International Labour Organization

European Commission

STUDIES ON GROWTH WITH EQUITY

CRISIS RESPONSES, COMPETITIVENESS AND JOBS

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INTERNATIONAL LABOUR ORGANIZATION
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FOREWORD

This publication is the outcome of a joint project of the Directorate-General for Employment, Social Affairs, and Inclusion of the European Commission and the Research Department of the ILO.

The purpose of the report is to assess trends in competitiveness in the EU and consider policy options to address imbalances caused by a lack of competitiveness. The report examines the underlying causes of the crisis in Europe, policy responses and the role of competitiveness as both a cause and a cure. The report takes a broad perspective of competitiveness that includes both price- and non-price components such as financial, labour and product market developments and determines the extent to which these are essential to long term sustainable growth.

The Report has been prepared by Marva Corley-Coulibaly, Tibor Hanappi, Takaaki Kizu, Stefan Kühn, Giorgio Presidente and Daniel Samaan with contributions from Marialaura Fino, Santo Milasi, Vincenzo Spezia and Christian Viegelahn. Background research was carried out by Haluk Haksal and SeoungSok Ryu. The report has benefited greatly from substantive comments and suggestions received by Raymond Torres, the Director of the Research Department. As well as Duncan Campbell, Florence Bonnet, Veronica Escudero, Sameer Khatiwada, Catherine Saget, and Steven Tobin. The report has been coordinated by Marva Corley-Coulibaly.

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5-NMS	Five "New" EU Member States Czech Republic, Hungary, Poland, Slovakia and Slovenia
ABGFN	Austria, Belgium, Germany, Finland and the Netherlands
ABI	Associazione Bancaria Italiana (Italian Banking Association)
ADEDY	Greek Civil Servants' Union
AKAGE	Insurance Fund for Generations Solidarity
AMECO	Annual Macro-economic database
ANIA	Associazione Nazionale fra le Imprese Assicuratrici (National Association of Insurance Companies)
AR	Autoregressive
AVC/CSC	Algemeen Christelijk Vakverbond/Confédération des Syndicats Chrétiens (Confederation of Christian Trade Unions)
BRICS	Brazil, Russia, India, China and South Africa
BRIICS	Brazil, Russia, Indonesia, India, China and South Africa
CBA	Collective bargaining agreement
CE4	Czech Republic, Hungary, Poland and the Slovak Republic
CEACR	ILO Committee of Experts on the Application of Conventions and Recommendations
CEE	Central and Eastern Europe
CEPR	Centre for Economic Policy Research
CEPYME	Confederación Española de la Pequeña y Mediana Empresa (Spanish Confederation for Small and Medium Enterprises)
CGIL	Confederazione Generale Italiana del Lavoro (General Confederation of Italian Workers)
CICOPA	International Organisation of Industrial, Artisanal and Service Producers' Cooperative
CISL	Confederazione Italiana Sindacati Lavoratori (Italian Confederation of Workers' Trade Unions)
CPI	Consumer Price Index
DSGE	Dynamic Stochastic General Equilibrium
EC	European Commission
ECB	European Central Bank
ECI	Economic Complexity Index
EDB	Ease of Doing Business
EEC	European Economic Community
EIB	European Investment Bank
EIRO	European Industrial Relations Observatory
EKAS	Pensioner's Social Solidarity Allowance

EL.STAT.	Hellenic Statistical Authority
EMU	Economic and Monetary Union
EPL	Employment protection legislation
EPLex	ILO Employment Protection Legislation Database
ESEE	National Confederation of Hellenic Commerce
ESM	European Social Model
ESRI	Economic and Social Research Institute
ETAA	Insurance Fund for Independent Professionals
ETEA	Unified Auxiliary Insurance Fund
ETEAN	Hellenic Fund for Entrepreneurship and Development S.A.
ETUI	European Trade Union Institute
EU	European Union
EUI	European Unemployment Insurance
FGB	Fondazione Giacomo Brodolini
FOND-ICO	Fund-of-Funds of Official Credit Institute
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GEL	Global Economic Linkages
GENOP-DEI	General Federation of Employees of the National Electric Power Corporation of Greece
GIIPS	Greece, Ireland, Italy, Portugal and Spain
GIPS	Greece, Ireland, Portugal and Spain
GSEE	Greek General Confederation of Labour
GSEVEE	Hellenic Confederation of Professionals, Craftsmen and Merchants
GVC	Global Value Chain
HIVA	Research Institute for Work and Society, Catholic University of Leuven
ICT	Information and Communication Technology
ICTWSS	Database on institutional characteristics of trade unions, wage setting, state intervention and social pacts
IILS	International Institute for Labour Studies
IKA-ETAM	Social Insurance Institute - General Employees' Fund of Greece
ILC	International Labour Conference
ILO	International Labour Organization
IMD	International Institute for Management Development
IMF	International Monetary Fund
ISCED	International Standard Classification of Education

ISER	Institute for Social and Economic Research
IT	Information Technology
IZA	Institut zur Zukunft der Arbeit (Institute for the Study of Labor)
KEAO	Social Security Contributions Collection Centre of Greece
KELA	Kansaneläkelaitos (Social Insurance Institution of Finland)
MARF	Mercado Alternativo de Renta Fija (The Alternative Bond Market)
MNE	Multinational Enterprises
MSEPC	Memorandum of Understanding on Specific Economic Policy Conditionality
MSME	Micro, small and medium enterprise
MVA	Manufacturing value added
NACE	Statistical Classification of Economic Activities in the European Community
NAIRU	Non-accelerating inflation rate of unemployment
NGCA	National General Collective Agreement
NRP	National Reform Programme
OAED	Manpower Employment Organization
OAEE	Social Security Organization for the Self-employed
OECD	Organisation for Economic Co-operation and Development
OECD STAN	OECD Structural Analysis database
OEK	Workers' Housing Organization
OGA	Agricultural Insurance Organization
OKE	Economic and Social Council of Greece
OMED	Greek Mediation and Arbitration Service
PPP	Purchasing Power Parity
RCI	Regional Competitiveness Index
REER	Real Effective Exchange Rate
ROW	Rest of the World
SSC	Social Security Contributions
TLC	Total Labour Costs
ULC	Unit Labour Costs
VAR	Vector auto-regression
VAT	Value-added tax
WCY	World Competitiveness Yearbook
WEF	World Economic Forum
WIOD	World Input-Output Database

EXECUTIVE SUMMARY

A lack of competitiveness has been identified by many as the underlying factor behind weak economic growth and high unemployment in several European countries. In this respect, different views have been expressed with respect to how to tackle competitiveness problems. The issue is especially complex within the Euro area, where competitiveness cannot be addressed through exchange rate adjustments.

The main purpose of this report is to examine evidence-based policy options for improving competitiveness, while boosting more and better jobs.

A European strategy focusing on cutting unit labour costs as a tool for improving competitiveness ...

