payments and unemployment benefits) were cut much more drastically.

Unemployment payments varied according to need: they increased in Greece, Ireland Portugal, Italy, Spain and the Baltics and declined elsewhere. Spending on education and healthcare, two categories that can also directly impact the poor, fell in the same country groups in which unemployment payments increased.

¹³ Barbiero and Darvas (2014) argue that since the fiscal multiplier of public investment is the largest among the main expenditure and revenue categories of the government, the significant cut-backs in public investment exaggerated the output fall.

Table 3: General government expenditures by function, % change from 2009 to 2012 (in current prices and constant exchange rates)

	Share	% change in current prices, 2009-2012					
	EU27	EU27	Greece, Ireland, Portugal	Italy, Spain	10 other EU15	Baltics	9 other CEE
Total general government expenditure	100	4	-12	1	6	-3	6
General public services except interest payments	7	3	-17	-8	7	-12	0
Interest payments	5	23	14	32	19	164	22
Defence	3	-3	-37	-10	1	-22	-3
Public order and safety	4	1	-15	-2	3	-15	4
Economic affairs	9	-4	-45	5	-4	-20	-5
Environment protection	2	-4	-26	-8	-4	-6	28
Housing and community amenities	2	-21	-42	-44	-14	-10	-15
Health	15	4	-20	-4	9	-1	4
Recreation, culture and religion	2	0	-20	-21	4	-23	28
Education	11	2	-14	-10	6	-7	5
Social protection other than unemployment	36	8	-5	5	9	7	11
Unemployment	4	0	11	14	-5	13	-11
Memorandum: inflation		8	6	8	7	12	11

Source: Bruegel using Eurostat's General government expenditure by function (COFOG) database.

Note: For the Baltics the 2008-12 period is shown. The aggregates involving countries with different currencies were calculated using constant exchange rates (the average of 2009-2013) and therefore exchange rate fluctuations do not affect the values shown. For the groups of Greece, Ireland and Portugal the 2009-2011 change is shown for the category "General public services except interest payments". The reason is that there was an exceptionally high increase in this spending category in Greece, from EUR 10.8 billion in 2011 to EUR 16.5 billion in 2012. This huge increase in the midst of a major fiscal consolidation effort is most likely the result of some special and one-time measures and not due to a permanent increase in general public services spending.

Table 4 is constructed in the same way as Table 3, but enters into the detailed sub-components of social protection spending for the same time period (2009-12). Pensioners were the main beneficiaries of fiscal adjustments, as old-age related expenditure increased more than total social protection expenditure in every country group. Old-age related expenditure was by far the largest portion of social protection expenditure, 52 % in the EU24, for which the share increased further. Moreover, the real value of age-related expenditure was preserved or increased even further in all country groups apart from the three euro-area programme countries. The second largest item, sickness and disability expenditure (which accounts for about 14 % of total social protection expenditure), suffered cuts in the hardest-hit countries (vulnerable euro-area members and the Baltics), but increased in other EU15 and CEE countries. Family and child support, the third largest category within social protection (10 % share), declined substantially, a 19 % decline in

nominal terms in the three euro-area programme countries, a 14 % fall in the Baltics and a 10 % fall in Italy and Spain, while there was only a marginal increase in other EU15 and CEE countries. Inflation eroded further the real value of family and children benefits. Unemployment benefits were increased significantly where it was needed the most, in the vulnerable euro-area members, Italy and the Baltics, while it declined in the rest of the EU. In the other, smaller-spend categories there were different developments in different country groups. Therefore, intentionally or not, there was redistribution from families and children towards pensioners, while unemployment benefit expenditure might have helped to mitigate the adverse impact of unemployment in those countries in which the unemployment rate has increased the most.

Table 4: Components of social protection expenditures, cumulative % change from 2009 to 2012 (in current prices and constant exchange rates)

	Share	% change in current prices, 2009-2012					
	EU24	EU24	Greece, Ireland, Portugal	Italy, Spain	9 other EU15	Baltics 3	7 other CEE
Social protection expenditure	100	7	-3	6	8	7	10
Sickness and disability	14	7	-7	-1	9	-5	12
Old age	52	10	0	8	10	15	13
Survivors	8	5	-4	6	3	-13	17
Family and children	10	0	-19	-10	3	-14	1
Unemployment	9	0	11	14	-5	13	-11
Housing	2	12	-30	6	13	23	20
Social exclusion n.e.c.	4	13	-7	-1	16	125	-7
Social protection n.e.c.	2	3	-52	-11	9	-22	-9
Memorandum: inflation		8	6	8	7	12	10

Source: Bruegel using Eurostat's General government expenditure by function (COFOG) database.

Note: For the Baltics, 2008-12 period shown. Belgium, Slovakia, Romania and Spain are excluded from the analysis due to data availability problems. The aggregates involving countries with different currencies were calculated using constant exchange rates (the average of 2009-2013) and therefore exchange rate fluctuations do not affect the values shown.

We now turn to an analysis of the revenue side and, particularly, the tax structure of countries, which has been shown in the literature to affect income redistribution. What we want to see is how taxes have been used during the crisis as a policy instrument and whether some general trends can be observed. Unfortunately, there is no comprehensive dataset on tax rates and the complicated tax laws, including the definition of tax bases and exemptions, making it rather difficult, if not impossible, to compare tax rates and the changes to them.

Comparison can be made on the basis of implicit tax rates (ITRs), which measure the effective average tax burden on different types of economic income or activities, i.e. on labour, consumption and capital, as the ratio between revenue from the tax type under consideration and its (maximum possible) base. For example, the ITR on consumption is the ratio between the revenue from all consumption taxes and the final consumption expenditure of households.

Table 6 in the Appendix shows that in the EU and in the euro area as a whole, labour taxes fell slightly, consumption taxes increased slightly, while capital taxes were reduced significantly. But there are diverse developments within the EU. Labour taxes tended to decrease in those countries in which these taxes were the highest before the crisis, while labour taxes increased in countries with low tax rates. The correlation coefficient between 2008 tax rates and their change from 2008 to 2011 is -0.57. A similar relationship can be observed with consumption taxes, though the correlation coefficient between 2008 consumption tax rates and their subsequent changes is smaller, -0.31. However, for capital taxes, the correlation coefficient is close to zero (-0.03), suggesting that the level of the pre-crisis tax rates did not influence the direction of changes in the tax rate during the crisis.

Labour taxes are generally structured in a way that ensures some degree of progressivity, though there are about ten central and eastern EU members that have adopted flat tax rates. Among the most severely hit countries, labour taxes increased in Ireland, Latvia, Portugal and Spain, which may have negatively impacted social conditions. In Greece, labour taxes declined.

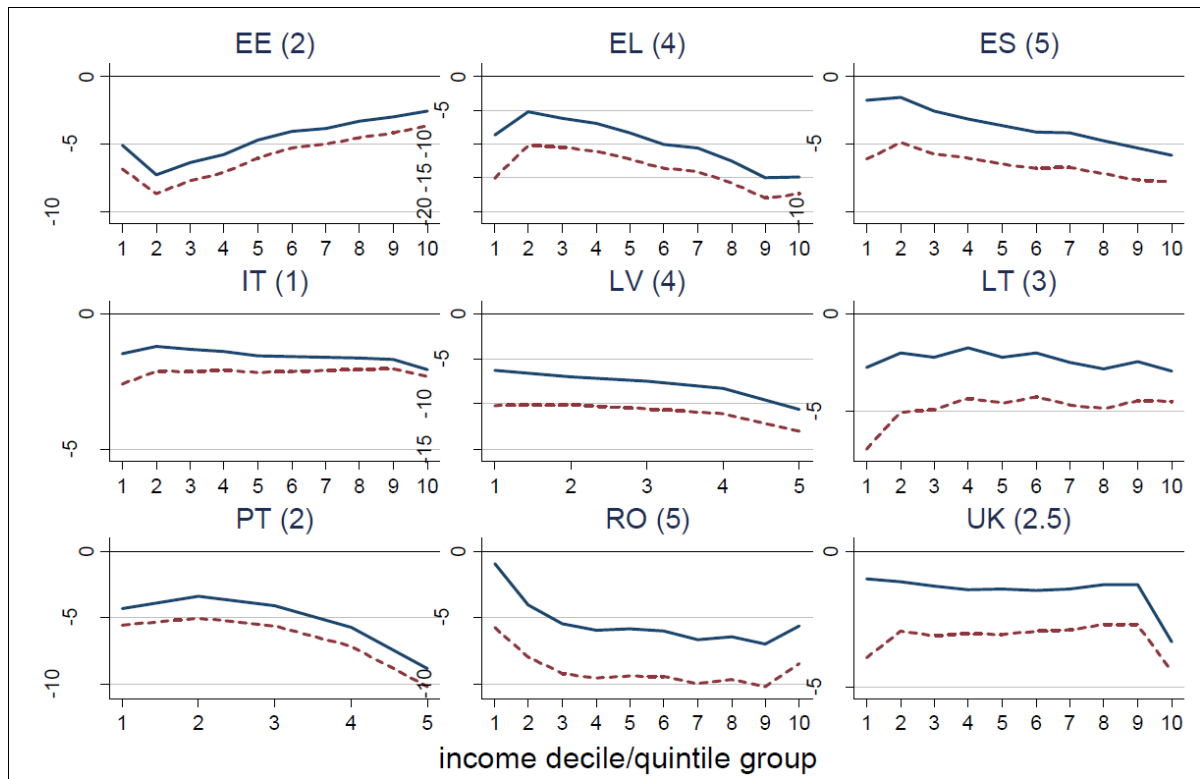
In the various editions of the *Annual Growth Survey*, the European Commission suggested moving the tax burden away from labour toward consumption, on the basis that this should boost labour productivity and promote employment. In the 2008-11 period, 14 out of the 27 EU countries followed this advice (of which eight cut labour taxes and increased consumption taxes, while the other six countries cut labour taxes more than consumption taxes). Additionally, two other countries cut both taxes, but cut labour taxes more than consumption taxes. Therefore, while the direction of tax changes was appropriate in many EU countries, the public economics literature has shown how indirect (and in particular consumption) taxes tend to be regressive in nature.

Finally, during 2008-11, the ITR on capital was reduced in 17 countries and increased in only three countries (France, Sweden and Germany). It needs to be seen to what extent these cuts in capital ITR are part of broader taxing strategy to attract (or at least maintain) investment and capital inflows, or if they are a specific and temporary reaction by the governments to the crisis when corporate profits plummeted.

2.3. Distributional impact of fiscal consolidation in nine countries

Avram *et al* (2012) used the EUROMOD micro-simulation model to assess the distributional effects of fiscal consolidations in nine EU countries. While this study is based on household survey data collected before the financial and economic crisis and therefore the results should be read cautiously, the authors try to remedy to this drawback as much as possible. Their key result is reported in Figure 6. First they consider the impact of tax/benefits changes only, without the impact of consumption taxes. They find that in Greece, Spain, Italy, Latvia, Romania and the UK the better-off lost a greater proportion of their income than the poor. At the other extreme, in Estonia, the poor lost a greater proportion than the rich. In Lithuania and Portugal, the burden of fiscal consolidation fell more heavily on the poor and the rich than it did on those with middle incomes. If VAT increases are included, the comparative picture alters by making the policy packages appear more regressive, to varying extents, as indicated by the dashed lines in Figure 6.

Figure 6: Avram et al (2012)'s results – simulated household income-based fiscal consolidation measures as a percentage of household disposable income by income decile/quintile group: change excluding and including VAT increases



Source: Figure 5 of Avram et al (2012).

Note: The fiscal consolidation measures included here are: (a) limited to those that have a direct effect on household disposable income (changes to direct taxes, cash benefits and public sector pay) and (b) increases in the standard rate of VAT (shown in percentage points after each country acronym). Other increases in indirect taxes are not included. Deciles or quintiles are based on equivalised household disposable income in 2012 in the absence of fiscal consolidation measures and are constructed using the modified OECD equivalence scale to adjust incomes for household size. The charts are drawn to different scales, but the interval between gridlines on each of them is the same.

2.4. Summary

The overall trends we have identified from the analysis are the following:

- the speed of fiscal consolidation at the EU level after 2009 was very fast, as the discretionary fiscal effort amounted to almost 5 % of GDP from 2009 to 2013 in the EU as a whole. Since cyclical situation of the European economy weakened after 2010, fiscal consolidation at the EU level was inconsistent with the economic cycle;
- the hardest-hit countries of the EU had no choice but to consolidate their public finances, because their budget deficits exceeded 10 % of GDP and their public debts were well above 100 % of GDP, or approached this ratio at a rapid pace. Fiscal adjustments in these countries were especially harsh;
- public support to the financial sector amounted to EUR 592 billion (4.6 % of GDP) during 2008-2012 in the EU in the form of bank recapitalisation and asset relief and an additional EUR 906 billion (7.7 % of GDP) was provided in the form of guarantees and liquidity measures. Had such support been implemented in a less costly way for taxpayers, more fiscal space would have been provided for governments for other purposes;

- social expenditure (even if we exclude unemployment benefits which are largely determined by unemployment) has increased more or been cut by less than other current expenditure, including in countries that implemented the most severe public expenditure cuts;
- changes in social expenditure are unrelated to the size of fiscal consolidation, suggesting that governments tried to preserve social spending;
- within social spending, the elderly were favoured over families and children;
- cuts in public sector wage bills are strongly related to the size of fiscal consolidation, suggesting that the wage bill was a major item on which fiscal consolidations focused;
- public sector wages on average are much higher than private sector wages;
- public sector wage cuts were implemented in a progressive way (more cuts for high-income earners);
- labour and consumption tax rates were reduced where these rates were high before the crisis and increased where these rates were initially low, with a slight overall decline in labour taxes and overall increase in consumption taxes in the EU;
- taxes on capital were reduced in most EU countries.

These findings have mixed implications for poverty trends in Europe:

- the frontloaded fiscal consolidation exaggerated the output fall and thereby increased unemployment (see Section 5 in which we quantify this relationship);
- the large public support given to the financial sector reduced the resources of governments to support the poor and necessitated larger overall fiscal adjustments in most EU countries;
- preserving social spending over other spending categories might have mitigated the negative social impacts of the crisis;
- favouring the elderly over families and children (through relatively more social spending) might have negatively impacted poverty, which is more widespread among children than among the elderly (see the next section);
- since wages in the public sector are on average much higher than in the private sector and public sector wage cuts were implemented in a progressive way, public sector wage cuts might have not impacted the poorest segment of society;
- if public sector wage cuts also lead to cuts in private sector wages, then indirectly the poorest segments might have been impacted, and public sector lay-offs increased unemployment at a time when job opportunities in the private sector were scarce;
- lower wages can have a positive impact on employment and also on economic growth. Higher employment and faster economic growth has the potential to benefit the poor;
- since labour taxes are typically progressive (with the main exception of several central and eastern European member states), while consumption taxes typically have regressive effects (since the poorest segments of the society spend a larger fraction of their income on consumption) a move from the former to the latter, although helping restore price competitiveness, might have negatively impacted the poor;

- reduced capital taxes might attract investment and thereby benefit the rich in the short-term. In the longer run, more investment can contribute to job creation, possibly helping the poor.

By surveying the literature using micro-simulations, we highlighted that:

- the better-off lost a greater proportion of their income than the poor in six out of nine countries (in Greece, Spain, Italy, Latvia, Romania and the UK the better-off lost a greater proportion of their income than the poor, while in Estonia, Lithuania and Portugal the distributonal impact was different).

3. SOCIAL DEVELOPMENTS IN THE EU

The focus of this study is the possible connection between budget consolidation measures and poverty. In this section, we present several indicators of certain aspects of poverty, keeping in mind our findings in the previous section on the speed and composition of fiscal consolidation. A more formal analysis of the possible interaction between austerity and poverty will be presented in Section 5. Box 2 gives the definitions of most of social indicators that we consider.

3.1. What is poverty and what does the at-risk-of-poverty indicator measure?

According to the Cambridge University Press English dictionary, poverty means “*the condition of being extremely poor*”. In turn, the word poor is defined as “*having little money and/or few possessions*”. The World Bank defines poverty as whether households or individuals have enough resources or abilities to meet their daily needs¹⁴. The World Bank argues that consumption is a better indicator than income when defining the monetary aspect of poverty, and there are also non-monetary aspects, such as health, education and subjective perceptions. Frequently, relevant indicators are designed to measure absolute and relative poverty. Indicators of absolute poverty measure the share of those people in the total population who cannot afford to meet their basic needs. Relative measures of poverty are indicators of the overall distribution of income or consumption in a country, such as the share of people with incomes that are less than a certain % of the income distribution within the country. The relative poverty measures, therefore, do not measure poverty by itself, but the distribution of income or consumption within a country.

After carrying out an extensive review of publicly available indicators and of the literature on poverty, we conclude that actually very little is known about poverty in Europe. The most suitable indicator of poverty is the severe material deprivation rate, which represents the proportion of people who cannot afford at least four of nine basic items, including utility bills, warm food, adequate heating or a car (see the definition in Box 2).

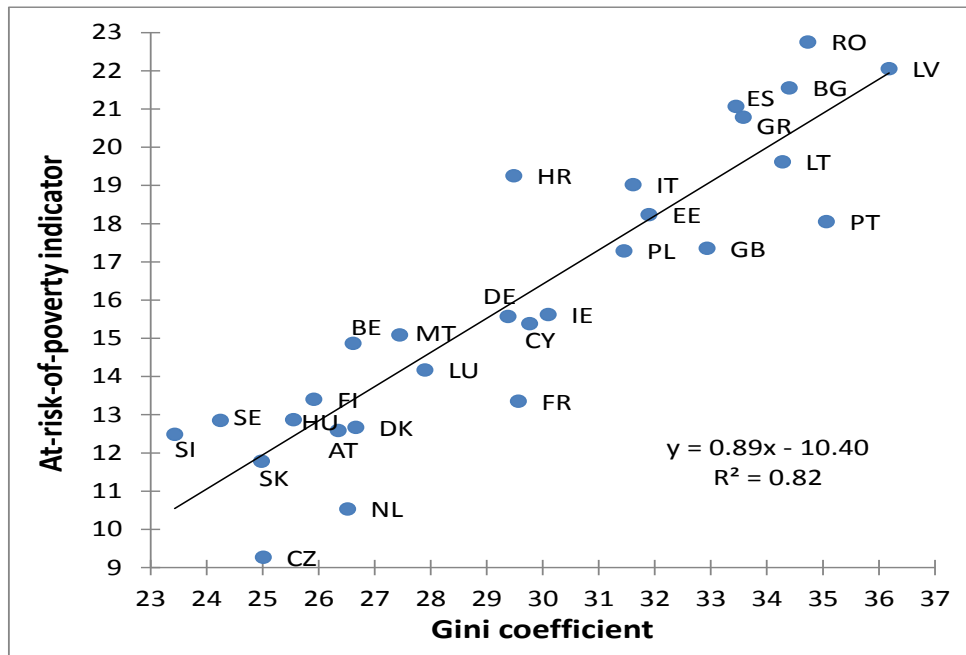
However, the most widely used EU indicator including the word ‘poverty’, the at-risk-of-poverty rate, is not a measure of poorness, but rather a measure of income inequality. It measures the share of people with net income after social transfers below 60 % of national median equivalised disposable income (see definitions in Box 2). As Eurostat’s glossary also notes, “*this indicator does not measure wealth or poverty, but low income in comparison to other residents in that country, which does not necessarily imply a low standard of living*”¹⁵. As Figure 7 highlights, there is a very strong association between the at-risk-of-poverty rate and the Gini-coefficient: the correlation coefficient is 0.90, implying a 0.82 R² for the regression¹⁶. High levels of income inequality can be identified as having adverse implications for society, but should not be mixed with poverty.