The focus on cost competitiveness as a crisis response measure is largely based on the widening gap in unit labour costs (ULC) within the Eurozone, namely between Germany, on the one hand, and crisis-hit countries – Greece, Ireland, Italy, Portugal and Spain – on the other. Rising ULC were held responsible for limiting export capacity, widening current account deficits, undermining growth and increasing public debt. As a result, crisis-hit countries have had to resort to fiscal consolidation and internal devaluation measures with a view to restoring competitiveness and external balances.

... has faced significant limits.

While labour costs are important, a strategy based on internal devaluation has faced significant limits. To start with, labour costs are only a partial measure of production costs and overall competitiveness in general.

Indeed, evidence on the impact of higher cost competitiveness on the ability to export appears limited in the EU. For example, between 2006 and 2012, EU countries with negative ULC growth rates in manufacturing (e.g. Ireland and Poland) did not necessarily increase their exports more than

those countries with positive ULC growth rates (e.g. Germany and the Netherlands). In addition, countries with similar ULC growth rates (e.g. Denmark and Spain) varied considerably in their ability to increase exports. Thus, the relation between cost competitiveness and exports is ambiguous, suggesting that non-cost factors matter to a significant extent.

In addition, simulations carried out for the purposes of this report show that, in crisis times, the negative effect of a fall in labour incomes outweighs the positive effect of higher export and labour demand associated with improved cost-competitiveness. Moreover, no cost-competitiveness is gained when wage restraint occurs symmetrically across all trading partners, thereby amplifying the negative demand effects. In the longer term, a strategy based solely on cutting labour costs runs the risk of undermining the process of structural transformation by inhibiting demand and investment in new activities with high-growth prospects.

More fundamentally, cost-competitiveness is only one possible component of competitiveness –understood as the ability of economies to grow, embrace change and absorb shocks. The use of new technology, the existence of enterprise networks, a solid credit system geared towards the needs of the real economy and a skilled productive workforce are crucial to competitiveness in the broader sense.

This highlights the importance of a broader approach, with first further action in product markets where rents exist ...

Findings from this report suggest that acting on product markets is a promising policy strategy for improving competitiveness. On the one hand, lower entry barriers for businesses increase competition thus reducing monopoly distortions and rents. On the other hand, fostering an innovative business environment allow economies to expand the diversification, differentiation and quality of its export products, thereby lowering its vulnerability to external shocks and boosting decent work opportunities. The simulations conducted for this report show that the benefits of larger export diversification and differentiation are likely to be substantial.

... second, emphasis on non-price components of competitiveness ...

A competitive economy requires a functioning financial market that facilitates and promotes productive investment, a business environment that facilitates the start-up and growth of enterprises, a well-designed competition policy to allow more dynamic product markets and social dialogue to promote employment and income growth.

Importantly, the report also finds that well-designed social policies are essential non-price related components of competitiveness. Taking a closer look at the links between social policies and productivity, evidence at the macroeconomic level shows that there are strong correlations between (various indicators of) social policies and productivity. This observation is supported by microeconomic evidence showing how specific programmes, if well designed, can boost employment and output.

The crisis increased fiscal pressures, especially in some European countries, which responded by imposing swingeing consolidation measures. This has prompted an unexpectedly large drop in aggregate demand in the peripheral countries, as well as in some cases falling investment in social policy areas which are essential for long-term improvements in competitiveness, such as health and education. Active labour market programmes and on-the-job-training and skills development over the life cycle of a worker are likely to be the most efficient short-term strategies to improve labour market functioning and combat the prolonged repercussions of the global economic crisis, while making economies more competitive.

... and third, improved policy coordination in Europe.

The prevailing response to the crisis has been asymmetric in that some countries have implemented measures with negative impacts on aggregate demand. However, there has been no corresponding expansionary policy in other European economies.

A more symmetric crisis response, including Euro-wide wage coordination preventing “beggar-thy-neighbour” effects, and expansionary fiscal poli-

cies in those countries which were least affected by the crisis, thus has the potential to ameliorate the overall consequences of the crisis and promote economic growth.

On the other hand, a more symmetric approach can also entail increased efforts at fiscal coordination. In its Blueprint for a deep and genuine Economic and Monetary Union, the European Commission has recently formulated a reform agenda in this respect. One of the major building blocks of this policy strategy is to deepen the fiscal and economic union as well as to strengthen the social dimension of the European Union. While it is made clear that increases in fiscal coordination will have to be matched by corresponding increases in democratic accountability, this agenda offers new policy options to boost competitiveness in European countries.

To add further evidence on the potential effects of increased fiscal coordination, the analysis in this report builds on the Global Economic Linkages model to simulate employment and growth effects of the implementation of a redistribution mechanism in Europe – such as the youth guarantee. Although the size of the effect depends on the specific details of the programme, this result shows how fiscal coordination can, in fact, mitigate the negative economic consequences of the crisis while nurturing European competitiveness.

CHAPTER 1
THE EURO CRISIS, COMPETITIVENESS AND THE LABOUR MARKET

INTRODUCTION

Six years after the first effects of the financial crisis were felt there is continuing underperformance in the majority of EU labour markets, by almost all metrics. Recent figures show that unemployment is increasing (particularly for youth), along with long-term unemployment and inactivity rates. In many EU economies employment rates have still not returned to pre-crisis levels and close to 6 million jobs have been lost since the beginning of the crisis in 2008.[1] Additionally, with growth contracting in the three largest economies (France, Germany and Italy) there is a growing consensus – including among major policy institutions that consolidation policies need to be relaxed as they have not been effective either in stemming the loss of jobs or in successfully reinvigorating the economy.

The policy measures implemented so far to address the crisis – such as labour market reforms to improve the business environment, reductions in civil servants' salaries and a retrenchment in social expenditures – have focused on internal devaluation. This approach stems from the assessment that the root cause of the crisis was the loss of competitiveness in the most severely affected countries. For example (Sinn, 2011):

> The competitiveness of these countries was severely eroded in the process, since their wages and prices rose excessively over the period. To come out of the crisis, the GIPS [Greece, Ireland, Portugal and Spain] now need to depreciate in real terms, i.e. reduce wages and prices relative to their trading partners, a painful process that requires harsh austerity programs, straining the social fabric and causing significant political strife.

[1] The jobs gap becomes even larger if one considers those that could have been created had employment growth continued at its pre-crisis rate – in this case there is a shortfall of 14.4 million jobs.

This interpretation, focusing on the capacity of countries to engage in international trade, is typical of what is referred to as the "macroeconomic approach" to competitiveness. Comparing different interpretations of competitiveness, this report argues in favour of a broader definition, which emphasizes the ability of a country to promote the well-being and prosperity of its citizens. This broader interpretation emphasizes dimensions that tend to be neglected in the policy debate on competitiveness, such as labour market and social policies that support a highly productive workforce and drives economies through successful productive transformations.