¹⁴ <http://go.worldbank.org/0C60K5UK40>.

¹⁵ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:At-risk-of-poverty_rate.

¹⁶ The coefficient of determination, which is commonly denoted as R², measures closeness of fit of a regression. It can take values between zero and one.

Figure 7: The correlation between the Gini-coefficient and the at-risk-of-poverty indicator

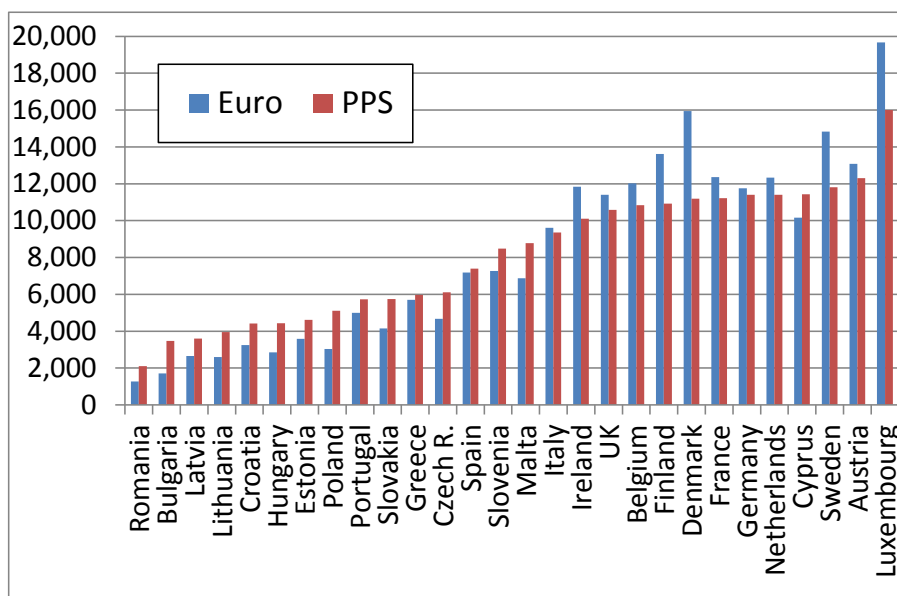


Source: Bruegel calculation using data from Eurostat.

Note: Both indicators are averaged over 2007-2012. The correlation coefficients between the two indicators in each year between 2007 and 2012 are: 0.92, 0.90, 0.89, 0.90, 0.85, 0.84. The correlation coefficient between the 2007-2012 time averages of the two indicators is 0.90. Data for Ireland is not available for 2012 and therefore for this country the 2007-2011 average is indicated on the figure.

In order to highlight a major drawback of this indicator for comparing countries, Figure 8 shows the poverty thresholds for single persons. In Romania, a disposable income of EUR 1 270 a year (after taxes and social transfers) is considered to be the threshold, while in Luxembourg the threshold is EUR 19 668, more than 15 times the Romanian amount. Prices are higher in Luxembourg than in Romania and the relevant comparison has to consider this difference. The second bar for each country on Figure 8 shows the threshold corrected for the differences in price levels: it is EUR 2 106 for Romania and EUR 15 996 for Luxembourg. This means that if a person's net income after social transfers is exactly at the threshold in Luxembourg, she or he can consume 7.5 times more goods and services in Luxembourg than a Romanian person at the national threshold in Romania. This is an enormous difference. But even the difference between two less extreme countries, Austria and the Czech Republic, is huge: someone at the national threshold in Austria can consume twice as much goods and services as someone at the national threshold in the Czech Republic. Such differences clearly prove the inappropriateness of this indicator for assessing poverty trends in Europe.

The anchored version of this indicator, which uses the real value of the 2008 thresholds in later years, does not address this drawback. Actually, the gap between the lowest and highest 2008 thresholds measured in purchasing power standards was even larger than in 2012, 8.8-fold. Also, the anchored version of the indicator will show a decline when the median income increases faster than inflation, but since the 2008 threshold used for the anchored indicator is questionable, it is also questionable what lessons can be drawn from a decline in the anchored at-risk-of-poverty-rate indicator.

Figure 8: At risk of poverty threshold (60 % of median equivalised income), single person, 2012

Source: Eurostat SILC database.

Note: PPS = purchasing power standards. 2011 data for Ireland. See Box 2 for explanation.

Therefore, instead of the at-risk-of poverty indicator, we focus on the severe material deprivation rate as the most suitable measure of poverty. Various labour market indicators can also provide useful information about adverse social conditions.

Box 2: Social indicators

Severe material deprivation

The severe material deprivation rate represents the proportion of people who cannot afford at least four of the nine following items: 1) (arrears on) mortgage or rent payments, utility bills, hire purchase instalments or other loan payments; 2) one week's annual holiday away from home; 3) a meal with meat, chicken, fish (or vegetarian equivalent) every second day; 4) unexpected financial expenses; 5) a telephone (including mobile phone); 6) a colour TV; 7) a washing machine; 8) a car and 9) heating to keep the home adequately warm.

Jobless households

Jobless households are households where no member is in employment, i.e. all members are either unemployed or inactive.

People living in households with very low work intensity

People living in households with very low work intensity are those aged 0-59 living in households where the adults (aged 18-59) worked less than 20 % of their total work potential during the past year.

Not in Education, Employment or Training (NEET)

Young people aged 18-24 years not in employment, education or training as a percentage of total population in the respective age group.

Early school leavers

Early school leaver generally refers to a person aged 18 to 24 who has finished no more than a lower secondary education and is not involved in further education or training; their number can be expressed as a percentage of the total population aged 18 to 24.

Gini coefficient of equivalised disposable income

The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them. A Gini index of zero represents perfect equality (ie incomes are perfectly evenly distributed) and 100 perfect inequality (all incomes are owned by one person).

At-risk-of-poverty rate (AROP)

The at-risk-of-poverty rate is the share of people with an equivalised disposable income (after taxes and social transfers) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers. The equivalised disposable income is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale.

At-risk-of-poverty rate anchored in 2008

This indicator is a modified version of the at-risk-of-poverty-rate, and keeps the poverty threshold fixed in 2008 real terms over a longer period of time and therefore controls the effects of a moving poverty threshold.

People at risk of poverty or social exclusion (AROPE)

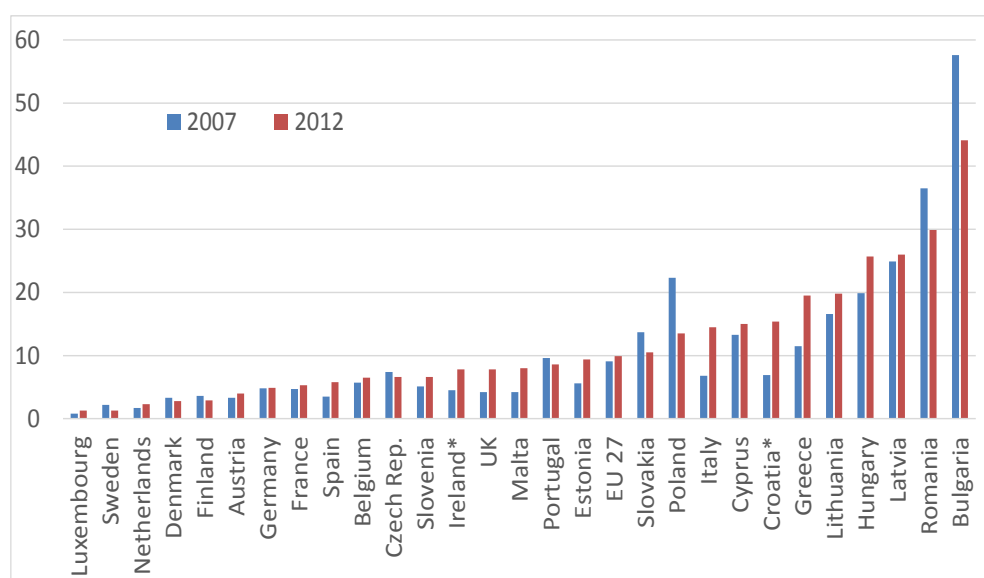
This indicator corresponds to the sum of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators.

Source: Eurostat

3.2. Severe material deprivation

Starting with the indicator which is more informative about poverty, we highlight that the severe material deprivation rate rose slightly in the EU27, from 9.1 % in 2007 to 9.9 % in 2012 (Figure 9). The severe material deprivation rate is an absolute measure of poverty, which allows a cross-country comparison of the share of people severely affected by a lack of means. In Bulgaria, 44.1 % of the population was severely materially deprived, which is the highest rate among EU countries, despite the major decline since 2007. It is worth highlighting that severe material deprivation declined in Bulgaria before the major fiscal consolidation effort started and in fact increased by about three percentage points during the period of fiscal consolidation (see Figure 33 on page 55). Luxembourg is the country with the lowest rate: 1.3 %.

Overall, the good news is that in the 13 countries that joined the EU between 2004 and 2013 the indicator has decreased by 5.3 points, thereby narrowing the East-West divide. But the bad news is the rate of severely materially deprived people show a rise of 2.4 percentage points in the EU15 countries. The developments with respect to the South-North divide are not clear-cut, since there were sizeable increases in Greece and Italy, but a decline in Portugal, and while there was a small increase in Spain, the 2012 Spanish value is comparable to the situation in Germany, France and Belgium. Also, while there was an increase in Greece and Italy, the values observed in these countries are dwarfed by the still extremely high figures in Bulgaria, Romania, Latvia and Hungary.

Figure 9: Severe material deprivation rate, 2007 vs 2012

Source: Eurostat.

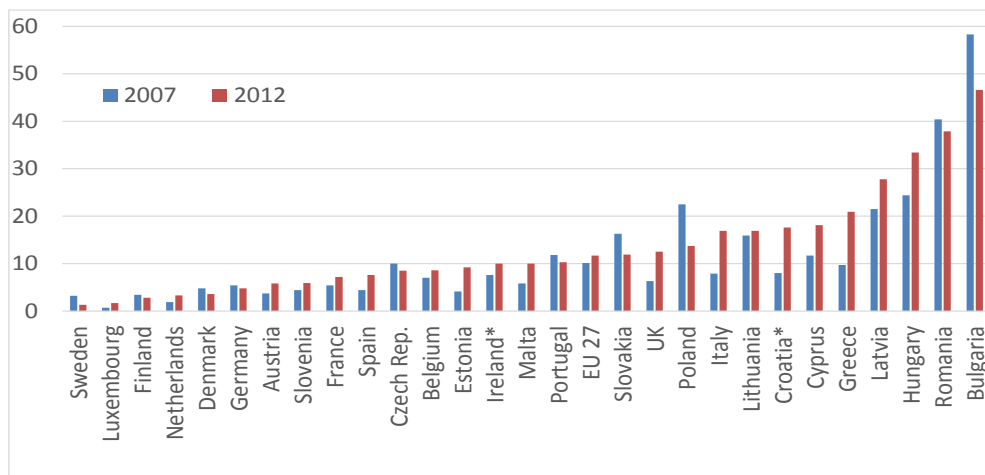
Note: * Ireland 2007 & 2011 data, Croatia 2010 & 2012 data.

Young people (under 18) were more affected by severe material deprivation (Figure 10). The EU average in 2012 was 11.7 % of the population in the respective age group. It had increased by 1.6 percentage points since 2007. This was due to an increase in the EU15 countries, because in the member states that joined the EU between 2004 and 2013, the rate decreased by 4 percentage points between 2007 and 2012, which is certainly good news.

Similarly to the total population, Bulgaria and Romania display the highest proportion of materially deprived children. Whereas in Bulgaria it is only slightly higher than the overall average (44.1 % vs. 46.6 % for children), in Romania children are by far more affected than the average population. Here the rate for children is 37.9 %, which is 8 percentage points higher than the total population equivalent metric.

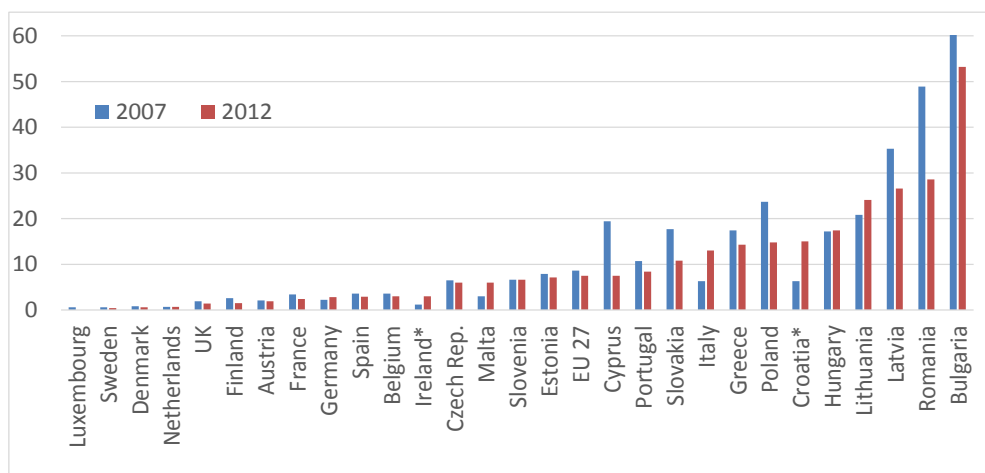
For elderly people, the situation is more positive (Figure 11): 7.5 % of people aged 65 or over were affected by a lack of resources, while in 2007 the ratio was 8.6 %. Between 2007 and 2012, 19 out of 28 EU countries managed to reduce this ratio, while it remained unchanged in two countries. Bulgaria (53.2 %) and Romania (28.6 %) are in the worst position, while Luxembourg, Sweden, Denmark and the Netherlands have rates under 1 % of the respective population group.

Therefore, a generational divide is emerging: while the fall in severely materially deprived elderly people is a highly welcome development, more children are severely materially deprived now than in 2007, which is worrying.

Figure 10: Severe material deprivation rate, children under 18 years, 2007 vs 2012

Source: Eurostat.

Note: * Ireland 2007 & 2011 data, Croatia 2010 & 2012 data.

Figure 11: Severe material deprivation rate, elderly 65 years or over, 2007 vs 2012

Source: Eurostat.

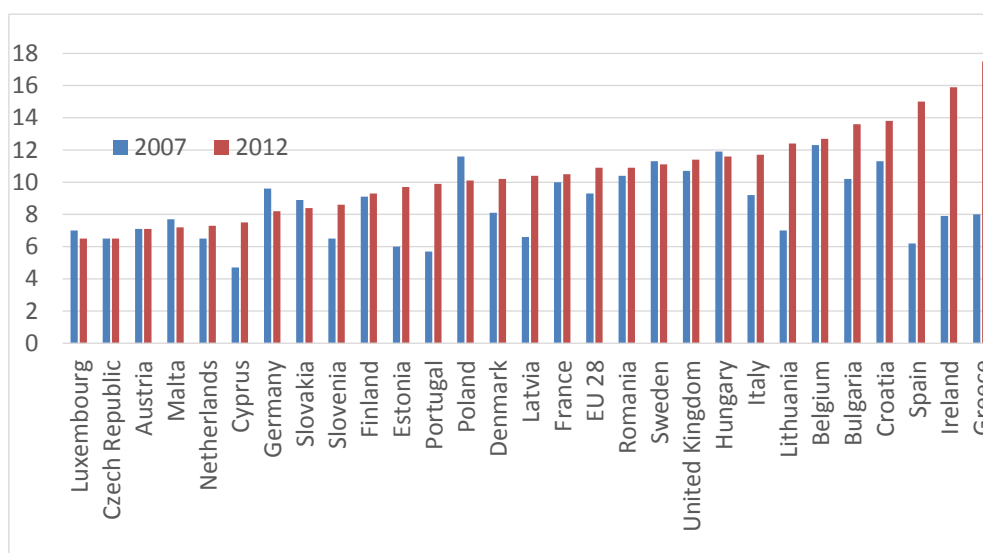
Note: * Ireland 2007 & 2011 data, Croatia 2010 & 2012 data.

3.3. Joblessness

The share of people aged 18-59 who live in a household where no one works increased between 2007 and 2012 from 9.3 % to 10.9 % in the EU28 (Figure 12). Greece displayed the highest rate, at 17.5 %, and it registered the highest increase (9.5 %age points) among the EU28 countries, as its rate more than doubled.

The share of children under 18 living in jobless households was on average slightly higher than the share of adults (Figure 13). It increased by 1.7 percentage points to a share of 11.1 %. The situation in Ireland is especially alarming: every fifth child lived in 2012 in a household where no one worked. This was followed by Bulgaria with a 16.9 % rate and the United Kingdom, with a 16.5 % rate. The lowest rate, 3.6 %, was found in Luxembourg.