The analysis undertaken in this chapter suggests that the crisis in the Eurozone was not due to a problem of competitiveness. Indeed, there is a substantial amount of evidence to show that the seeds of instability were sown with the development of the single currency, which led to unbalanced and unstable growth patterns in a number of countries. Thus, alternative options for reinvigorating the economy and moving to more sustainable growth and employment patterns are necessary.

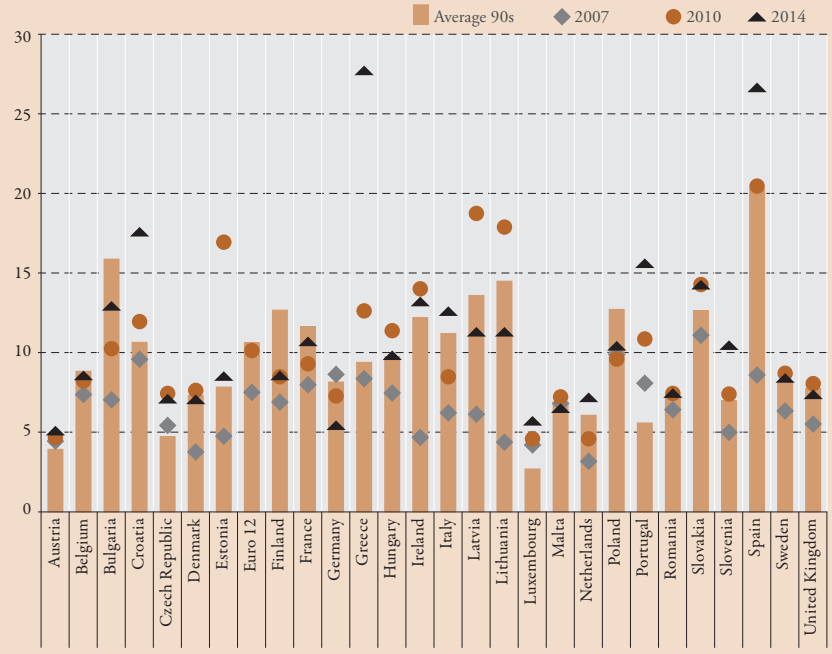
This does not mean, however, that the EU – and in particular some peripheral economies – do not have a competitiveness problem. The central issue, extensively discussed in Chapter 2, is that export capacity is simply one narrow dimension of the problem, and therefore a more comprehensive approach, which is not focused solely on relative prices and costs, is required. This would include stimulating much needed demand, investment and other expenditures necessary for long-term sustainable growth; and reinvigorating the European Social Model (ESM), which has implications for poverty reduction and social sustainability throughout the EU.[2]

[2] Hemerijck and Vanderbrouke, 2012.

A COMPETITIVENESS AND LABOUR MARKETS

Figure 1.1 presents the unemployment rates in all 28 EU countries.[3] The figures show that in the majority of EU countries the unemployment rates leading into the crisis and during its immediate aftermath were lower than the average during the 1990s. This suggests that labour was being utilized at a level above the long-term norm. The strong employment growth encountered in certain countries was heavily dependent on sectors that were experiencing growth bubbles, such as construction, wholesale and retail trade, and transportation and storage. This was particularly the case in the periphery economies, where the flow of capital was directed towards less productive, but more profitable sectors.

Figure 1.1 Unemployment rates, 1990s, 2007, 2010, 2014



Source: ILO Trends Econometric model, except EU-12: Eurostat (where 2014 = 2013).

[3] Where possible the analysis in the report is based on EU 28, but owing to data availability this was not always the case.

Consequently, sluggish productivity growth and high labour costs were regarded as the main causes of the crisis. Over the whole period 1999–2009, productivity growth in Europe was 5 percentage points and 1 percentage point lower than in the United States and OECD countries respectively (figure 1.2, panel A). Since the onset of the crisis, productivity growth in Europe has remained stable. Yet, the gap in productivity performance between Europe, the United States and other developed economies has persisted and even slightly widened. One argument is that United States' firms are more technology intensive than European firms. Another explanatory factor behind the productivity gap between Europe and the United States is the latter's greater labour market flexibility, enabling firms in the United States to make adjustments to their labour forces more easily during a downturn (see Chapter 2).

There are also considerable differences in productivity across Member States. Countries such as Italy and Spain had considerably lower levels of productivity going into the crisis than Germany and France (figure 1.2, panel B). Although Spain showed a sharp increase in productivity after 2008, this was mainly due to restructuring and lay-offs, which resulted in working hours falling faster than GDP.

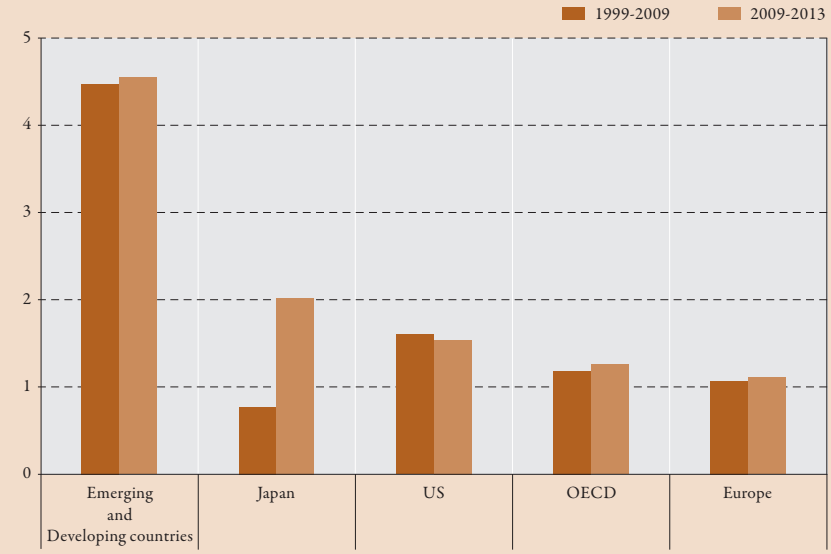
Since fluctuations in productivity performances were obviously mirrored in unit labour costs (ULC), ULC increased in virtually all European economies, albeit starting from a low base (figure 1.3). Consequently, in Greece, Ireland, Portugal and Spain, the increase in ULC was much more dramatic than in France and Germany in the run-up to the crisis. This was counterbalanced by sharp cuts to average compensation per hour after 2010.

Broad measures of competitiveness are associated with high employment rates ...

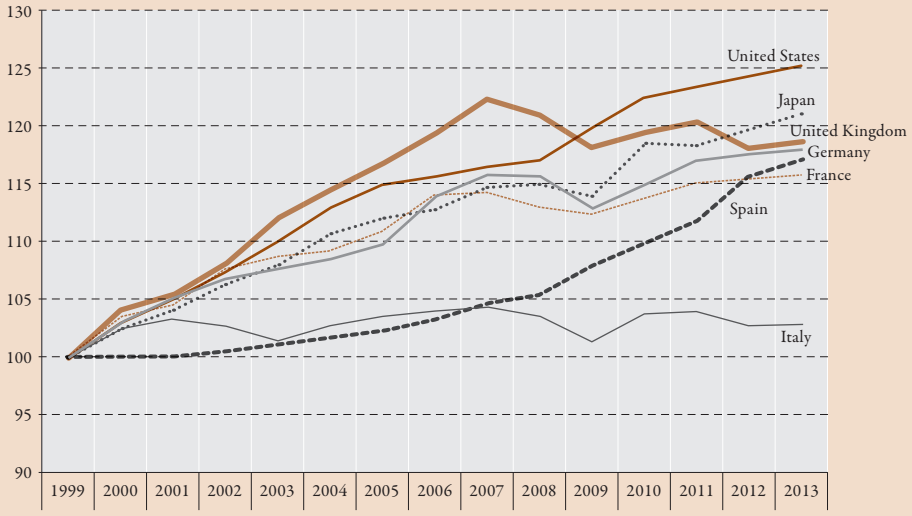
Despite the above analysis, using simple ULC alone as an indicator of competitiveness is misleading as it does not capture countries' different economic specializations and export diversifications or the varying patterns in the international demand for these goods and services. In addition, the ULC indicator does not take into consideration the fact that cost-compet-

Figure 1.2 Labour productivity growth for regions and selected countries

Panel A: Labour productivity growth by region
(GDP per person employed, annual average growth, percentages)

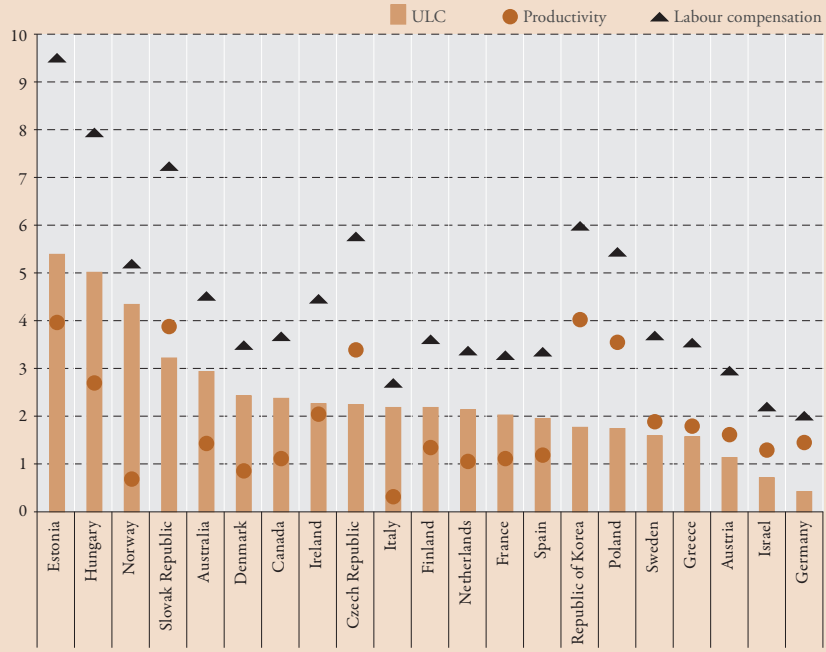


Panel B: Labour productivity index, selected countries



Source: ILO Research Department based on the Conference Board Total Economy Database.

Figure 1.3 Nominal ULC, productivity and labour compensation, average annual growth rate, 1999 – 2012 (percentages)



Source: ILO Research Department based on OECD Productivity Statistics.

itiveness performances of countries with a large share of exports outside the Euro area are highly dependent on variations in the Euro exchange rate. For this reason, the ULC-real effective exchange rate (ULC-REER)[4] provides a more comprehensive measure of cost competitiveness since it addresses some of these shortcomings (see box 1.1). But nonetheless neither method is able to provide more than a partial measure of cost competitiveness, nor does either method fully explain the causes underlying EU external competitiveness performance with respect to other countries. Moreover, ULC and ULC-REER indicators alone are unable to fully explain the asymmetries in exports performances among European economies. This assertion is supported by a growing wealth of evidence showing that the traditional cross-country relationship between export growth and labour costs has weakened significantly in recent years.[5] This issue will be further developed in Chapter 2.

[4] The ULC-REER is a summary measure of the changes in the exchange rates of a country vis-à-vis its trading partners, adjusted for price differentials across these countries.
[5] See Di Mauro et al., 2008; European Commission, 2010; European Central Bank, 2013.

Box 1.1 The ULC-REER

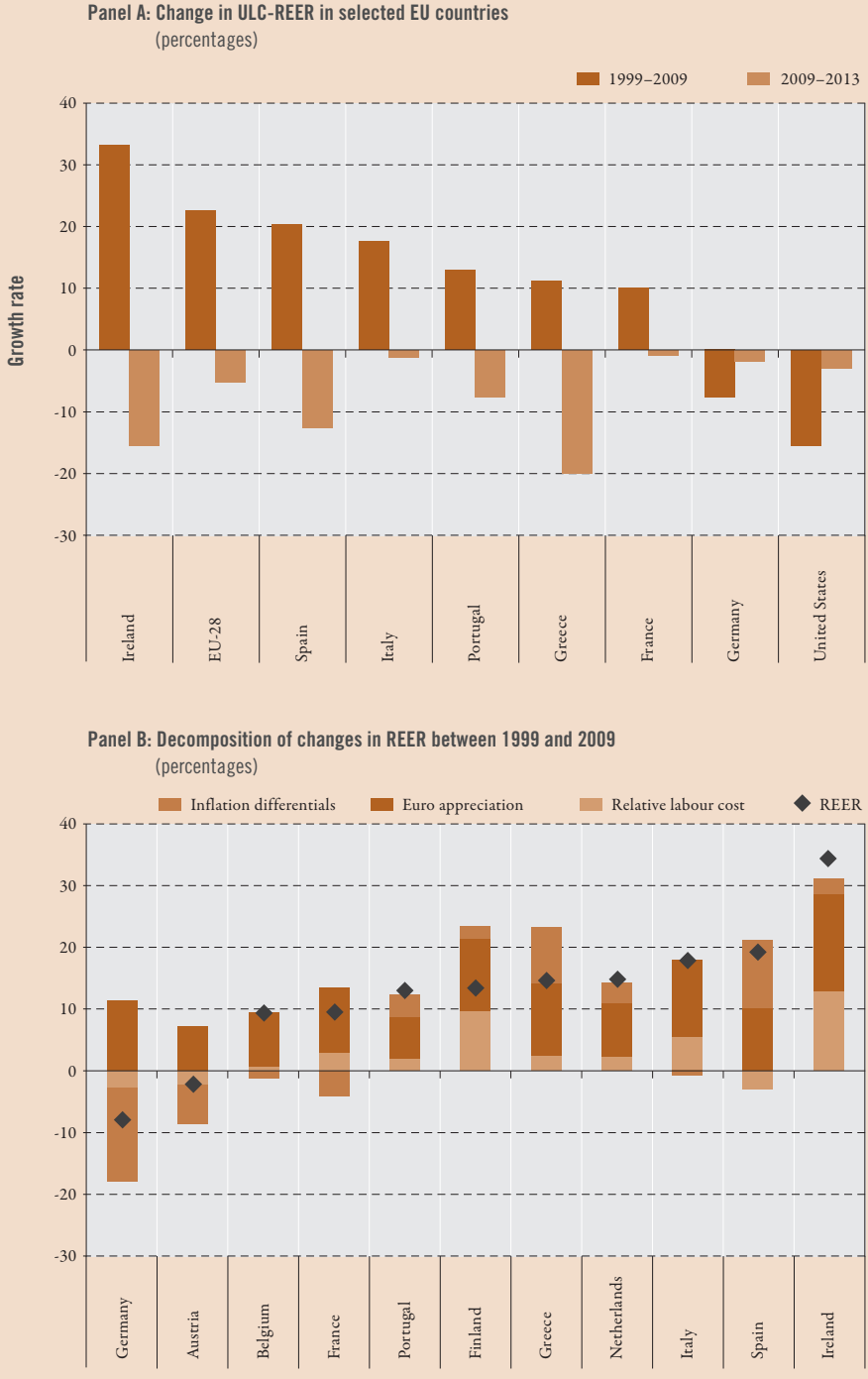
The ULC-REER takes into account both intra- and extra-Eurozone trade as well as the different trading specializations of Eurozone member States. Additionally, the ULC-REER takes into consideration changes in the exchange rates of a country compared with its trading partners.