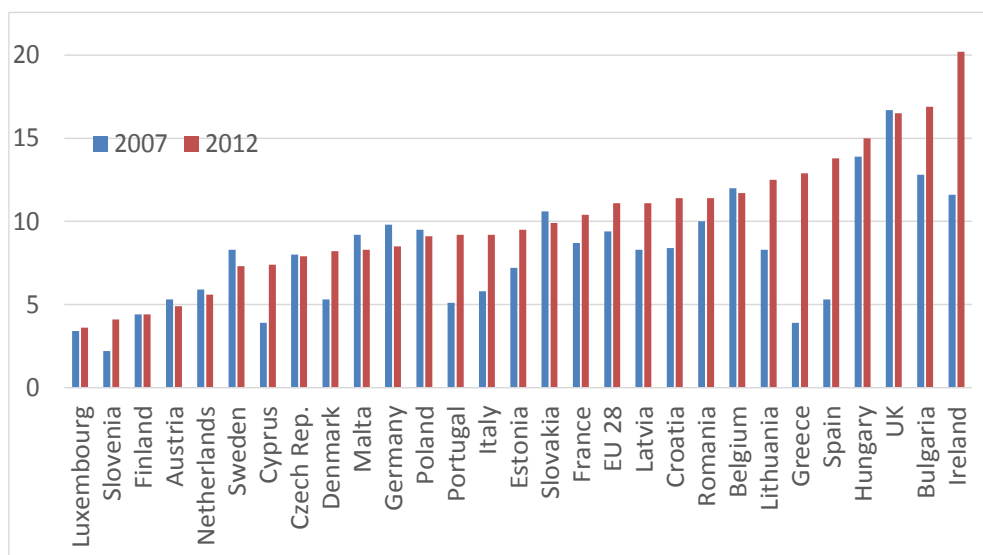
Figure 12: People aged 18-59 living in jobless households, 2007 vs 2012



Source: Eurostat.

Note: * Data for Sweden 2009 vs. 2012.

Figure 13: Children aged 0-17 living in jobless households, 2007 vs 2012



Source: Eurostat.

Note: * Data for Sweden 2009 vs. 2012.

3.4. Unemployment and NEETs (not in education, employment or training)

Let us focus now on unemployment, which is related to the indicators we have considered so far, especially the share of people living in jobless households. Unemployment rates increased in all EU countries in the period 2007–12 with the exception of Germany (Figure 14). The EU28 average unemployment rate stood at 7.2 % of active population in 2007. By the third quarter of 2013, this rate had increased to 10.9 %. Greece and Spain had the highest rates in 2013, with 27.2 % and 26.4 %, respectively. Figure 14 shows data for the third quarter of 2013, because later data does not allow a separation between short-term and long-term unemployment. However, for total unemployment, Eurostat has published more recent data: in Greece, total unemployment had increased to 28 % by

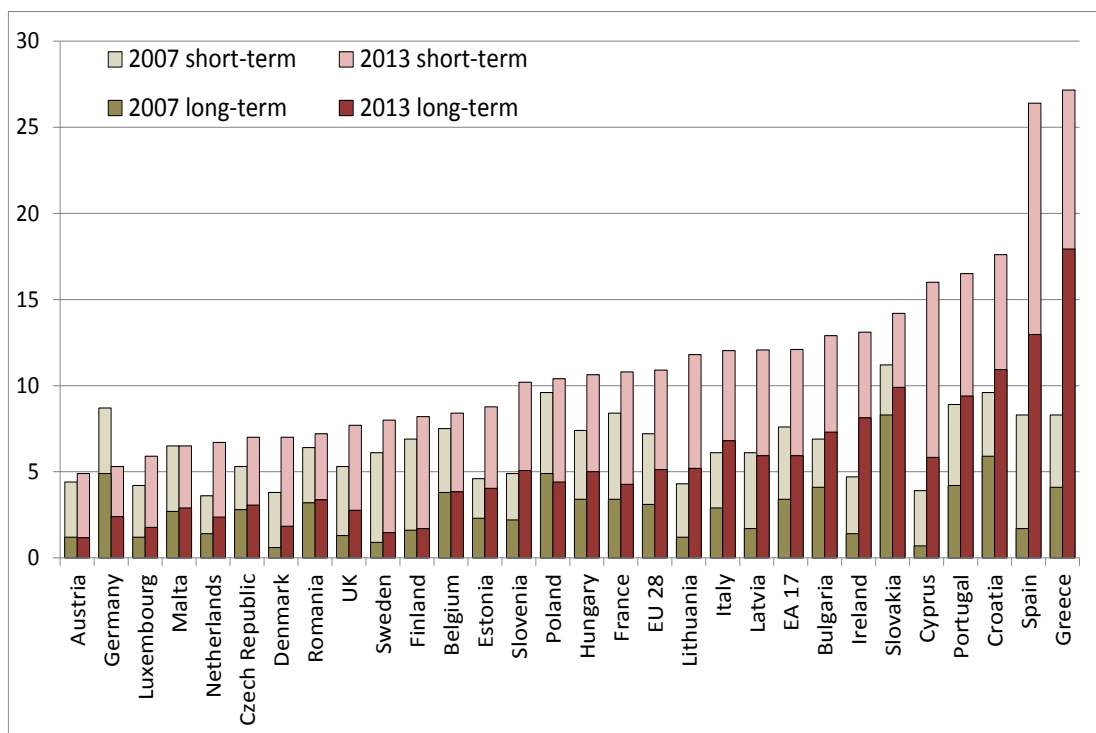
November 2013 (the most recent data point), while in Spain it stabilised at about 25.8 % by January 2014.

The countries with the lowest unemployment rates are Austria, Germany and Luxembourg, with rates between 4.9 % and 6.1 % in January 2014.

Long-term unemployment in EU28 countries increased between 2007 and 2013 by two percentage points to 5.1 % of active population. Greece (17.9 %) and Spain (13.0 %) are the countries with the highest long-term unemployment rates, which is alarming. Austria and Sweden observe the lowest rates: 1.2 % and 1.5 %, respectively.

Therefore, there is clear evidence suggesting a widening in the South-North divide within the EU, while the East-West gap widened only marginally.

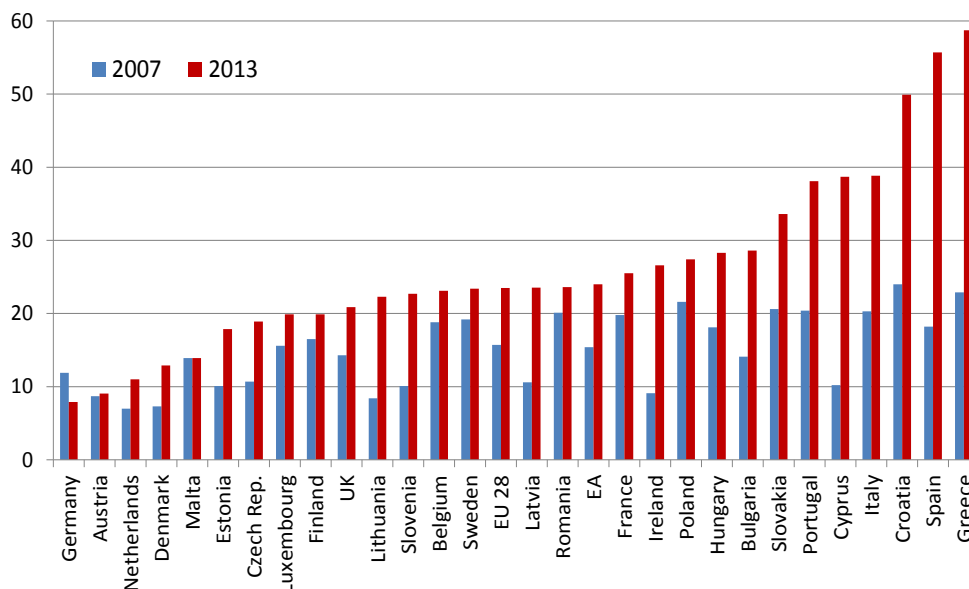
Figure 14: Unemployment rate: short-term and long term (% of active labour force), 2007 vs 2013Q3



Source: Eurostat.

Unemployment rates have increased in all age categories, including among the young (Figure 15) and elderly (Figure 16). In the 15-24 age group, Germany has the lowest unemployment rate (7.9 %) and is the only country that managed to reduce its youth unemployment rate since 2007. On average, the youth unemployment rate stood at 23.5 % of active population in the respective age group in the EU28 in 2013. This means an increase by 7.8 percentage points since 2007. This development is even more alarming when we look at the situations in Greece and Spain. The share of young unemployed people went up by 37.5 percentage points in Spain and currently stands at 55.7 %. In Greece, the share rose to 58.7 % by the end of 2013.

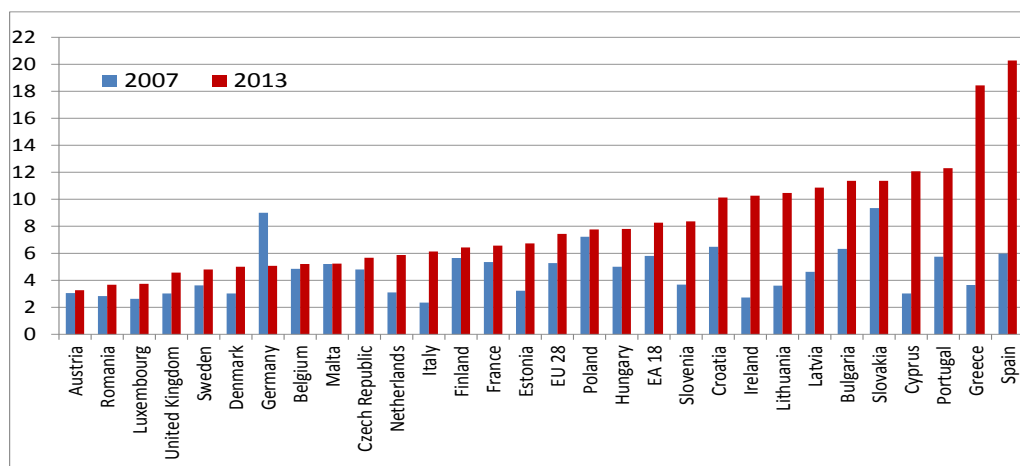
Figure 15: Youth-unemployment rate, in % of active labour force (15-24 years olds)



Source: Eurostat.

We observe a similar situation for those in the 50-74 age group (Figure 16). There was a huge increase in the unemployment rate of older persons in Greece and Spain, even though rates are much lower than for young people. On average, 7.4 % of people in the respective 50-74 age group were unemployed in the EU28. This means a 2.2 percentage points increase compared to 2007. The highest rates are found in Greece and Spain: 18.4 % and 20.3 %, respectively. Austria (3.3 %) and Romania (3.7 %) have the lowest unemployment rates for older people.

Figure 16: Elderly people unemployment rate, in % of labour force (50-74 years old)

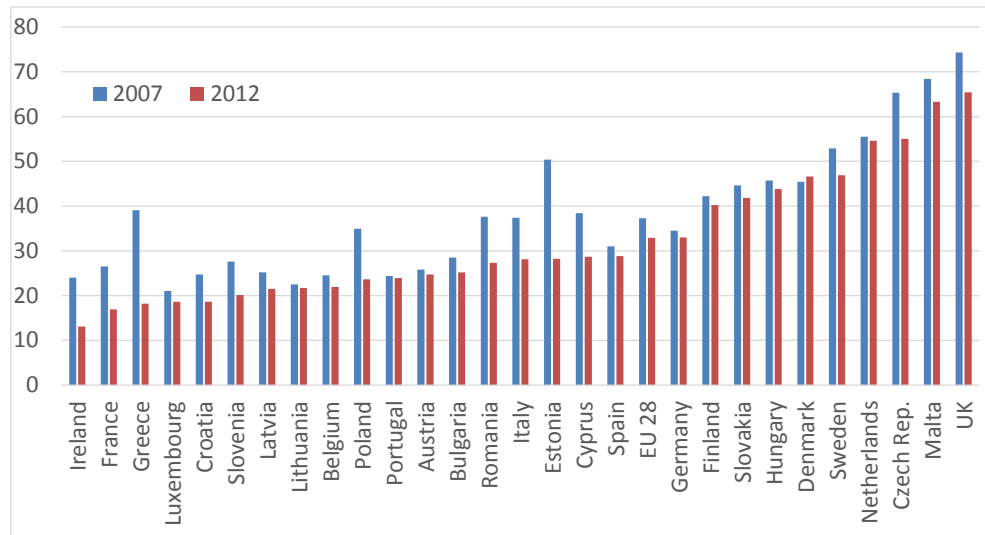


Source: Eurostat.

Employment trends broadly mirror unemployment developments, though employment rates also capture the effect that some people become discouraged from participating in the labour market and stop looking for work, and thereby do not appear in unemployment statistics. Youth employment increased only in one EU country over the period 2007–12,

edging up by 1.2 percentage points to 46.6 % of the active population in the respective age group in Denmark (Figure 17). On average, youth employment in the EU28 was at 32.9 %, after a reduction by 4.4 percentage points since 2007. Countries with the highest youth employment rates are the UK (65.3 %) and Malta (63.3 %), while France (16.9 %) and Ireland (13.3 %) are at the lower end of the spectrum. There were major declines in Greece, Estonia, Poland, Ireland, France and Cyprus.

Figure 17: Youth employment rates, age group 15-24



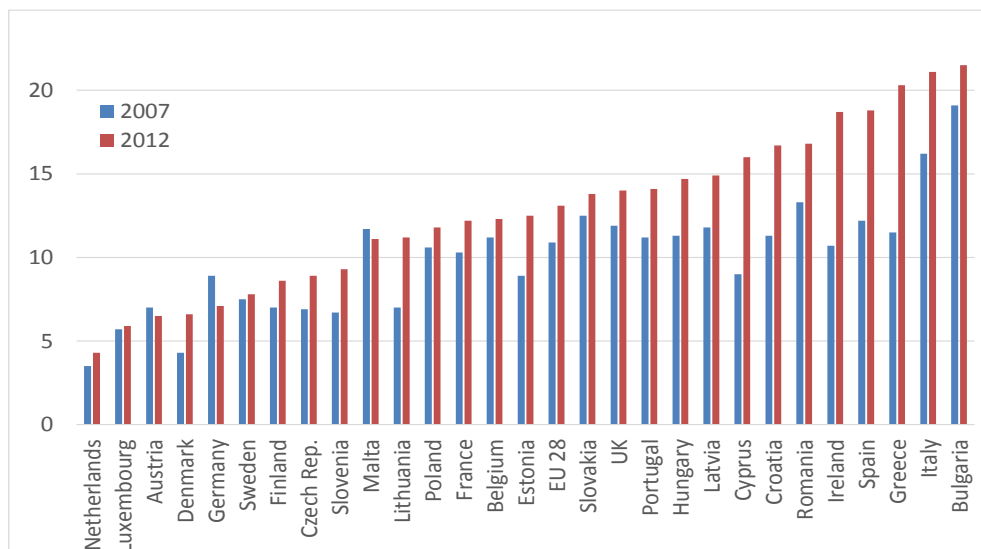
Source: Eurostat.

These findings should be accompanied by an important caveat. The youth employment and unemployment rates, which focus on the 15-24 age group, are imprecise, or rather outdated, measures of forced inactivity of young people. The reason is that most of 15-year olds are now in compulsory education and very few of them look for work, but also among the 24-year olds education or other training activities occupy a significant share. An indicator, which takes this into account, is the NEETs (not in education, employment or training) measure, though the youth employment ratio also has an implication in this regard¹⁷.

The percentage of young people in the age group 15-24 classed as NEETs increased in almost every EU country between 2007 and 2012 (Figure 18). The rate decreased only in Austria, Germany and Malta. The EU28 average was at 13.1 % in 2012, as a result of a 2.2 percentage point increase since 2007. Greece, Ireland, Cyprus and Spain suffered the highest increases, but there were also major increases in Croatia, Italy, Lithuania, Estonia, Romania, Hungary and Latvia. In 2012 the highest rates of NEETs were in Bulgaria with 21.5 % and Italy with 21.1 %. Therefore, both the South-North and the East-West divide widened in this respect during the crisis.

¹⁷ See Daluiso and Wilson (forthcoming) for a thorough analysis of the youths' inactivity problem. They also highlight that the focus on the statistical definition of youth, ie the 15-24 age cohort, is inappropriate, because unemployment is very high in the 25-30 age cohort, which situation is similarly grave.

Figure 18: Young people aged 15 - 24 not in employment and not in any education and training (NEET), % of population in the age cohort, 2007 vs. 2012

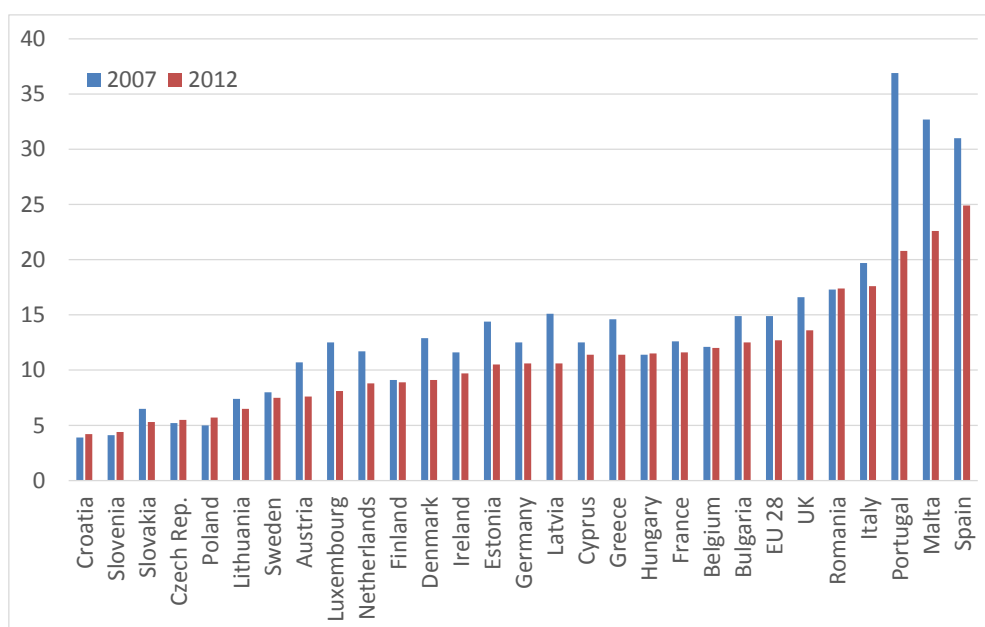


Source: Eurostat.

3.5. Early school leavers

Probably not unrelated to diminished job opportunities and weakened support that families can provide to the young generation, there was a very positive development in school dropout rates in recent years (Figure 19). The share of people abandoning education and training as %age of the total population decreased in 22 EU countries between 2007 and 2012. Portugal saw the largest decrease, from 36.9 % to 20.8 %, though its rate remains the third highest in the EU after Spain (29.4 %) and Malta (22.6 %). The lowest rate among the 28 EU countries was in the EU’s newest member, Croatia, with a 4.2 % rate.