The analysis of ULC-REER suggests that European competitiveness losses in comparison to large economies such as the United States and Japan have been sizable, especially in the run-up to the 2008 financial crisis. For instance, between 1999 and 2009, the ULC-REER in the EU-28 increased by 23 per cent on average, compared to a fall of 15 per cent in the United States (figure 1.4, panel A). Most of the ULC-REER appreciation in the pre-crisis period was due to countries such as Greece, Ireland, Italy and Spain. However, the situation reversed after 2009 when many European countries, especially those hardest hit by the crisis, underwent a period of large-scale wage adjustment. As a result, ULC-REER in the EU-28 decreased by 4.8 per cent in the years leading up to 2013. This represents a slightly larger fall than the one observed in the United States.

Although, trends in ULC-REER do not differ substantially from those in ULC previously described, the decomposition of the ULC-REER reveals that the main reason behind cost competitiveness losses in the pre-crisis period was the nominal appreciation of the Euro relative to other trading partners' currencies. This process was common to all Euro area member States and accounted, on average, for over two-thirds of total ULC-REER appreciation between 1999 and 2009 (figure 1.4, panel B). More importantly, the decomposition shows that ULC appreciation has had little effect on ULC-REER dynamics across most of the EU countries. This is true also for countries which notably showed large ULC increases during the 2000s (e.g. Greece, Portugal and Spain).

Relative prices and costs can only partially explain why some countries' labour markets have been more resilient than others during the crisis. Part of the disparity in labour market performance could also be attributed to differences in the structural characteristics of the various economies. For example, a good institutional framework in which rules are properly enforced and regulation is fair and smooth would favour the proliferation of new firms and so have a positive impact on labour demand. Similarly, a stable macroeconomic environment characterized by a suitable debt to GDP ratio and low inflation is likely to have a positive impact on employment. These and several other indicators are taken into consideration in the Global Competitiveness Index (GCI). Therefore, one can benchmark where countries with a high GCI stood at the start of the crisis.

Figure 1.4 ULC-REER dynamics in selected countries, 1999–2013



Note: The ULC-REER figures are based on 37 trade partners, including the 28 EU countries and Australia, Canada, Japan, Mexico, New Zealand, Norway, Switzerland, Turkey and the United States.

Source: ILO Research Department based on Eurostat (panel A) and Wyplosz, 2013 (panel B).

Figure 1.5 **Employment rate and Global Competitiveness Index (1 – lowest, 7 – highest) prior to the crisis (2007)**

Source: ILO Research Department calculations.

Figure 1.5 compares the employment rate in 2007 with the GCI in the same year. The figure suggests the existence of a strong and positive correlation between a broad measure of competitiveness and employment. In particular, three groups of countries can be defined. One group, characterized by low GCI and low (log) employment rate, includes several Eastern European countries, but also Greece and Italy. Another set of strongly performing countries, in the top right-hand corner, includes all the Nordic countries and the United Kingdom. In between, there is Belgium, France, and Ireland. This suggests that, leading into the crisis, those countries with a high GCI had an environment that was more conducive to high employment rates.

Box 1.2 Correlation between average employment rate and GCI pillars

While assessing causality might be problematic in this type of analysis, a simple pooled regression of employment rates in the EU in 2007 against each of the 12 pillars composing the GCI can shed light on those factors that are most closely correlated with good labour market performance. To achieve this end, we proceed in two steps. First, the following linear model is specified and estimated by OLS:

$$empl_i = \beta_0 + \sum_{j=1}^{12} \beta_j \cdot pillar_{ji} + \epsilon_i$$

The results are summarized in the first column of table 1.1. Only the third pillar, "Macroeconomic environment", is significantly and positively correlated to the pre-crisis employment rate, while the other sub-indexes are not significant at a confidence level greater than 90 per cent.

The third pillar can be further decomposed into four sub-pillars: namely, government budget balance as a percentage of GDP (sub-pillar 1); gross national savings as a percentage of GDP (sub-pillar 2); annual percentage change in inflation (sub-pillar 3); and general government

$$empl_i = \beta_0 + \sum_{j=1}^{4} \beta_j \cdot sub - pillar_{ji} + \epsilon_i$$

The results are summarized in the second column of table 1.1. Countries with governments that exhibit large surpluses did better in terms of employment prior to the crisis, while high inflation volatility has had a significantly negative impact on employment rates. These results can be interpreted as indicating that a healthy macroeconomic environment – as represented by sustainable external imbalances and stable inflation – is broadly associated with good labour market performance.

In particular, low external imbalances and stable inflation favour high structural employment rates ...