Figure 19: Early leavers from education and training in percentage of total population, 2007 vs. 2012



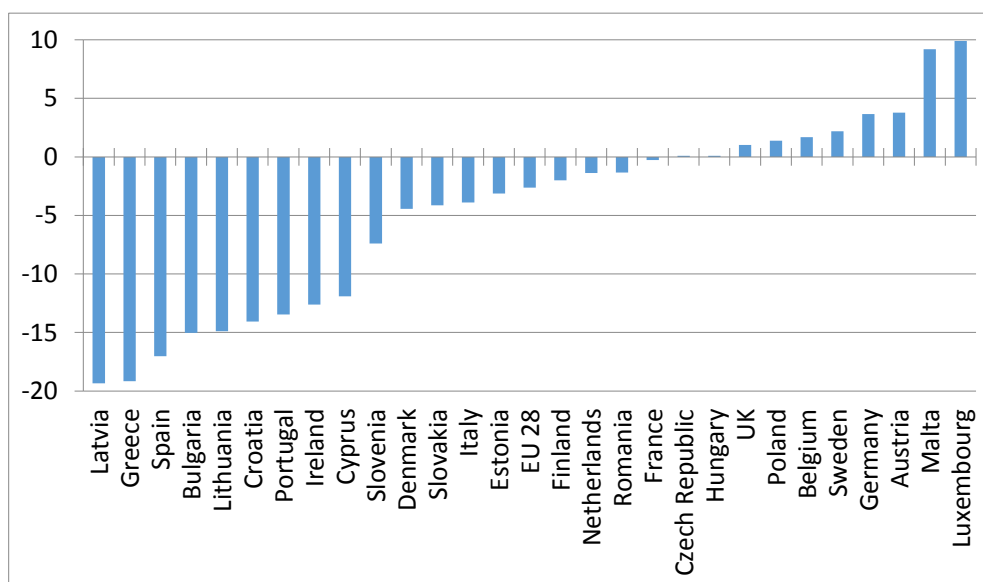
Source: Eurostat.

3.6. Net job creation and destruction

Net job creation is measured as the change in employment between 2008 and 2012 (Figure 20). This is not a perfect measure, as vacancies should also matter for job creation. However, Eurostat's data on vacancies has many gaps. In the EU as a whole, jobs were cut by 2.6 % from 2008 to 2013. Latvia, Greece, Spain, Bulgaria and Lithuania lost more than 15 % of jobs, while job destruction ranged between 10 and 15 % in Croatia, Portugal, Ireland and Cyprus. There were eight countries in which more jobs were created than destroyed: UK, Poland, Belgium, Sweden, Germany, Austria, Malta and Luxembourg, while jobs were at practically the same level in 2013 as in 2008 in France, the Czech Republic and Hungary.

In terms of absolute numbers, there were 2.0 million new jobs in Germany and 3.5 million fewer jobs in Spain in 2013 than in 2008. The EU as a whole lost 4.1 million jobs.

Figure 20: Net job creation (% change in employment from 2008 to 2013)



Source: AMECO.

3.7. Inequality: the at-risk-of-poverty indicators

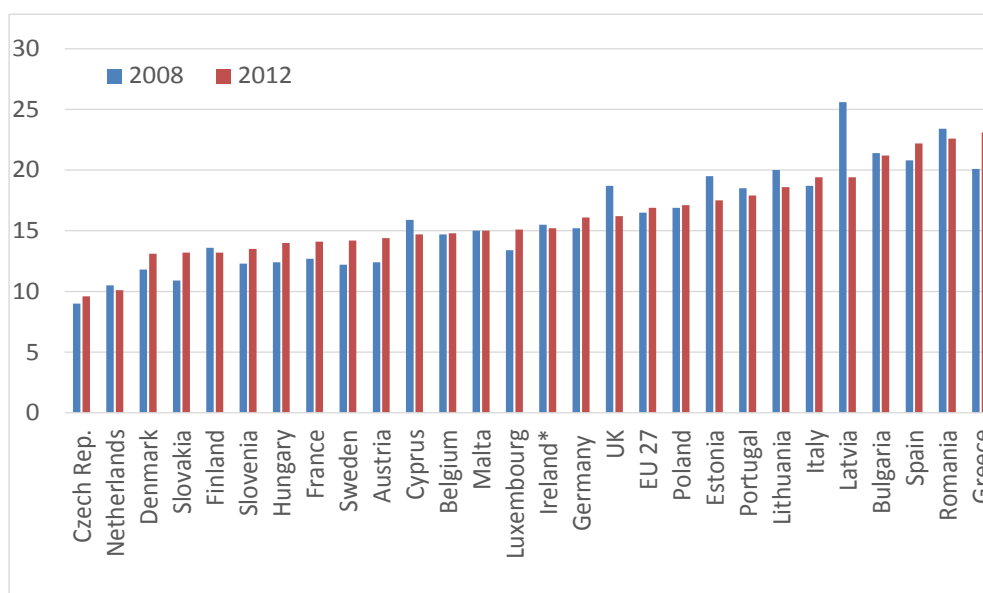
The main headline indicator used by the EPSCO Council is the at-risk-of-poverty rate (AROP). As we have argued at the beginning of this section, it is rather a measure of income inequality than a measure of poverty. Nonetheless, Figure 21 reports this indicator, while Figure 22 shows its anchored version, in which the thresholds are kept constant in real terms at their 2008 values.

Both indicators show a slight increase at the EU level: the standard indicator increased from 16.5 % in 2008 to 16.9 % in 2012, while the anchored indicator moved from the same 16.5 % in 2008 to 18.2 % in 2012. Focusing on the anchored version of the indicator, we observe that there was a decrease in this indicator in ten EU countries and a surge in the other 18 countries. Greece is the country which suffered the highest increase by far: the anchored at-risk-of-poverty rate increased by 15.7 percentage points to 35.8 %. This development is alarming. Latvia's indicator at 35 % is similarly disconcerting. Incomes declined in both countries and therefore it is not surprising that more people fell below the 2008 thresholds in 2012 than in 2008. In fact, in Latvia the standard (non-anchored) indicator declined significantly from 2008 to 2012 and therefore the rise in the anchored indicator is the consequence of a drop in the median income over the same period.

Poland experienced the most positive development in the anchored at-risk-of-poverty rate, with a decrease of 5.1 percentage points to 11.8 %, at a time when the non-anchored indicator remained broadly stable (slightly deteriorated). These developments suggest a roughly unchanged level of inequality and a growing median income.

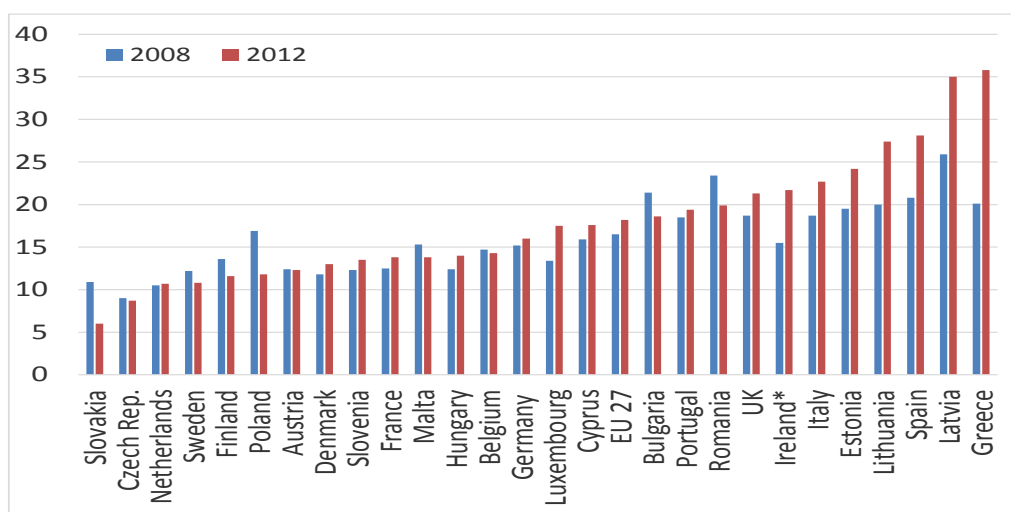
As a result of an increase in the median income in Slovakia, the anchored version of this indicator has fallen to the lowest level in the EU at a time when the standard (non-anchored) version of this indicator deteriorated. As we highlighted earlier, it is not possible to draw conclusions on poverty from such developments. What we can conclude is that income inequality has widened in Slovakia and the median income has increased faster than inflation.

Figure 21: At-risk-of-poverty-rate, 2008 vs 2012



Source: Eurostat. Note: * Ireland 2011 data

Figure 22: At-risk-of-poverty-rate anchored in 2008, 2008 vs 2012



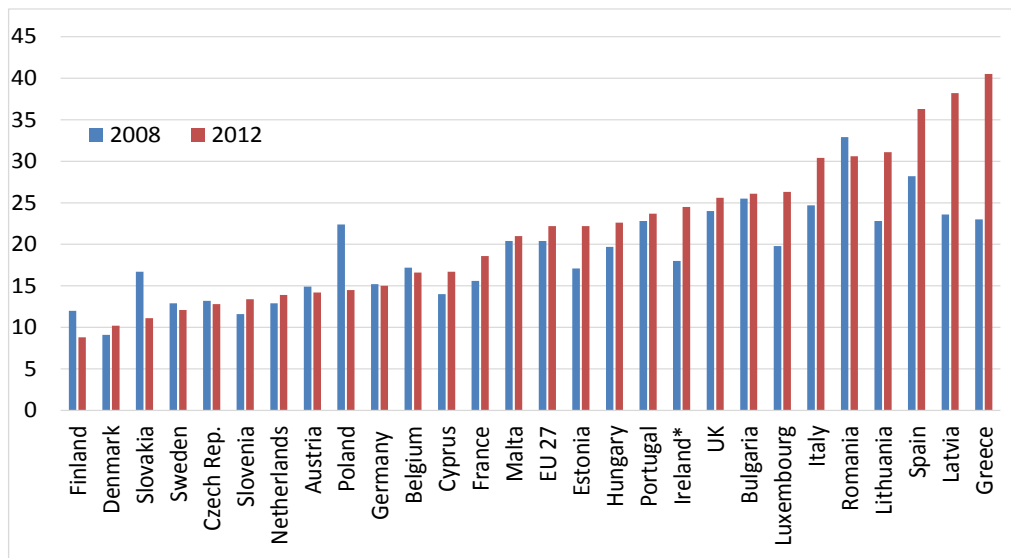
Source: Eurostat.

Note: * Ireland 2011 data.

For children and older people we only show the anchored version of the indicator. The situation for children (under 18) is similar, but the rates are higher (Figure 23). The overall EU average was 22.2 % in 2012, after a 1.8 percentage points increase from 2008. Greece has the worst situation with 40.5 percent, followed by Latvia and Spain, while Finland and Slovakia display the lowest values.

In contrast, the development for the elderly (people aged 65 or more) was positive in most of the EU (Figure 24). The anchored rate decreased in 23 countries, while only Hungary, Luxembourg, Greece and Lithuania registered an increase. The highest rate was in Latvia (42.2 %) in 2012 and the lowest in Slovakia (1.1 %).

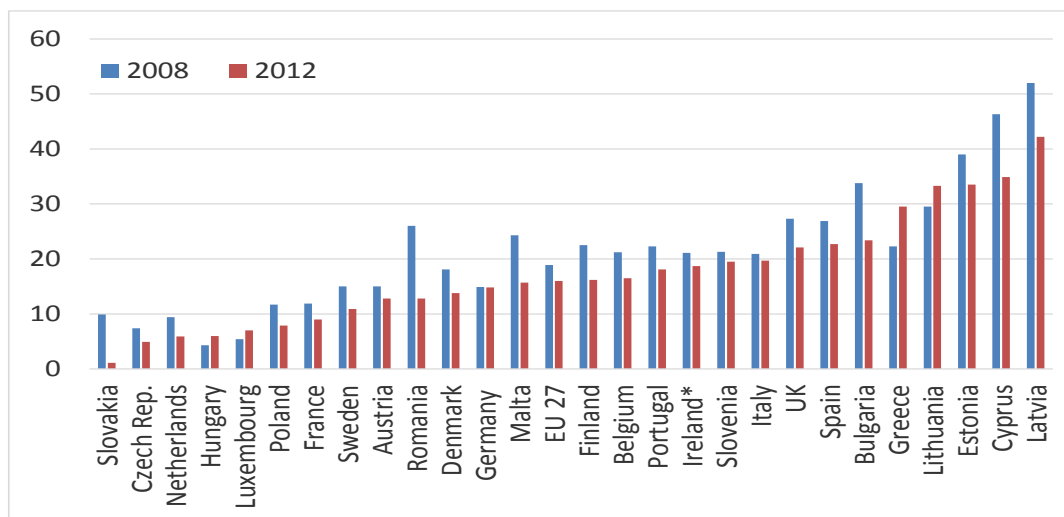
Figure 23: At-risk-of-poverty rate anchored in 2008, children aged under 18, 2008 vs 2012



Source: Eurostat.

Note: * Ireland 2011 data.

Figure 24: At-risk-of-poverty rate anchored in 2008, elderly 65 years or over, 2008 vs 2012

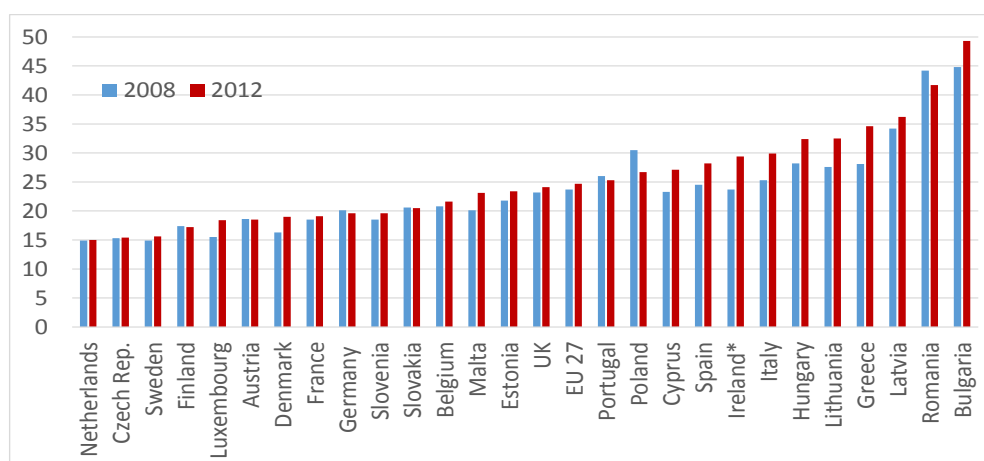


Source: Eurostat.

Note: * Ireland 2011 data.

Finally, we also show the 'at-risk-of-poverty-or-social-exclusion' (AROPE) indicator, which is a combination of three indicators: at-risk-of-poverty, severe material deprivation, and living in households with very low work intensity. This is the headline indicator highlighted by the Social Protection Committee (2012) in its voluminous 2012 report on Social Europe. There was a small increase in the indicator for the EU27 from 23.7 % in 2008 to 24.7 % in 2012 (Figure 25). Bulgaria, Latvia and Romania continue to rank the worst, while the values for Greece, Lithuania and Hungary are also very high. However, since this indicator is based on the at-risk-of-poverty indicator, which we have argued is a measure of inequality and not poverty, analysis based on this indicator does not properly assess poverty trends in Europe.

Figure 25: People at risk of poverty or social exclusion (AROPE), % of total population, 2007 vs 2012



Source: Eurostat.

3.8. Summary

Social developments in the EU are alarming and suggest polarisation between the European South and North, while the trend in terms of the East-West divide is more mixed, with some gaps narrowing while others have widened.

- However, we conclude that too little is known about poverty (which is the main focus of this study), because the most widely used indicator, the at-risk-of-poverty rate, is not a measure of poverty, but rather of inequality. It measures the share of people with an income below 60 % of the national median income. Cross-country comparison using this indicator are severely hindered by the differences in national thresholds, which is illustrated by the 7.5-fold difference (in purchasing power standard) between the richest and poorest EU countries: someone having income at the threshold can purchase 7.5-times more goods and services in Luxembourg than a person at the national threshold in Romania.
- The anchored version of the at-risk-of-poverty indicator, which fixes the thresholds at their 2008 levels in real terms, is not a better indicator of poverty either, and shows increases in countries in which real incomes fell and declines in countries in which real incomes increased.
- For measuring poverty, a more useful indicator is the severe material deprivation rate, which measures the share of people who cannot afford at least four out of nine basic needs, such as utilities, regular hot meals or a one week annual holiday. This indicator has increased somewhat in the EU from 9.1 % in 2007 to 9.9 % in 2012. While this increase is not that large, a level of almost 10 % is unacceptable and

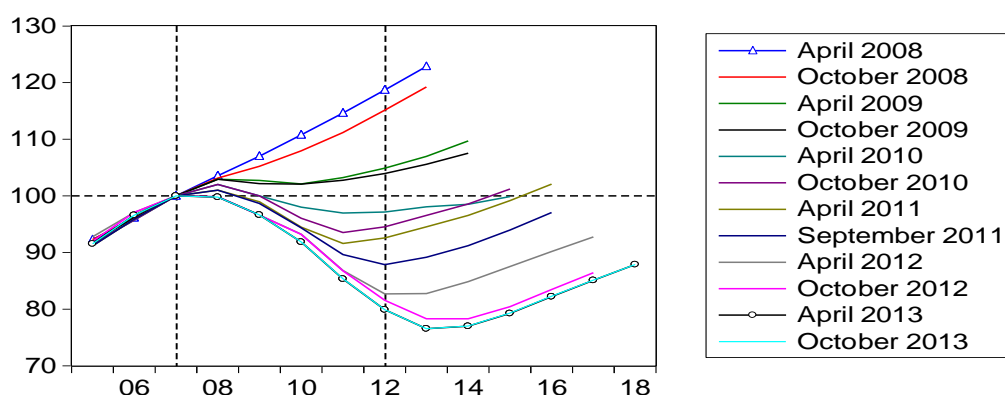
against the objective of promoting the well-being of EU citizens postulated in the EU Treaty.

- There is no clear indication of an increasing South-North divide in severe material deprivation, because it has increased in Greece and Italy while there was a fall in Portugal and a minor change (at a very low level) in Spain.
- The East-West gap in severe material deprivation has narrowed, because the severe material deprivation rate has declined in several central and eastern European countries. However, despite this improvement, the five EU countries with the worst figures are still central and eastern European members that joined between 2004-07.
- There is an increasing South-North divide in terms of unemployment, which has reached unacceptably high levels in several southern European countries, while the East-West divide evolved differently because of the diverging labour market conditions in central and eastern European countries.
- Long-term unemployment has also increased significantly in countries with the most adverse labour market conditions.
- The share of people, including children, living in jobless households has increased significantly. In 2012, 20 % of Irish children lived in households in which no member of the household was in employment, and the share of such children is also higher than 15 % in Bulgaria, the UK and Hungary. Spain, Greece and Lithuania had rates around 12 % in 2012.
- The only good news is that the share of early school leavers declined in almost all EU countries, although this development might be related to the worsening labour market conditions.
- As regards different generations, young people have suffered more than the elderly. This development is broadly in line with our findings from the previous section, which found that fiscal consolidation efforts favoured old-age related expenditure rather than other social protection expenditure.

4. CASE STUDY: FISCAL CONSOLIDATION AND SOCIAL DEVELOPMENTS IN GREECE

With the unemployment rate standing at 28 % in November 2013 and an economy that contracted by roughly 23 % of real GDP from 2007-13, social conditions in Greece have deteriorated sharply. The fiscal consolidation efforts between 2009 and 2013 in Greece were unprecedented, with a fiscal effort exceeding 20 percentage points of GDP during this period¹⁸. The fiscal measures negotiated with the Troika (European Commission, the European Central Bank and the International Monetary Fund) and adopted by the Greek parliament in 2010-13 involved a combination of indirect tax increases, the introduction of new direct taxes, a personal income tax reform, cuts in public sector employment and pay, cuts in pensions and an increase in the retirement age to 67, and measures relating to other social benefits and public services (Matsaganis, 2011, 2013; Sapir *et al* 2014). Greece has entered a vicious circle of lower growth, smaller tax revenues, and increased fiscal consolidation needs (which further reduced output). The Greek economic outlook has been revised in every update of official forecasts between April 2008 and April 2013, such as the IMF's projections (Figure 26); the October 2013 forecast was the first forecast since April 2008 in which there was no downward revision.

Figure 26: GDP outlooks for Greece, changing IMF forecasts (2007=100)



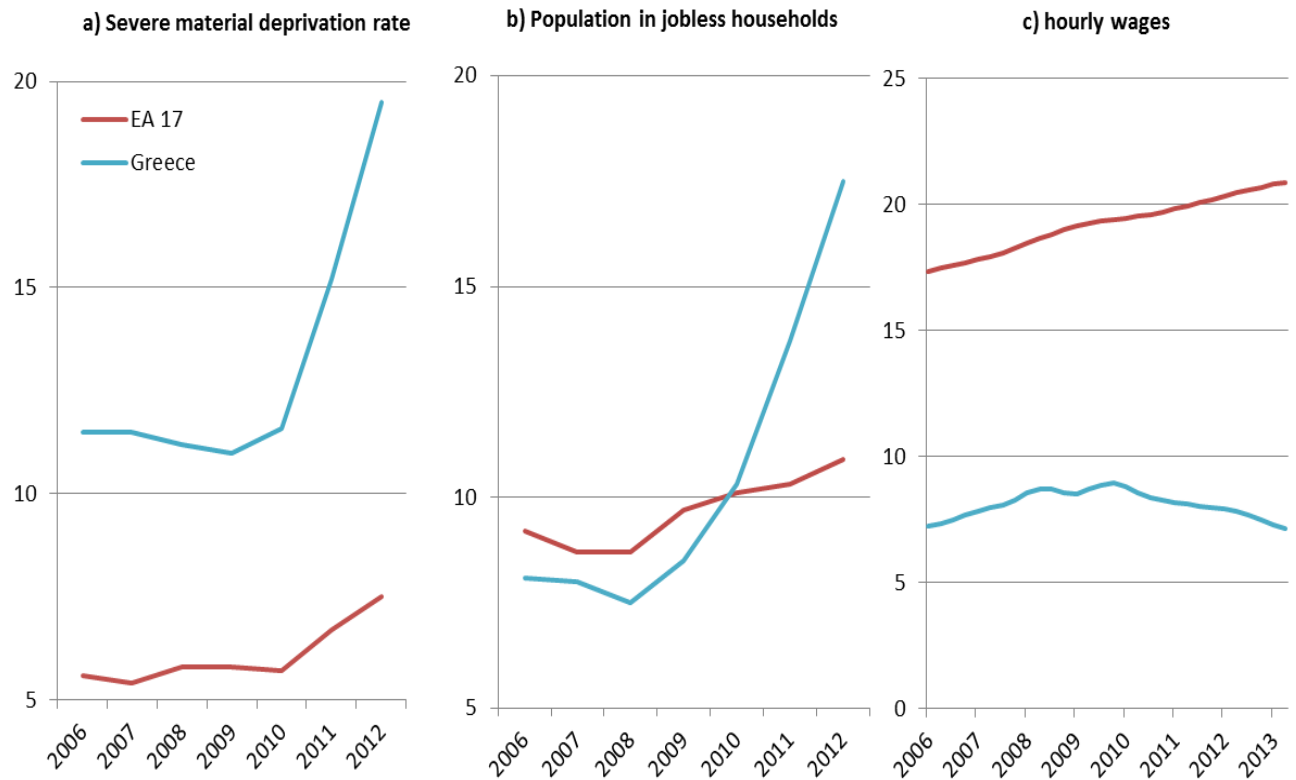
Source: IMF World Economic Outlook published on the dates indicated in the legend.

Note: The two vertical lines indicate 2007 and 2012, respectively. GDP is measured in constant prices.

The deep impact of the current crisis on Greek society is reflected by an upward spike in the severe materially deprived rate, which jumped from 11.5 % of the total population in 2006 to 19.5 % in 2012 (Figure 27, panel A), though it remained well below values observed in a number of central and eastern European EU member states (Figure 9). Another worrying development in Greece has been the sharp increase in the share of the population living in jobless households, which deteriorated from 8.1 % in 2006 to 17.5 % in 2012 (Figure 27, panel B). Also, hourly wages declined by 20 % (Panel C in Figure 27), which, coupled with inflation, reduced the real value of wages by more than a quarter¹⁹. While lower wages reduce living standards, they should help job creation in the medium term.

¹⁸ The Discretionary Fiscal Effort indicator of European Commission (see Box 1) is available only for 2011-13 for Greece, which shows a cumulative adjustment of 16.3 percentage point of GDP. The structural primary balance improved by 6.4 % of GDP in 2010 compared to the previous year. Therefore, the fiscal efforts from 2009 to 2013 could have been around 23 percentage points of GDP, as indicate on Figure 2.

¹⁹ Falling real wages led to an increase in the anchored at-risk-of-poverty rate (Figure 22), yet as we argued in Section 3, it is not possible to draw conclusion on poverty from this development.

Figure 27: Indicators of social hardship in Greece

Source: Eurostat.

Note: a) in % of total population; b) is in % of population aged 18-59 years; c) in EUR. Euro area 17 for panels A and B; euro area 14 for Panel C due to missing data for Luxembourg Cyprus and Malta.

These adverse social developments raise the question of to what extent the Greek social model was able to mitigate the social effects of the economic crisis, notwithstanding the recession and expenditure cuts. To give an answer, we analyse: (i) the role of the Greek welfare system before the crisis, (ii) Greek government expenditure composition, and (iii) the efficiency of cuts in the healthcare system.

4.1. The Greek welfare system before the crisis

A look at the Greek welfare system, and in particular at the automatic stabilisers in place before the crisis, reveals serious shortcomings.

As shown in Figure 20, the overall expenditure of the Greek government constantly increased up to 2009, with expenditure on social protection, health and economic affairs growing the most (alongside expenses for general public services). Nevertheless, expenditure on social benefits and transfers supplied to households was well below the EU average before the crisis, as was the case for all peripheral countries (Figure 29). In this context, Matsaganis (2013) notes that retirement pensions formed the backbone of Greece's social protection system, representing the largest item of social expenditure, and providing the average household with as much as 24.1 % of its disposable income. Other social transfers (i.e. family, sickness, housing, unemployment and social assistance benefits) were of marginal importance, amounting to a mere 3.2 % of average household disposable income (Matsaganis, 2013). For health services, the second most-important expenditure function within social protection, the share of public expenditure on health was

one of the lowest compared to the euro-area average in 2008, while the share of out-of-pocket payments was one of the highest (OECD, 2013)²⁰.

For unemployment benefits, other considerable gaps can be revealed: Matsaganis (2013) states that the contributory unemployment insurance system paid a flat benefit, of low replacement rate and short duration, with incomplete coverage (i.e. before the crisis there was no social safety net for the self-employed). Lastly, Greece remained the only EU country in which a guaranteed minimum income scheme, acting as a social safety net of last resort, was not available, not even on a local or regional basis (Matsaganis, 2013). More generally, Basso *et al* (2011) found that southern European countries tend to have significantly smaller anti-cyclical stabilisers than Scandinavian and continental northern European countries. Also, when modelling the resistance of economies to shocks (loss of income through wage-cuts and an increase in unemployment), the result for Greece is well below the European average (Basso *et al*, 2011). All of this suggests that the Greek welfare system was unfit in the face of a large macroeconomic shock.

4.2. The Greek welfare system and the crisis

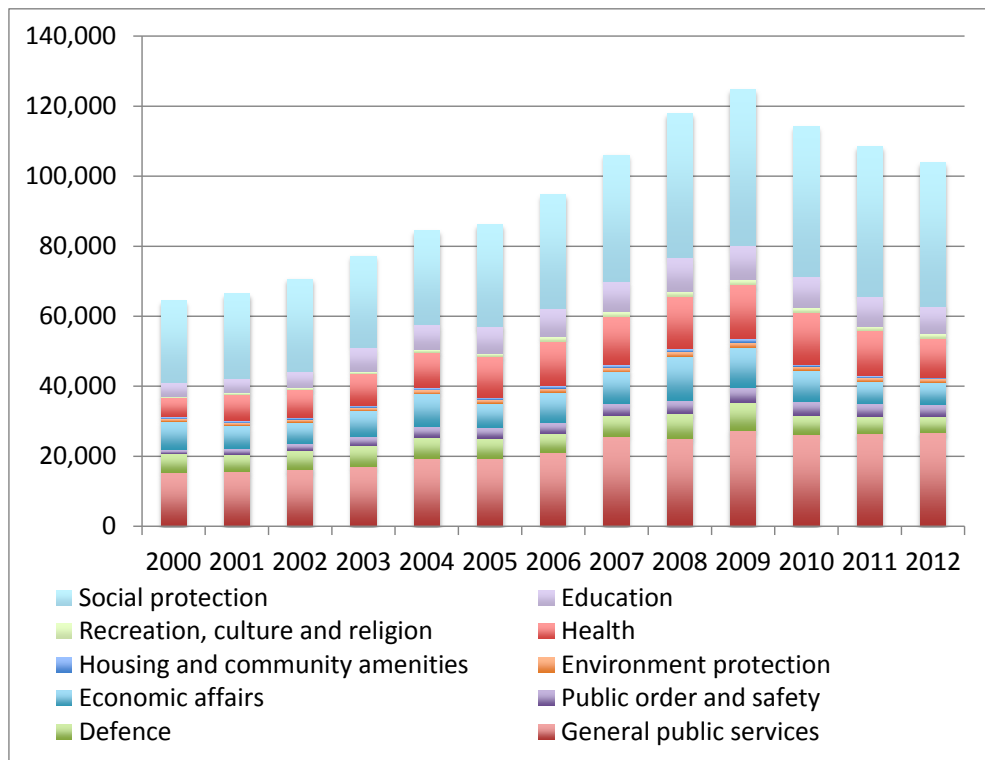
When the crisis hit, fiscal consolidation profoundly affected Greece's already ill-equipped welfare state. As Figure 29 shows, the pre-crisis growth trend in expenditure for social benefits and transfers halted in Greece in 2009 and there was some fall by 2012, though per capita spending in Greece is still higher than in Portugal and Cyprus. The decline suggests that the provision of social protection was cut back just as the need for it became greater than ever before. Panel A of Figure 3 in Section 2 showed that there was no association between the size of fiscal adjustment and cuts in social spending in EU countries with the sole exception of Greece, where social spending was cut back drastically. In absolute values, all expenditure functions were more or less severely cut over the period 2009-12, and overall expenditure was reduced by 17 %, from EUR 125 billion in 2009 to EUR 104 billion in 2011 (Figure 28).

Panel A of shows that housing, as well as defence, environment and health expenditure, was cut-back most, while the reduction in economic affairs expenditure reflects mostly bank recapitalisation needs (ECFIN, 2012).

Notwithstanding the overall reduction in public expenditure headline items in absolute values, including social expenditure, the share of social protection in the composition of overall expenditure increased by 3.8 percentage points (Panel B of Figure 30). This reflects somewhat the counter-cyclical importance of this spending category, as we highlighted for other countries in Section 2. Reductions in the shares of expenditure were most significant for economic affairs, defence and health costs, amounting to around 3.1, 2.0 and 1.6 percentage points respectively. Hence, overall, more weight has been given to social protection and general public services in the composition of Greece's total expenditure. However, in absolute terms fewer resources were available in 2012, compared to 2009 (Figure 30).

²⁰ Household out-of-the-pocket expenditure on health is any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups. It is a part of private health expenditure.

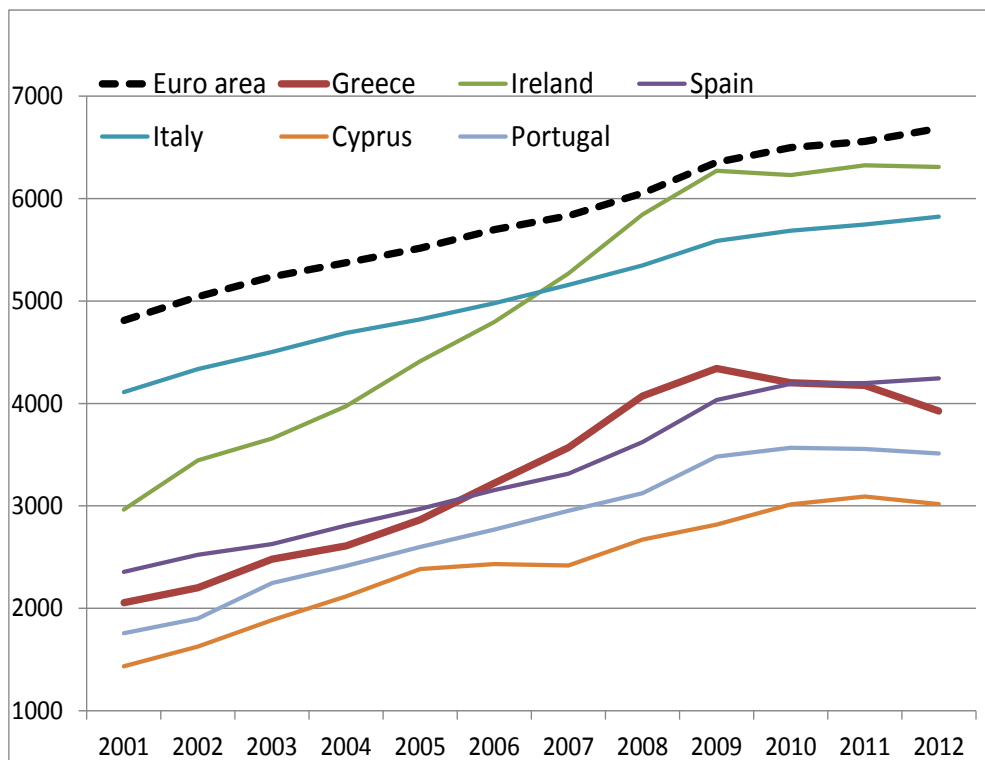
Figure 28: Composition of Greek government expenditure (EUR millions)



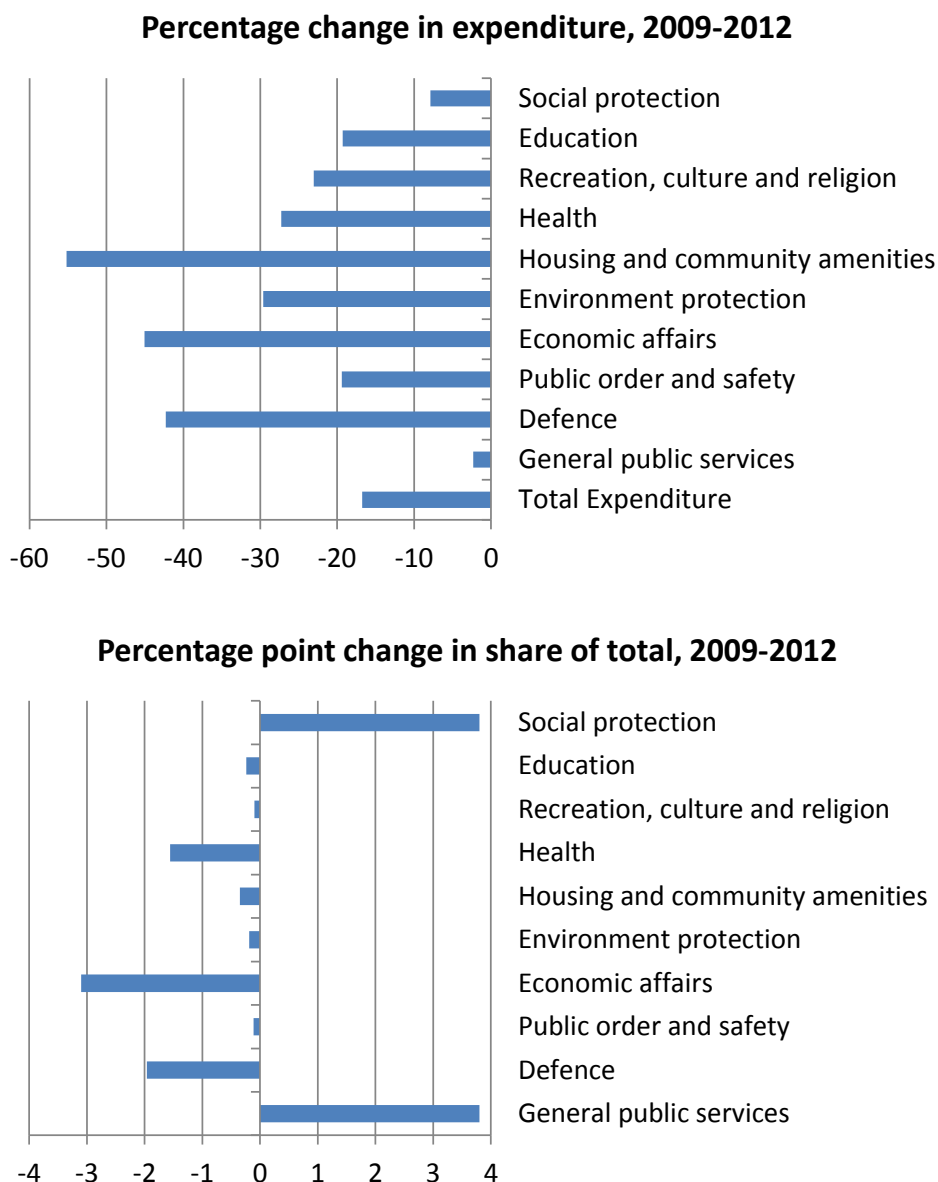
Source: Eurostat's General government expenditure by function (COFOG) [gov_a_exp] database.