In this respect, competitiveness matters, in general terms, for the labour market. The GCI, however, is a composite indicator which includes several potentially important elements that might be responsible for different labour markets' performances. As a first step in the analysis, a straightforward way to uncover the salient characteristics of these countries is to perform a simple regression of the employment rate on the various sub-

Table 1.1 Correlation between average employment rate and GCI pillars (2007): Regression results

		Specification 1: Employment rate (2007)	Specification 2: Employment rate (2007)
1st pillar:	Institutions	0.12	–
2nd pillar:	Infrastructure	0.02	–
3rd pillar:	Macroeconomic environment	0.10**	–
	Government budget balance, % GDP	–	1.24***
	Gross national savings, % GDP	–	-0.18
	Inflation, annual % change	–	-1.67**
	General government debt, % GDP	–	-0.02
4th pillar:	Health and primary education	-0.02	–
5th pillar:	Higher education and training	0.08	–
6th pillar:	Goods market efficiency	-0.09	–
7th pillar:	Labour market efficiency	0.04	–
8th pillar:	Financial market development	-0.03	–
9th pillar:	Technological readiness	-0.03	–
10th pillar:	Market size	0.02	–
11th pillar:	Business sophistication	0.03	–
12th pillar:	Innovation	-0.08	–
Constant		3.35***	77.21***
Adjusted R2		0.57	0.52

Notes: asterisks indicate significance level: *** = 1%, ** = 5%, * = 10%.
Source: ILO Research Department based on World Economic Forum (WEF).

pillars composing the GCI (see box 1.2). The regression results show that a healthy macroeconomic environment, in particular featuring low external imbalances and stable inflation, is associated with high employment rates in the pre-crisis period.

... but competitiveness, broadly speaking, is less reliable as an indicator of labour market resilience to shocks ...

Table 1.2 summarizes a typology based on the employment dynamics until the first quarter of 2014 with respect to the 2007 average employment rate. The first column presents countries with a current employment rate higher than that in the pre-crisis period. The group includes large countries, such as Germany and the United Kingdom, but also some Eastern European economies, like Czech Republic and Poland, which are improving, albeit from a relatively low level of employment. The second group of countries did not manage to reach their pre-crisis employment rate, but they show signs of recovery with respect to the first quarter of 2009. France is the

Table 1.2 Employment rate developments in the EU-28 since the crisis

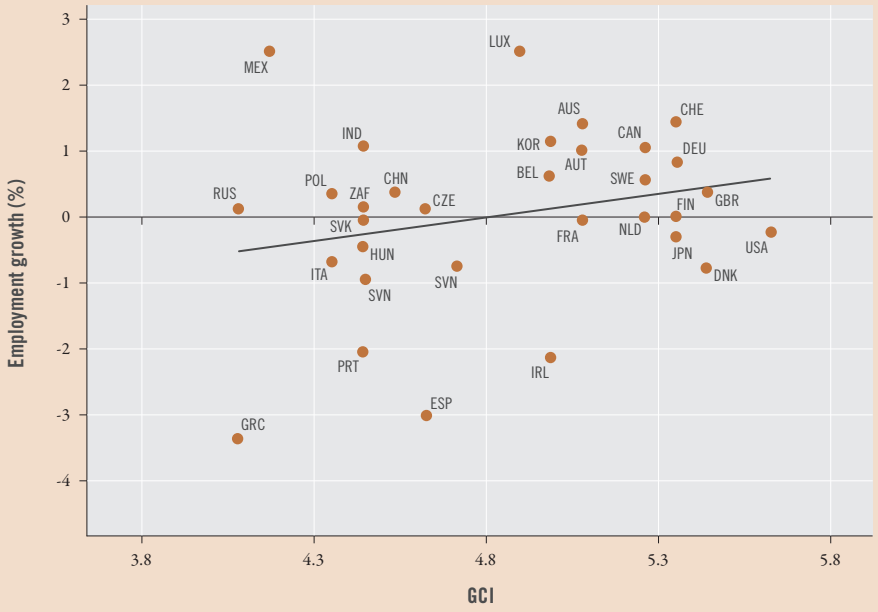
Getting better	Signs of recovery	Getting worse
Austria (G3)	Estonia (G2)	Belgium (G2)
Czech Republic (G2)	France (G2)	Bulgaria (G1)
Germany (G3)	Latvia (G2)	Croatia (G1)
Hungary (G1)	Lithuania (G2)	Cyprus (G2)
Luxembourg (G2)	Sweden (G1)	Denmark (G3)
Malta (G1)		Finland (G3)
Poland (G1)		Greece (G1)
Romania (G1)		Ireland (G2)
United Kingdom (G3)		Italy (G1)
		Netherlands (G3)
		Portugal (G3)
		Slovakia (G1)
		Slovenia (G2)
		Spain (G2)

Note: G1 to G3 indicates relatively low to high competitiveness according to the GCIs given in figure 1.5.
Source: ILO Research Department based on Eurostat.

largest economy in this group. The large majority of these economies had relatively high employment rates prior to the crisis, but may also have been facing some structural issues. In all other countries, the employment rate remains stubbornly lower than the 2007 rate and continues to decline. This group is rather diverse, including Greece, Ireland, Italy, Portugal and Spain (GIIPS), where the unemployment rate reached unprecedented high levels, but also countries that were not hard hit by the crisis in terms of unemployment, such as Belgium and the Netherlands.

By comparing figure 1.5 with table 1.2, it can be seen that a number of countries with strong indicators of competitiveness (labelled G3) have seen their employment situation worsen continuously since the crisis. However, the opposite is also true: having a low GCI score (G1) is not necessarily an indicator of poor employment performance in the aftermath of the crisis. For example, on the one hand, Hungary, Poland and Romania are improving their labour market conditions despite scoring low on the GCI while, on the other hand, Denmark, Finland and the Netherlands have employ-

Figure 1.6 **GCI (1 – lowest, 7 – highest) in 2007 and annual compounded growth rate of employment between 2007 and 2013**



Source: ILO Research Department calculations.

ment rates below their pre-crisis period levels in spite of scoring high in terms of the GCI.

Thus, competitiveness – as measured by the GCI – is not able to fully explain employment dynamics, especially in response to shocks. Figure 1.6 includes several non-EU members and complements the analysis reported above by illustrating a weakly positive correlation between the GCI in 2007 and post-crisis employment growth. The countries shown in figure 1.6 can be divided into two groups. The first group is characterized by lower GCI scores and negative, or very weak, employment growth. To this group belong all non-OECD countries in the sample – with the exception of India and Mexico – and, notably, also the GIIPS (Greece, Ireland, Italy Portugal and Spain). In particular, figures for the GIIPS are considerably below the average employment growth rates. The second group is composed of those

countries with a high GCI score. It should be noted that, even in this group, highly productive economies, such as France, Japan and the United States, show negative employment growth in the aftermath of the crisis.

Short-term policies that impact aggregate demand might be more important drivers of employment dynamics ...

Why does the relationship between GCI and employment deteriorate in the aftermath of the crisis? As will be shown in the next section, the existing evidence reveals that, the Euro crisis – with its associated labour market turmoil – was not strictly to a problem of competitiveness. Therefore, while it is true that competitive countries managed to sustain higher structural rates of employment, the job losses attributable to the crisis were largely unrelated to competitiveness issues. As a corollary, it follows that the policy measures implemented as a response to the crisis have not been effective in improving labour markets outcomes labour markets.