Note: General public services also include interest payments on public debt.

Figure 29: Expenditure on social benefits and transfers (EUR per inhabitant)



Source: Eurostat's Government revenue, expenditure and main aggregates [gov_a_main] database.

Figure 30: General Government expenditure, changes and composition (2009 – 2012) in Greece

Source: Eurostat's Government expenditure by function (COFOG) database.

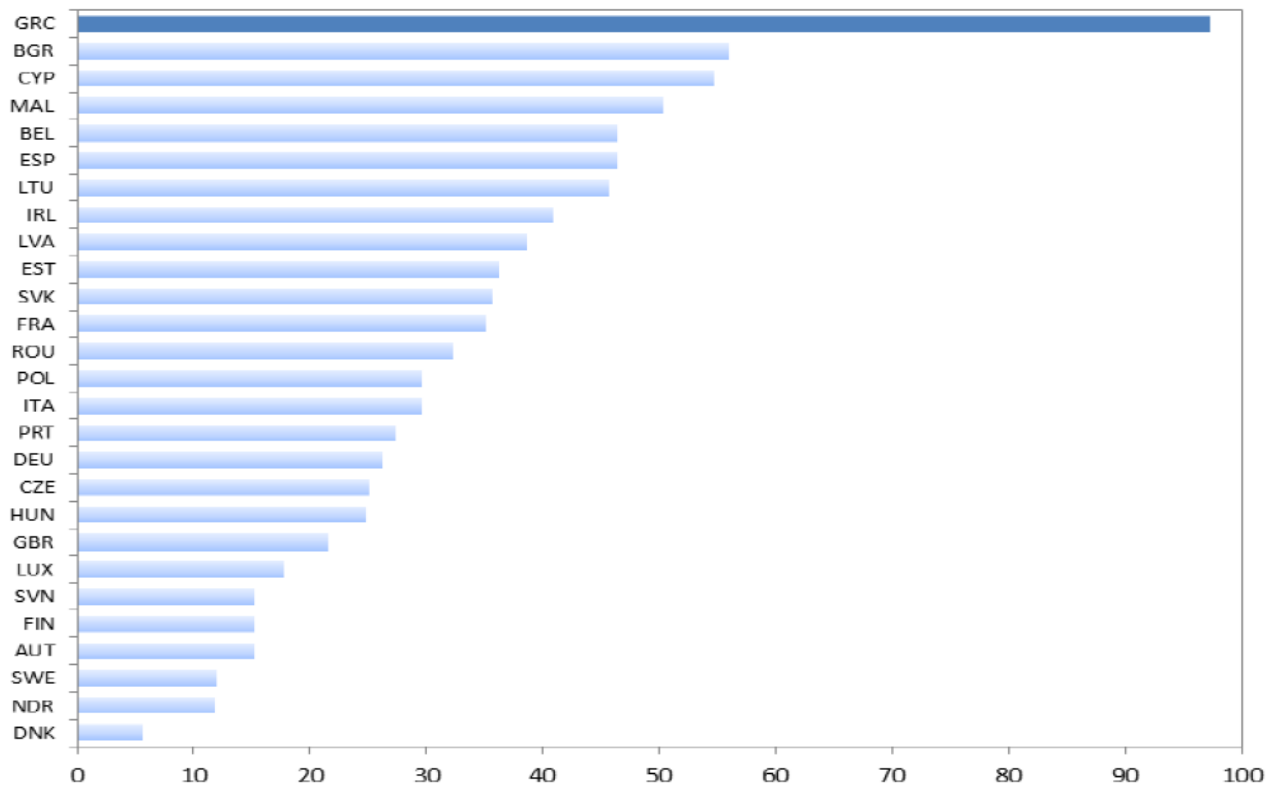
Note: General public services also include interest payments on public debt.

Concerning concrete policies to counter the crisis, the following can be mentioned (i) regarding changes in unemployment benefits, the social insurance organisations were caught between a rise in benefit claims and a fall in contribution income. Also, the unemployment benefit was cut from EUR 454 to EUR 360 per month in February 2012 (available for a maximum of 12 months), and eligibility conditions were tightened up. On the other hand, unemployment was extended to self-employed workers: claimants are required to have ceased their activity not before 1 January 2012, to have regularly paid social contributions for at least 12 months out of a total insurance period of at least three years before then, and to have settled any social security contributions owed (Matsaganis, 2013). The benefit level is EUR 360 per month, paid for a period of three to nine months, depending on the contribution record. However, despite rising unemployment, the benefit coverage remained low – while the number of those unemployed for less than

12 months increased, the number of benefit recipients actually fell, resulting in a fall in the coverage rate from 86 % to 51 % (Matsaganis, 2013). As a result of this, only 15 % of all unemployed people are currently receiving financial assistance from the state (Malkoutzis, 2014). (ii) pensions have been cut heavily in a progressive manner, with pensions above EUR 1000 per month cut between 5 and 30 % (2013-2014 Spending Review); (iii) in the health sector, there was an attempt to reduce the fragmentation of social health insurance through the amalgamation of the four largest sickness funds into a National Organisation of Health Service and through reforms to the pharmaceutical sector. Regarding the former, it turned out that cash flows were seriously disrupted by the inability of sickness funds to pass on contributions, while the latter led to a reduction in health-care access (Matsaganis, 2013).

However, looking at changes in expenditure does not allow for an assessment of the quality of public spending, a topic that has crucial importance (European Commission, 2012). For example, Figure 31 shows that Greece has by far the highest number of pharmacists relative to its population in the EU, suggesting a highly inefficient system. While pharmacies are private and not public, their efficiency is highly dependent on regulation. Other segments of the healthcare system, or more generally social protection systems, could also work in an inefficient way and thereby a reduction in expenditure should not necessarily lead to reduced effectiveness, if efficiency can be improved. In this regard, the crisis could be seen as a catalyst for change. Reforms could correct the shortcomings of the welfare state that were in place before the crisis.

Figure 31: Pharmacists per 100 000 inhabitants, 2011



Source: Figure 2.9 (page 108) in OECD (2013c).

4.3. Healthcare spending and outcomes

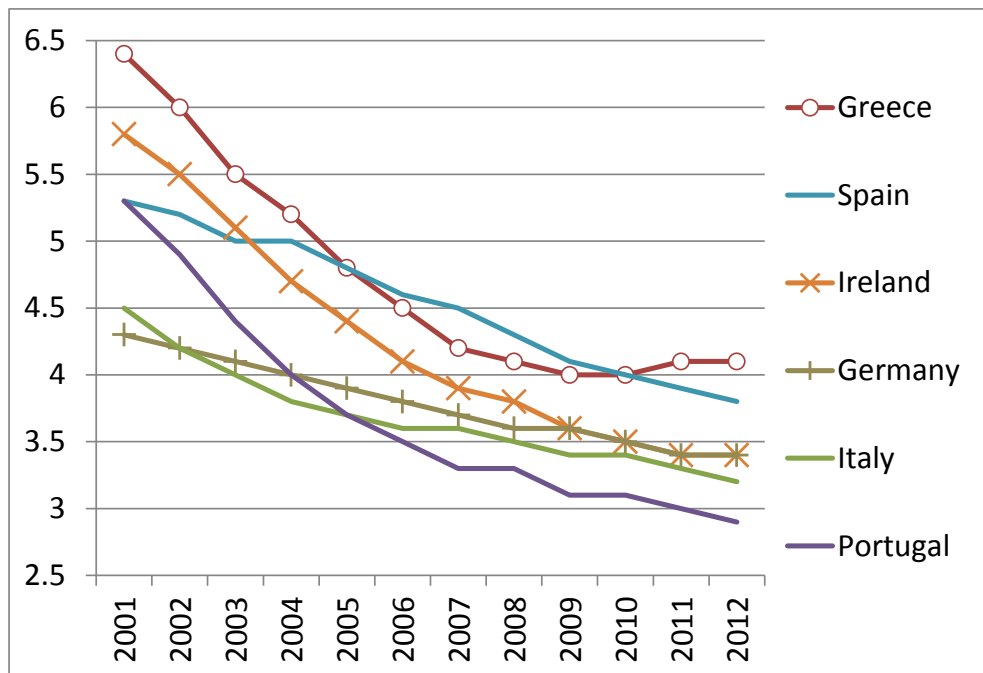
Analysing the efficiency of the Greek healthcare system is beyond the scope of this study. We report, however, information on healthcare spending and certain indicators reflecting the health situation of Greek citizens. Overall, health care expenditure decreased by 27 %, from EUR 15 billion in 2009 to EUR 11 billion in 2012. A further breakdown reveals a 26 % reduction in spending on hospital services, and a 23 % reduction in expenditure for medical products in the 2009-12 period. In this context it is interesting to note that it was agreed to include in the 2010 Memorandum a cap of 6 % of GDP for overall public health expenditure, while public expenditure on pharmaceuticals ought not to exceed the European average of 1 % of GDP (Matsaganis, 2013).

In general, the Eurobarometer surveys (2010, 2012) show that while in 2010, 53 % of Greek citizens said that affording general health care became more difficult over the last six months, in 2012 the number increased to 63 %, with over a third (35 %) stating that it became *much more* difficult to afford general healthcare. Indeed, the OECDs “out-of-pocket” payments indicator shows that the share of out-of-pocket payments increased from 35 % in 2008 to 37 % in 2011 (compared to a stable 12 % in Germany), indicating an increasing shift of the cost from the state to the patient. Also, the newly introduced requirement to pay in advance for medicines and medical treatment, which is reimbursed often only months later by the government, potentially restricts patients’ access to health care (Caritas, 2013).

A recent study on the direct effects of the cuts in the Greek health system shows furthermore that cuts in the prevention and treatment programmes for illicit drug use resulted in a rise in the number of new HIV patients, from 15 in 2009 to 484 in 2012 (Kentikelenis *et al*, 2014). The report also shows that the long-term fall in infant mortality is slightly reversing, as shown in Figure 32. As reported by Malkoutzis (2014), a study by the Mental Health Research Institute of the University of Athens found that 12.3 % of Greeks were suffering from clinical depression in 2013, compared to 8.2 % in 2001 and only 3.3 % in 2008.

The loss of health insurance for unemployed people is another concern. Social health insurance is available to most unemployed people for only two years (Malkoutzis, 2014). However, recent policies (co-funded by the European Commission) include the extension of eligibility for social health insurance to unemployed workers (Matsaganis, 2013).

This evidence, combined with the reduction in many households’ disposable income because of the crisis, casts serious doubts on the “efficiency” savings of the health spending cuts in Greece. On the contrary, there is evidence that access to health care, and the health care provided, has become more limited in recent years.

Figure 32: Infant mortality rate (per 1000 live births)

Source: World Bank.

4.4. Informal civil society networks

With the crisis, new forms of solidarity have emerged. Garefi and Kalemaki (2013) show that a stronger and dynamic informal civil society has surfaced through the mobilisation and self-organisation of several citizen networks, many of them aimed at filling the gap left by public social protection systems. From 2009 onwards, informal citizen networks and grass-roots movements flourished, encompassing exchange and virtual currency networks, cost-cutting networks (without intermediaries), social kitchens, social clinics and pharmacies, social education and cultural activism networks. Other reasons for the emergence of informal networks might also be attributed to the desire for a redefinition of values and lifestyles. Compared to the citizen collectives that existed prior to the crisis, Garefi and Kalemaki (2013) point out that the current informal citizen networks are better organised, focusing on the promotion of principles such as solidarity, fair and equitable distribution of goods and services, self-sufficiency and promotion of democracy. Nevertheless, the awakening spirit of solidarity should not be interpreted as a solution to the weaknesses of the state social-protection system. While the emergence of such networks is an important and vital response of society, they cannot compensate for a well-functioning state social-protection system.

4.5. Summary

Our case study of Greece, the country that implemented the EU's largest fiscal adjustment (as a % of GDP), has revealed major shortcomings in the Greek social welfare system, which was unable to mitigate the adverse effects of the economic crisis for citizens, on to whom too much of the adjustment burden was shifted.

- Greece has entered a vicious circle of lower growth, lower tax revenues and increased fiscal consolidation needs (further reducing output), which have led to the collapse of about one-quarter of the economy and the loss of more than 20 % of jobs: the largest collapse among the 184 countries for which the IMF reports data;

- southern European countries, including Greece, have significantly smaller counter-cyclical stabilisers than other European countries;
- there was no association between the size of fiscal adjustment and cuts in social spending in EU countries with the sole exception of Greece, where social spending was cut back drastically, even though social spending was cut back less than other spending categories;
- the unemployment rate has increased to 28 % (the highest in the EU); the long-term unemployment rate and the share of young people not in employment, education and training are also the highest in the EU; the share of severely materially deprived people has increased to 19 % (the sixth largest in the EU); the long-term falling trend in infant mortality has stopped and even slightly reversed; 12 % of Greeks are reported to suffer from clinical depression;
- wages were cut by 20 % which, along with inflation, eroded more than one-quarter of the purchasing power of salaries and thereby reduced living standards. Lower wages should help job creation in the medium run;
- the Greek unemployment insurance system pays a flat benefit at a low replacement rate and short duration, and had incomplete coverage, with no social safety net for the self-employed before the crisis;
- while unemployment insurance was extended to the self-employed during the crisis, coverage remained low, as only 15 % of all unemployed people currently receive state assistance;
- health-care insurance is not available to most unemployed people;
- health care expenditures decreased by 27 % in the period from 2009 to 2012. There is evidence that access to health care, and the health care provided, has become more limited in recent years;
- informal civil society networks expanded, which can reduce the social pain but cannot replace a well-functioning state social protection system.

5. FISCAL CONSOLIDATION AND DETERIORATING SOCIAL CONDITIONS: WHAT IS THE RELATIONSHIP?

5.1. The difficulty in establishing and interpreting a direct link between austerity and poverty

Poverty has various micro and macro determinants, as detailed by, among others, Jäntti and Bradbury (2003), Valletta (2004) and Zaidi (2009). Factors such as educational attainment, age, employment status, family structure, generosity of social benefits (and especially of family benefits) and pension generosity are proved to have a significant negative effect on the odds of poverty. Macro factors, such as the regional unemployment rate and regional GDP, have also been found to affect the individual at-risk-of-poverty status. The key question is thus the interaction between fiscal austerity and these micro and macro determinants of poverty.

The literature has also concluded that fiscal consolidation typically increases income inequality. If an increase in income inequality increases poverty too, then one may easily associate the increase in poverty indicators with fiscal consolidation.

For example, Ball *et al* (2013) analysed the distributional impacts of 173 fiscal consolidation episodes in 17 OECD countries from 1978-2009. In this instance, the authors found that fiscal consolidation typically had significant distributional effects by raising inequality, decreasing wage income shares and increasing long-term unemployment. On the composition of fiscal adjustment, they found that spending-based adjustments had, on average, greater distributional effects than tax-based adjustments.

Woo *et al* (2013) largely corroborate these findings and also present further results on why the composition of austerity measures matters. They find that progressive taxation and targeted social benefits and subsidies introduced in the context of a broader decline in spending can help offset some of the adverse distributional impact of consolidation. In addition, they also conclude that fiscal policy can favourably influence long-term trends in both inequality and growth by promoting education and training among low- and middle-income workers.

On the other hand, various structural reform measures adopted in parallel to fiscal austerity measures could alleviate the negative impact of fiscal consolidation on poverty. OECD (2011) finds that regulatory and institutional changes exerted a significant impact on the employment rate, and thereby on poverty. Yet, most policy and institutional reforms also contributed to widening wage disparities, as more low-paid people entered employment and the highly skilled reaped greater benefits from a more dynamic economy resulting from the reforms.

By analysing data up to 2010, OECD (2013) finds that taxes and benefits effectively compensated for part of the overall increases in market income inequality and poverty. But their impact varied for different population groups. On average, relative income poverty increased among children, youth and adults, but it fell among the elderly.

Therefore, fiscal austerity and poverty trends have to be put into the broader context of the determinants of poverty and the other measures, such as structural reform, as the mere coincidence between various fiscal indicators and an increase in poverty does not necessarily imply causality. But even if there is causality (and we argue below that there is), interpreting such a relationship so that conclusions can be drawn is not clear-cut.

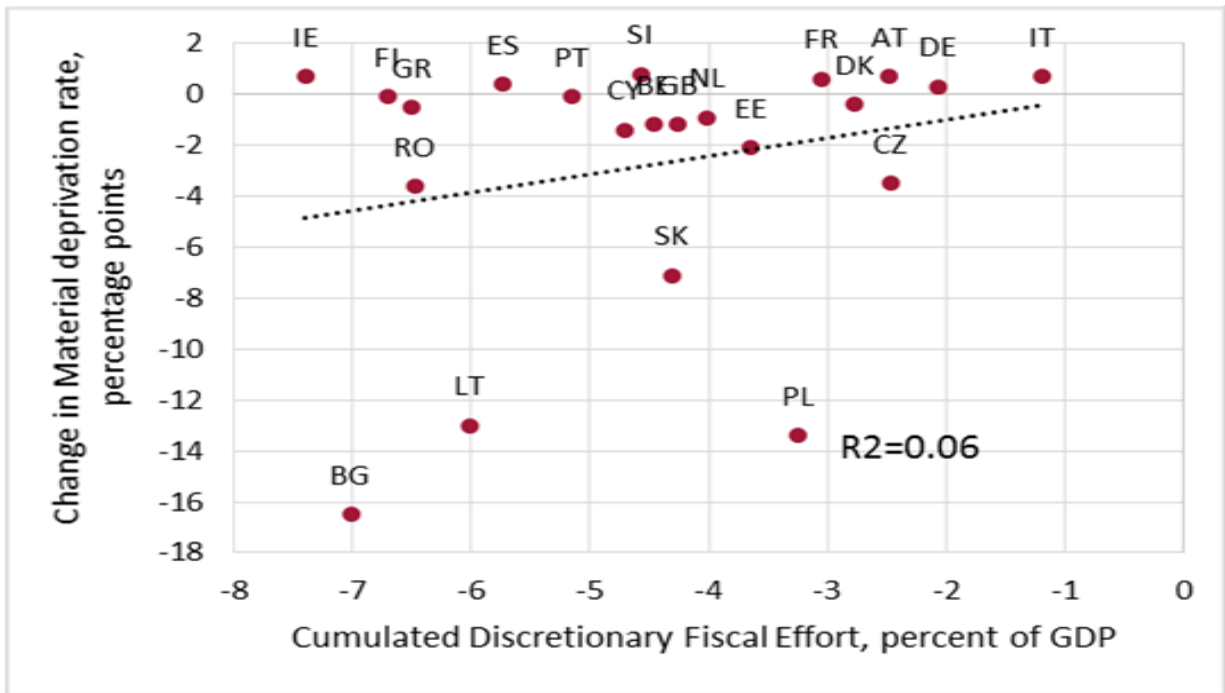
5.2. Co-movements between relevant indicators

Establishing causal links between austerity measures and poverty is an extremely complicated issue, as we have discussed, and therefore it is beyond the scope of the present study. We do, however, assess the co-movements of various indicators, which might shed light on the impact of fiscal consolidation and adverse social conditions.

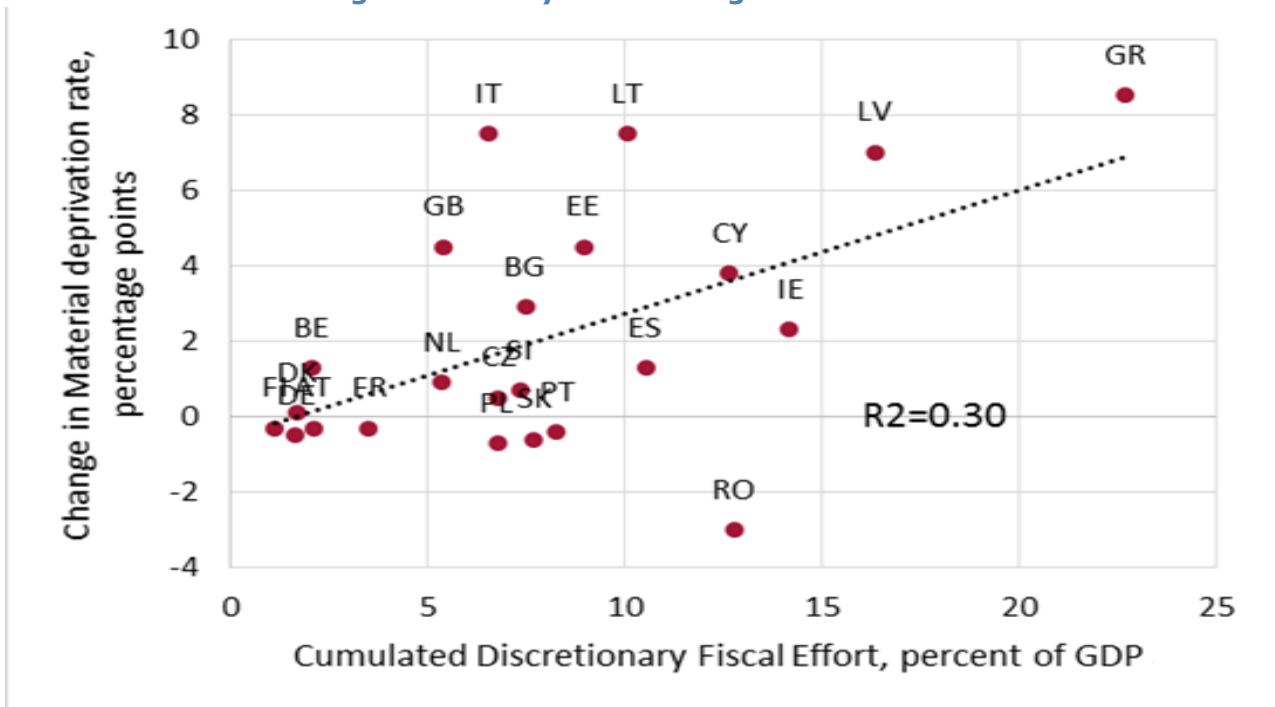
Figure 33 shows a weak direct relationship between the fiscal adjustment (measured as the cumulative discretionary fiscal effort, see Box 1) and the change in the severe material deprivation rates in two sub-periods: Panel A shows the expansionary fiscal policy period while Panel B shows the fiscal consolidation period. For each country we checked the start of the fiscal consolidation period and therefore set the exact timing of the variables shown on the two panels. During the first phase of the crisis, when most countries implemented fiscal stimuli (i.e. the discretionary fiscal effort was negative), there was practically no relationship (Panel A). While the regression line is upward sloping, the relationship does not stand a test of statistical significance. However, the relationship is more pronounced in the period of fiscal consolidation (Panel B), suggesting that more fiscal consolidation leads to greater increases in material deprivation.

Figure 33: Discretionary Fiscal Effort and severe material deprivation

A: change from 2006 to last year with negative DFE



B: change from last year with negative DFE to 2013



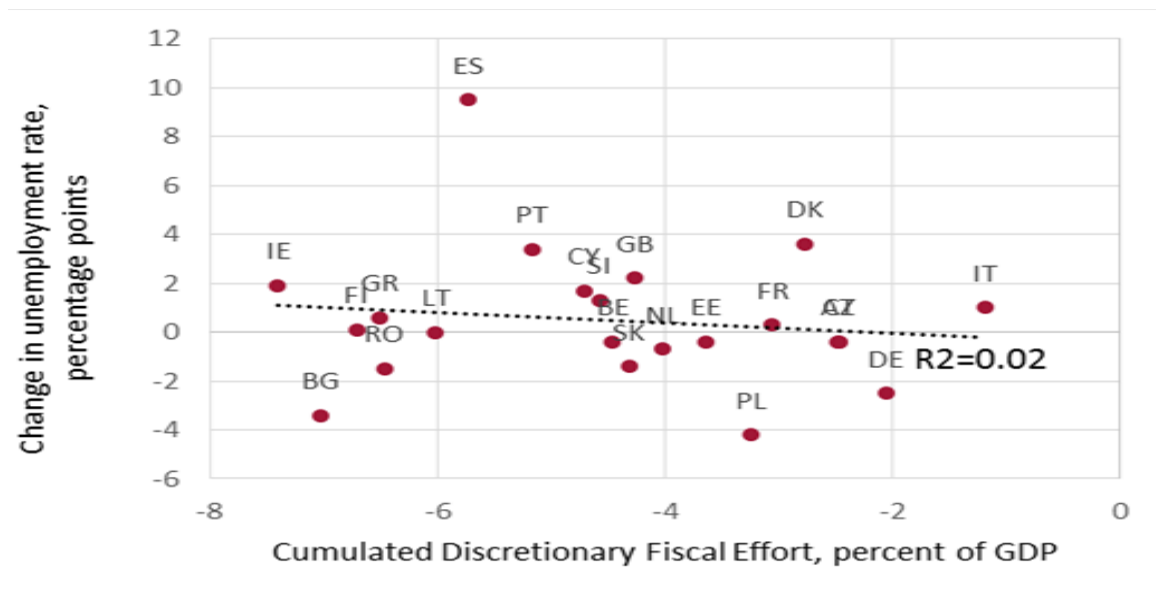
Source: Bruegel calculation using data from European Commission (2013c) and Eurostat.

Note: *Missing DFE values for Greece (2007-20010), Hungary (2007-2009) and Luxembourg (2007-2011) completed with the change in structural primary balance (see Box 1 for explanation). Last year with an expansionary DFE: 2008: Bulgaria, Estonia, Ireland, Lithuania, Latvia, Romania; 2009: Belgium, Czech Republic, Germany, Greece, Spain, France, Italy, Netherlands, Slovakia, Great Britain; 2010: Austria, Cyprus, Denmark, Poland, Portugal, Slovenia; 2011: Finland.

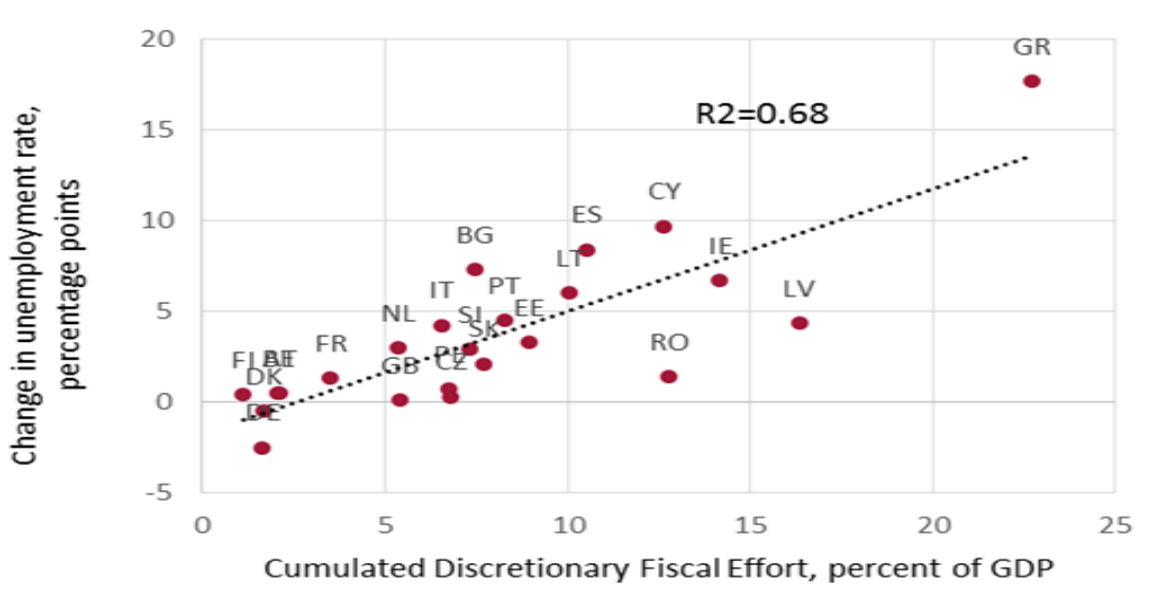
The relationship between fiscal consolidation and unemployment is similarly ambiguous in the period of fiscal expansion (Panel A of Figure 34). In the period of fiscal consolidation, however, there is a very strong relationship: more fiscal consolidation is strongly associated with greater increases in the unemployment rate, indicated by Panel B of Figure 34.

Figure 34: Discretionary Fiscal Effort and the unemployment rate

A: change from 2006 to last year with negative DFE



B: change from last year with negative DFE to 2013



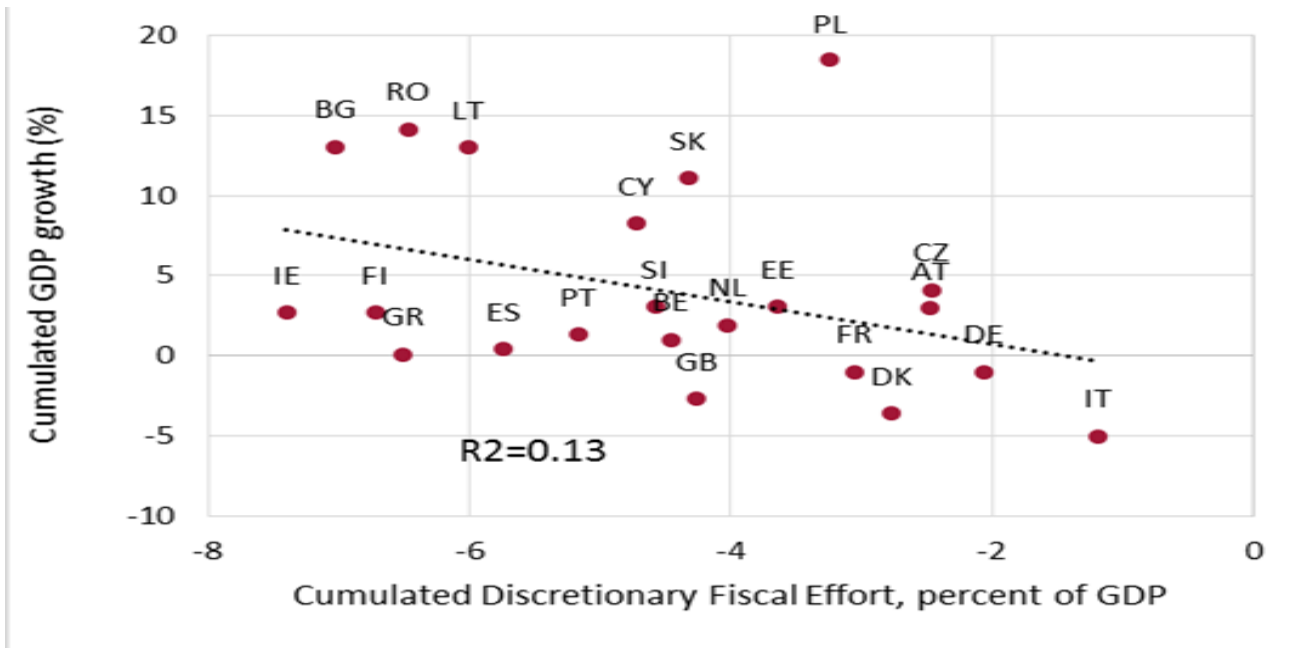
Source: Bruegel calculation using data from Eurostat and European Commission (2013c).

Note: See notes on DFE at Figure 33.

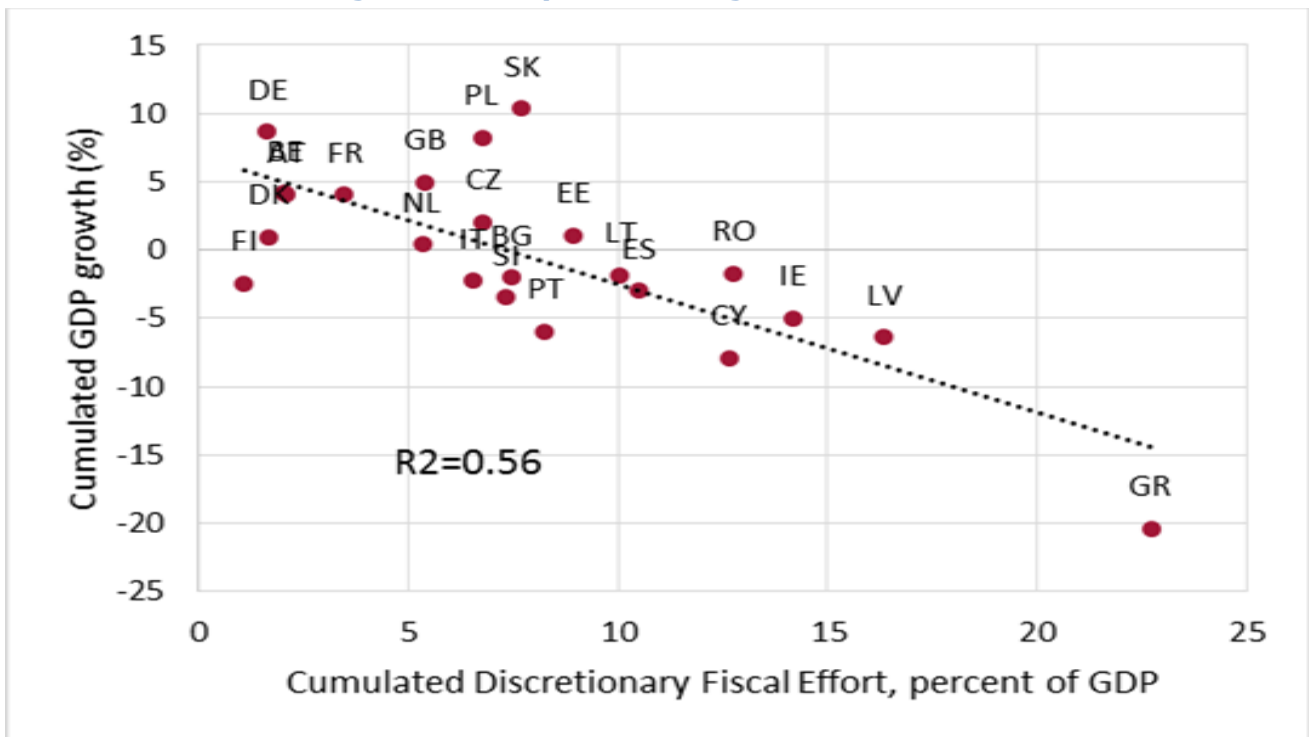
Furthermore, there is also a strong negative relationship between fiscal consolidation and GDP growth, as indicated by Panel B of Figure 35; this relationship is corroborated by a more comprehensive empirical study by Blanchard and Leigh (2013).

Figure 35: Discretionary Fiscal Effort and GDP growth

A: change from 2006 to last year with negative DFE



B: change from last year with negative DFE to 2013



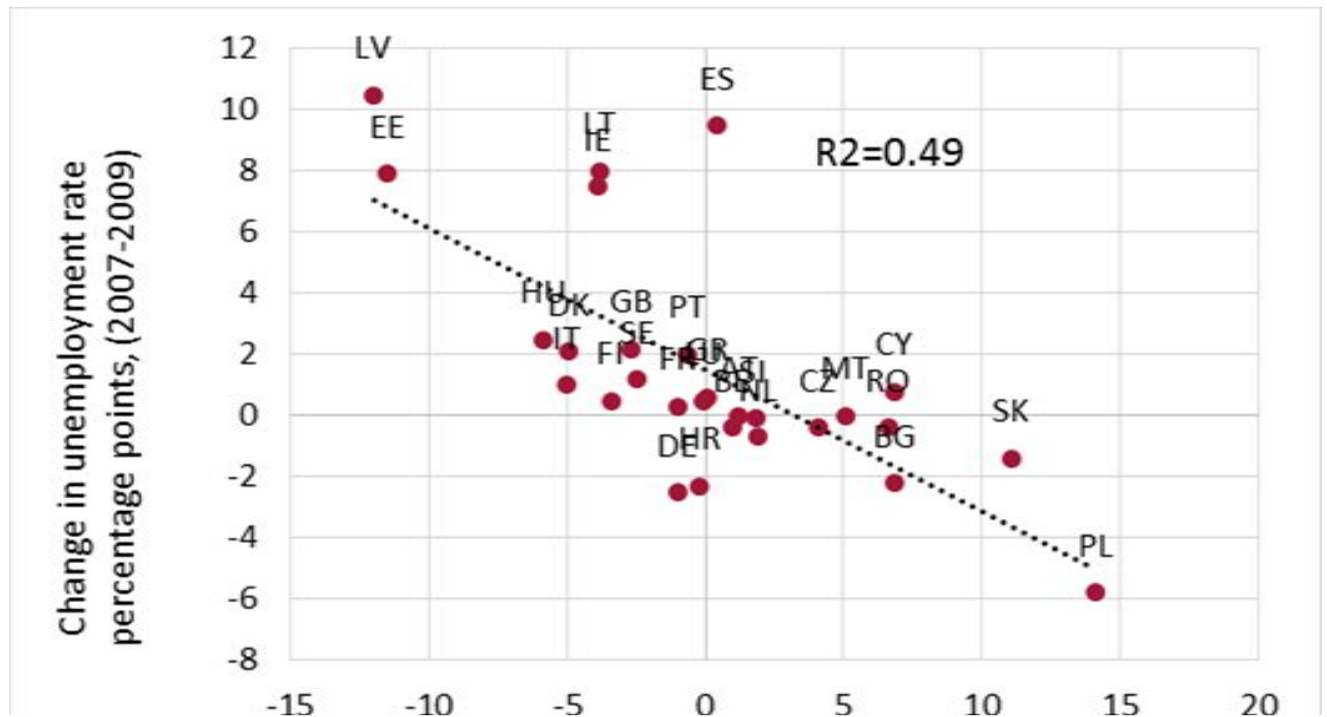
Source: Bruegel calculation using data from Eurostat and European Commission (2013c).