In particular, cutting ULC through internal devaluation has had major and painful implications. Compressing nominal wages without significant interventions on the product market contributed to a fall in real salaries and the impoverishment of large parts of the population. This was particularly true for Southern European countries, whose governments responded to the crisis by implementing severe austerity measures that reduced social expenditures (see Chapter 4).

In a previous report[6] it was shown that in several countries a decrease in the labour share of income was associated, on the one hand, with a decline in household consumption while, on the other hand, there was no significant impact on investment and exports.[7] The report emphasized the fact that declining consumption, stagnating exports and investment, coupled with austerity measures aimed at implementing fiscal consolidation, all contributed to depressing aggregate demand, which translated into rising unemployment (see box 1.3). In this sense, somewhat paradoxically, the policies implemented to alleviate the crisis actually made the situation worst.

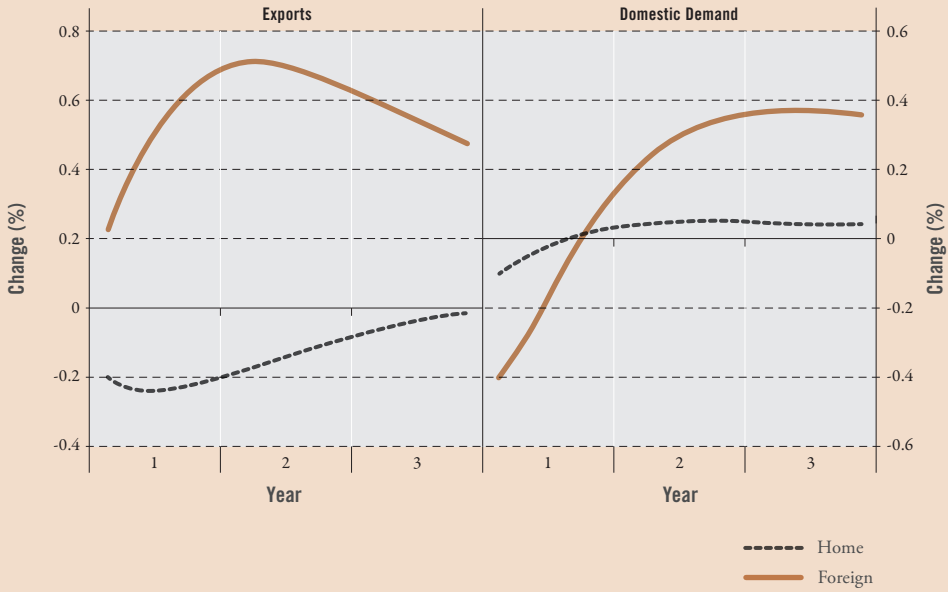
[6] See ILO, 2013.
[7] Lower ULC should translate into lower export prices, which, in turn, should favour export growth. At the same time, allocating fewer resources to the remuneration of labour should stimulate productive investment by firms.

Box 1.3 Wage moderation and demand

The rapid pace of the economic restructuring and fiscal consolidation put pressure on wages as a means of increasing competitiveness in the short term. Such pressure is particularly strong in the Euro area, where currency devaluation is unfeasible due to fixed exchange rates among member countries and "internal" devaluation – a decrease in wages – has been advocated as a viable way for some economies to regain their competitiveness. Such a response, however, runs the risk of undermining the process of structural transformation in three ways: by reducing private and public resources for investment in new activities with high-growth prospects; by triggering a "beggar-thy-neighbour" spiral that would lead to lower growth opportunities for all countries; and by creating international imbalances between surplus and deficit countries, which would limit the scope for adjustment.

This last point is illustrated in figure 1.7 with the help of the Global Economic Linkages (GEL) model,[8] calibrated to a two-country case, to show how wage compression in one country in isolation will, in fact, raise its exports, but at the cost of the other country's exports. This implies that if both countries compress wages, the positive impact on exports would largely be negated. In addition, it can be seen how domestic demand falls initially, as the labour share of income declines. Therefore, a contemporaneous decrease in wages would cause a general depression of aggregate demand, harming both countries.

Figure 1.7 Simulation of unilateral wage compression in two-country GEL



Source: ILO, 2013.

[8] See report Annex for GEL model specification.

B WHAT LED TO THE CRISIS?

This section reframes the debate about the causes of the Eurozone crisis. Instead of pointing to diverging nominal ULC, the focus of the debate becomes: (i) the identification of the causes of the nominal appreciation of the Euro and the rise in current account deficits; and (ii) the most appropriate policy response to compensate for the divergences in specialization. Therefore, the remainder of this section will focus on an alternative explanation for the financial crisis of the Eurozone.

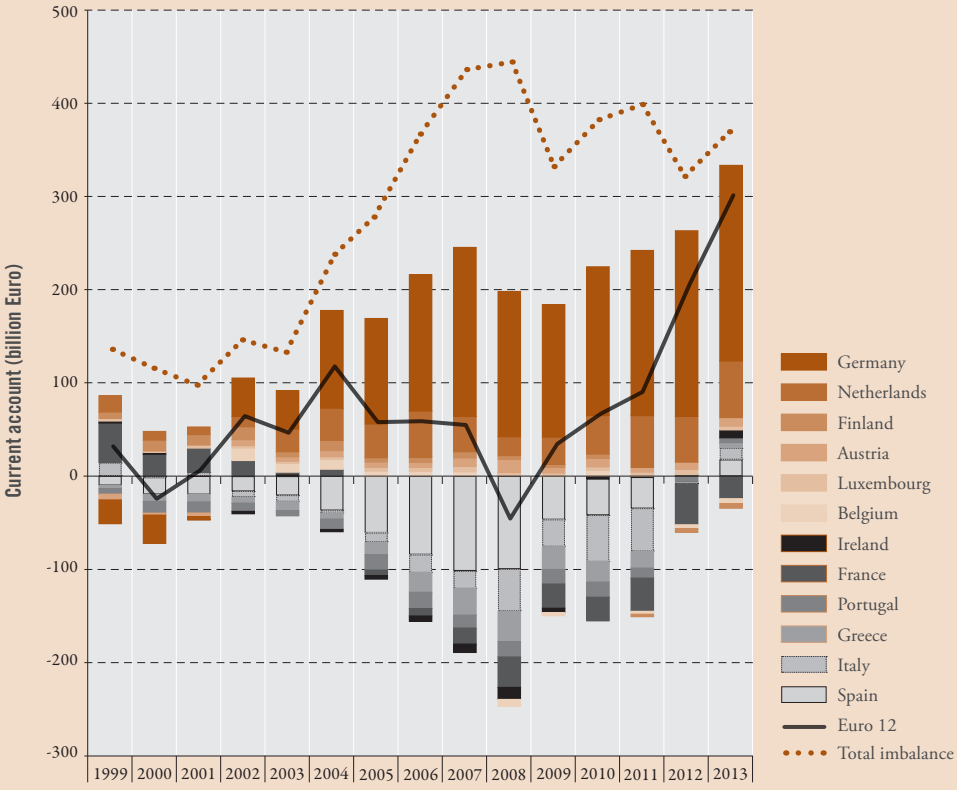
Financial integration provided the foundation for large external imbalances ...