Note: See notes on DFE at Figure 33.

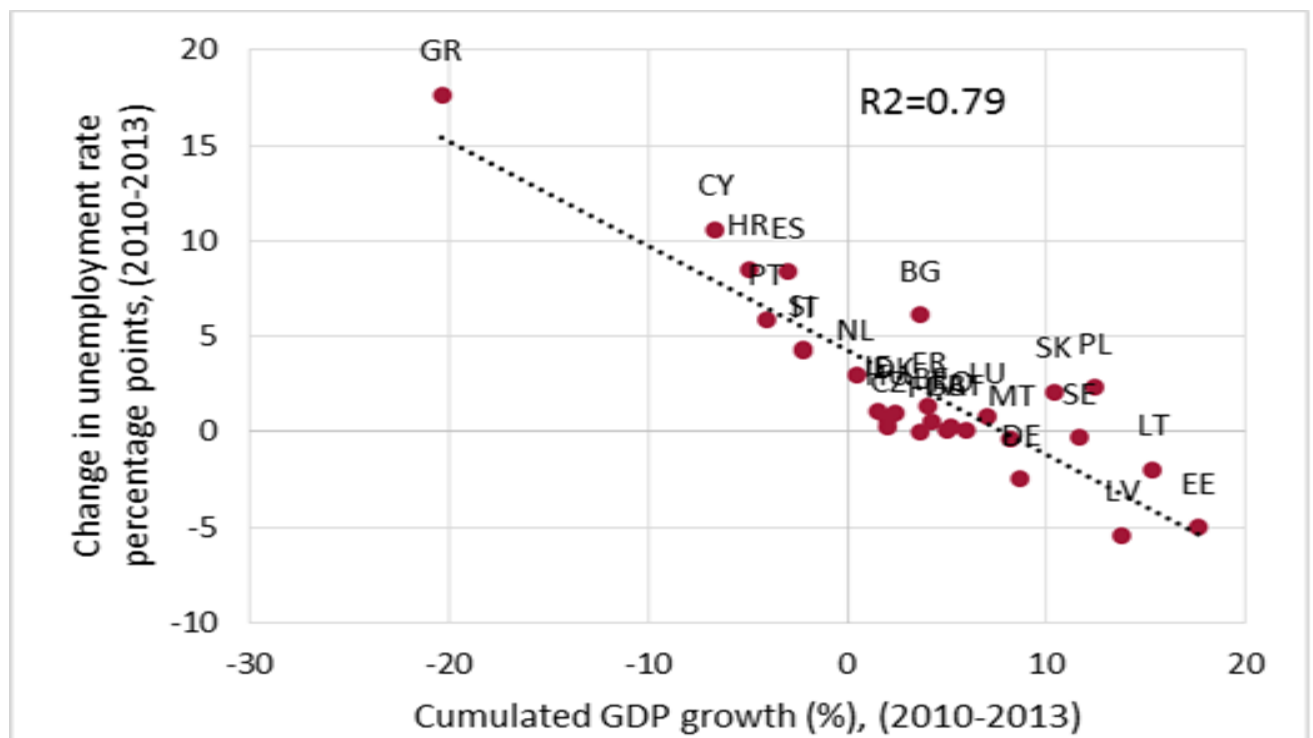
Unsurprisingly, GDP and unemployment developments moved strongly together, as labour conditions are well known to be intrinsically related with the business cycle. This relationship holds both before and after 2009, as indicated by Figure 36.

Figure 36: GDP growth and unemployment rate

A: change from 2006 to 2009



B: change from 2009 to 2013



Source: Bruegel calculation using data from Eurostat and AMECO database (February 2014).

Consequently, to the extent that fiscal consolidation measures weakened GDP growth and increased unemployment, and if unemployment is a main determinant of poverty, one can conclude that fiscal consolidation has led to an increase in poverty. The latter relationship is

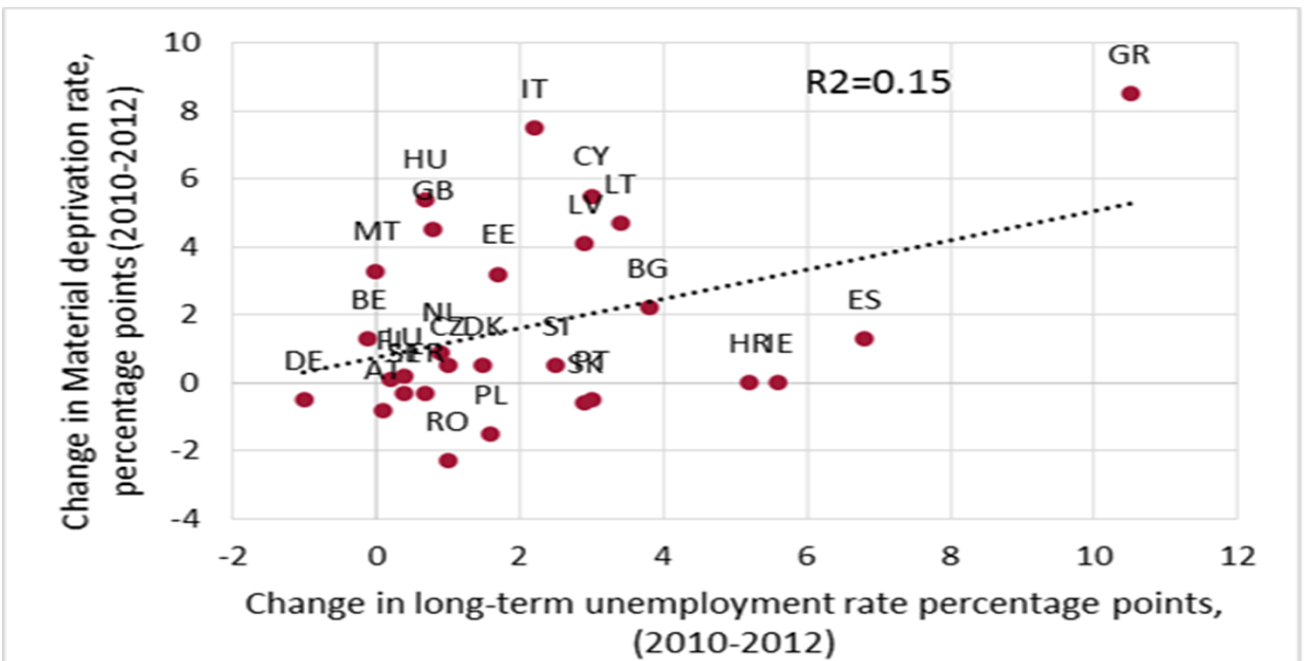
weakly confirmed by Figure 37. Gallie, Paugam and Jacobs (2003) and Matsaganis (2013) also established a link between long-term unemployment and poverty. Using a panel regression, Duiella and Turrini (2014) found that long-term unemployment appears the most significant and robust explanatory factor for relative and absolute poverty, stronger than income-per-capita variables. They also found that social protection expenditure has a significant impact.

Figure 37: Long-term unemployment and severe material deprivation

A: change from 2006 to 2009



B: change from 2009 to 2013



Source: Bruegel calculation using data from Eurostat.

5.3. Summary

It is very difficult to establish and interpret the links between fiscal consolidation and poverty. We conducted a pair-wise correlation analysis, which cannot assess causality, or the influence of other factors. Nevertheless, we find a number of remarkable co-movements between the following variables:

- During the period from 2006 to the end of fiscal expansion:
 - there was no significant relationship between fiscal adjustment and severe material deprivation;
 - there was no significant relationship between fiscal adjustment and unemployment;
 - there was no significant relationship between fiscal adjustment and GDP developments.
- But during the period from the start of fiscal consolidation up to 2012/13:
 - there was a moderate direct association between fiscal adjustment and severe material deprivation (countries that consolidated more witnessed a greater increase in severe material deprivation);
 - there was a strong relationship between fiscal adjustment and unemployment (countries that consolidated more witnessed a greater increase in the unemployment rate);
 - there was a strong relationship between fiscal adjustment and GDP developments (countries that consolidated more witnessed greater falls in GDP).
- Drops in GDP and increases in unemployment are also closely associated, a relationship that holds both before and after the start of fiscal consolidation.

These findings are corroborated by the literature and suggest that when fiscal consolidation drags down output, it exerts a negative influence on employment. This might adversely impact poverty, even if we found in Section 2 that the size of the fiscal adjustment was unrelated to social expenditure.

By surveying the literature, we highlighted that:

- Formal econometric analyses reported in the literature suggest that fiscal consolidation episodes widen income inequality. Progressive taxation, targeted social benefits and subsidies and structural reforms can alleviate the adverse distributional impacts of fiscal consolidation.

A main take-away from this section of our study is that fiscal austerity and poverty have to be put into the broader context of the determinants of poverty and other measures, such as structural reforms. Interpreting a negative relationship between fiscal austerity and poverty is not straightforward, as we discuss in the concluding section.

6. CONCLUDING REMARKS

Europe faces major social challenges: unemployment is high, and European citizens perceive that poverty has increased. One reason for the increased social hardship is fiscal consolidation. The high budget deficits and rising public debt levels that followed the global and euro-area financial and economic crises led most EU Member States to embark on a series of fiscal retrenchment strategies to stabilise their public finances.

The purpose of this study was to look at the links between fiscal consolidation and poverty. We analysed in detail fiscal consolidation strategies, including their speed and composition, various social indicators that can indicate poverty and the interactions between fiscal, economic and social indicators. Instead of repeating the summaries of our key finding that we presented at the end of each section, we draw attention to six pertinent issues.

First, in terms of poverty, the share of severely materially deprived people (the most useful indicator for measuring poverty) was already high before the crisis, 9.1 % in the EU. This ratio increased to 9.9 % by 2012. These rates are unacceptably high for a prosperous society based on the belief in inclusive growth.

Second, unemployment is a major social problem in most of Europe. The overall unemployment rate in the EU, almost 11 %, is far too high, by both historical and global comparative standards. It can also have major negative impacts on medium- and long-term economic growth, because long spells of unemployment erode skills and discourage labour market participation, thereby undermining a country's long-term growth potential. Youth unemployment, which is at record high in a number of Member States, is especially alarming because a long period of unemployment after graduation, when a worker should acquire the first skills in the workplace, can undermine whole careers – creating a lost generation and also having trickle-down effects on fertility rates and child support. When children grow up in families in which parents do not work for long periods or work irregularly, their opportunities are curtailed compared to children whose parents work.

Third, within Europe, the degree of polarisation between the South and the North in terms of social indicators has widened, while the East-West gap, which was generally wide before the crisis, is narrowing by some indicators but widening by others. Forceful policies are needed to improve social conditions in Europe and limit polarisation.

Fourth, fiscal consolidation in general had a negative impact on social indicators, including poverty. However, it is not easy to derive a conclusion for policy from this observation. EU countries should be divided into two major groups and policy conclusions should differ according to the two groups. In one group in which budget deficits were exceptionally high and public debts started to increase at a very rapid pace, there was no alternative to fiscal consolidation: the question was its speed and composition. In the other group, which includes most of the EU, the fiscal situation was within reasonable limits and macroeconomic stabilisation would have called for fiscal stabilisation at a time when the cyclical position of the European economy was deteriorating. Therefore fiscal consolidation, which started around 2009 and 2010 in most countries, was premature. The aggregate of country-specific fiscal strategies resulted in an overly tight fiscal stance for the EU as a whole. Our conclusions point to the fact that it is unlikely that the fiscal behaviour of the EU aggregate will change in the future, for at least two reasons. The first is the recently strengthened fiscal rules. The second is that member states will always design their fiscal policies with a view to their own countries and not with a view to the aggregate situation in the EU. Therefore, the aggregate EU fiscal stance could be more useful for cyclical stabilisation only if some kind of common fiscal instrument is developed.

Fifth, when looking at the composition of fiscal adjustment, we found that spending on social protection was protected relative to other spending categories, which suggests that

governments have tried to cushion the social impact of the crisis. We also conclude that on the other hand, bank rescue was more expensive to the taxpayers than it should have been, even taking into account the financial stability motive behind those actions. Bank rescue policies are changing with the Bank Resolution and Recovery Directive and the Single Resolution Mechanism but during the crisis the huge cost of bank rescues limited the fiscal resources available for other purposes and resulted in greater fiscal consolidation needs, with a negative impact on social conditions in Europe.

Last but not least, the crisis has brought to the fore an increasing generational divide. Within social spending, elderly people were protected most during the crisis, possibly due to pension rules or their better ability to assert their interests. Social indicators for the elderly showed little deterioration and in fact the severe material deprivation rate of elderly people has declined during the past five years, which is certainly a benign development. However, social spending on families and children was preserved less than spending on the elderly and social indicators suggest that the younger generation has suffered seriously: children who live now in households in which their parents no longer work and young people who are not in work or education. There is now a serious danger that a lost generation might develop in several member states, which would undermine medium- and long-term growth prospects for the whole continent, adding to social and human costs. Unemployment rates remain high and available forecasts suggest that high unemployment will long persist in Europe.

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ANNEX 1: PUBLIC SECTOR INTERVENTIONS TO THE FINANCIAL SYSTEM

Table 5: Public sector interventions to the financial system, 2008-2012

	Total 2008-2012 recapitalisation and asset relief		2009 outstanding guarantees and liquidity measures (EU 27 peak year)		2012 Outstanding guarantees and liquidity measures	
	in EUR billion	as a % of 2012 GDP	in EUR billion	as a % of 2012 GDP	in EUR billion	as a % of 2012 GDP
EU27	591.9	4.6	906.0	7.7	534.5	4.1
Austria	9.8	3.2	15.5	5.6	11.8	3.8
Belgium	40.4	10.7	46.8	13.9	45.8	12.2
Bulgaria	0	0	0	0	0	0
Cyprus	1.8	10.1	0.6	3.3	2.3	12.6
Czech Republic	0	0	0	0	0	0
Denmark	10.8	4.4	8.4	3.8	1.2	0.5
Estonia	0	0	0	0	0	0
Finland	0	0	0.06	0.03	0	0
France	26.2	1.3	92.7	4.9	53.4	2.6
Germany	144.1	5.5	135.0	5.6	10.0	0.4
Greece	37.3	19.2	5.8	2.4	65.1	33.6
Hungary	0.2	0.2	2.5	2.6	0.0	0.0
Ireland	65.4	40.0	284.3	173.8	84.2	51.5
Italy	6.1	0.4	0.0	0.0	85.7	5.5
Latvia	1.0	4.3	1.5	8.2	0.7	3.0
Lithuania	0	0	0	0	0	0
Luxembourg	2.6	5.9	1.8	4.7	2.0	4.5
Malta	0	0	0	0	0	0
Netherlands	23.9	4.0	66.4	11.6	21.0	3.5
Poland	0	0	0	0	0	0
Portugal	9.9	6.0	9.0	5.4	16.8	10.1
Romania	0	0	0	0	0	0
Slovakia	0	0	0	0	0	0
Slovenia	0.7	2.1	1.0	2.9	0.2	0.6
Spain	88.1	8.4	55.4	5.3	75.4	7.2
Sweden	0.8	0.2	14.3	4.9	4.4	1.1
United Kingdom	122.8	6.5	165.1	10.5	54.6	2.9

Source: http://ec.europa.eu/competition/state_aid/scoreboard/financial_economic_crisis_aid_en.html#tables.

ANNEX 2: IMPLICIT TAX RATES ON LABOUR, CONSUMPTION AND CAPITAL

Table 6: Implicit tax rates on labour, consumption and capital (%)

	Labour	Consumption	Capital	Labour	Consumption	Capital
	rate in 2008			change in the rate 2008-2011		
EU27	36.1	19.7	:	-0.3	0.4	:
EA17	37.9	19.3	26.2	-0.2	0.1	-2.5
IT	42.9	16.9	34.5	-0.6	0.5	-0.9
BE	42.4	21.2	32	0.4	-0.2	-1.7
AT	41.3	21.7	26.4	-0.5	-0.5	-2.8
HU	42.3	26.2	19.5	-3.9	0.6	-2.2
FI	41.2	25.9	28.8	-1.6	0.5	-1.4
SE	41.2	27.8	25.9	-1.8	-0.5	1.1
FR	39	19.5	39.8	-0.4	0.4	4.6
CZ	39.9	20.5	18.5	-0.9	0.9	-0.9
DE	38	20	21.5	-0.9	0.1	0.5
NE	36.8	26.9	15.6	0.7	-0.6	-2.7
SI	35.9	24.2	23.1	-0.7	-1.2	-2.6
EE	33.8	21.1	10.6	2.4	5.0	-2.7
DK	36.6	32.6	:	-2.0	-1.2	:
LT	32.3	17.7	13.7	-0.3	-0.2	-8.2
SK	33.2	18.7	16	-1.3	0.0	-1.2
ES	32.4	13.9	:	0.8	0.1	:
LU	31.2	27.1	:	1.6	0.1	:
PL	31.7	21.4	23.1	0.5	-0.6	-4.8
EL	32.9	15.4	:	-2.0	0.9	:
LV	28.4	17.4	17.7	3.6	-0.2	-7.8
RO	27.3	17.7	:	4.1	3.9	:
CY	24.6	20.4	32.5	2.1	-2.7	-7.8
BG	27.4	24.7	:	-2.8	-2.3	:
UK	26.9	17.9	45.1	-0.9	1.6	-10.2
IE	24.7	23.3	:	3.3	-1.2	:
PT	23.6	18.2	37.2	1.9	-0.2	-5.6
MT	21.2	19	:	1.5	0.0	:

Source: Bruegel based on Eurostat's Implicit tax rates by economic function [gov_a_tax_itr] database.

Note: Countries are ordered according to labour tax rates in 2008.

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