There is a growing consensus of opinion that the financial integration of the EU – which resulted in the elimination of currency risk, harmonization of financial sector policies, reductions in transaction costs and integration of European bond markets and banking systems – provided the foundation for the development of large cross-border capital flows and external deficits (see box 1.4).[9]

Total current account imbalances were relatively small, amounting to less than 2 per cent of the Eurozone 12 member GDP until 2003 (figure 1.8). However, between 2004 and 2008 total imbalances widened significantly, reaching almost 5 per cent of Eurozone 12 member GDP. Although the overall current account remained relatively balanced, there were very large capital flows within the Eurozone from a few surplus countries, such as Germany and the Netherlands, to a number of deficit countries, such as Greece, Italy and Spain. Since the start of the financial crisis in 2008, the countries in deficit have improved their current account positions, many eventually even showing a current account surplus. Yet, in countries like Greece, Portugal and Spain, current account deficits have remained significant in the post-crisis period (although important improvements in these countries have been observed since 2012).

[9] See, for example, Kalemli-Ozcan et al., 2010.

Figure 1.8 Current account of Eurozone 12 countries, 1999–2013



Note: The solid line indicates the net current account. The dashed line indicates the sum of the absolute values of current account balances. It therefore represents the size of total imbalances within these countries.
Source: Eurostat.

Surplus countries continued to register large current accounts as capital flows were directed outside the Eurozone. Consequently, total external imbalances in the Eurozone (dashed line) have hardly fallen since the start of the financial crisis. This shows that the enabling factor for the imbalance is still present. Thus, it is important to understand the conditions under which these imbalances were created more clearly.

... driven by demand and savings imbalances within countries ...

The external imbalances shown in figure 1.8 are mirrored by internal imbalances.[10] In this case it can be established that current account imbalances were driven by excessive demand in deficit countries and a lack of domestic investment in surplus countries.

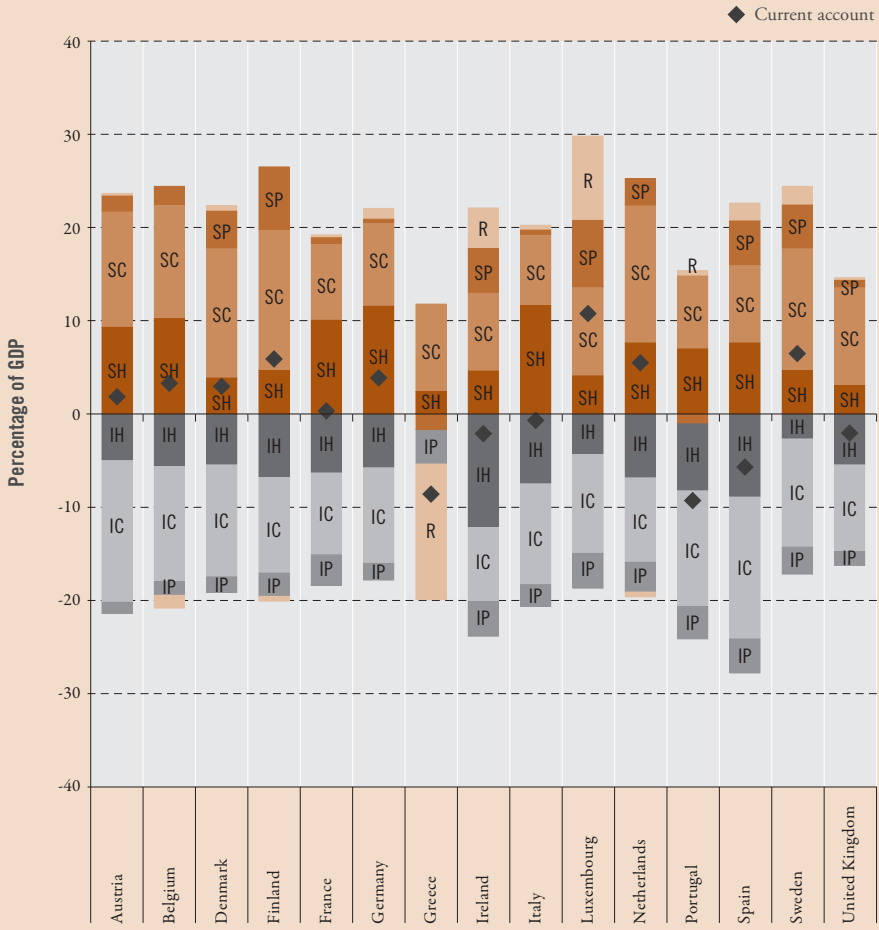
Figure 1.9 presents the average savings and investment decomposition by sectors of the current account between 2000 and 2007. Two aspects are particularly noteworthy. First, there is a high degree of variability in private and corporate savings between countries, which contributes to cross-country differences in current accounts. Second, the relationship between domestic savings and the current account is not exactly direct. Luxembourg has the largest current account surplus but its savings rate, excluding financial corporations, lags behind those of Finland, the Netherlands and a number of other countries with a higher surplus. Meanwhile Spain, and to a lesser extent Ireland, have a high savings rate, but also a high current account deficit.

In a balanced economy the financial sector serves purely as an intermediary, having zero net savings. Government net savings should also be zero. Household and corporate savings balance with household and corporate investment, where positive household net savings finance productive corporate investment. Among the EU economies, only Austria, France and Italy fulfil these conditions. Belgium and Germany have positive net household savings, but lack corporate investment. Finland, Ireland, Spain and the United Kingdom have negative net household savings, although high investment rather than low savings is responsible for the negative net household savings in Spain.

The demand in deficit countries prior to the crisis was supported by a variety of factors, including nominal rate convergence and overly optimistic growth expectations. Convergence implies that in countries where inflation

[10] The current account can be represented as produced output minus absorbed output, or as domestic savings minus domestic investment. Private net income is either consumed or saved, while private savings finance either domestic investment, the domestic government deficit or they are exported as a current account surplus. Hence, a current account surplus can be due to three domestic imbalances: consumption could be too low, producing an excessively high private savings rate; investment could be insufficient; or the government could be running a surplus.

Figure 1.9 Decomposing current account into savings and investment by sectors (2000–2007 average)



Notes: The figure shows the average share in GDP of savings (positive) and investment (negative) components. SH = household savings, IH = household investment, SC = corporate savings (non-financial), IC = corporate investment (non-financial), SP = public savings, IP = public investment, R = residual of current account, including financial corporation's net saving and missing values (for Greece). Only significant components are labelled.

Source: Eurostat.

was initially higher, the real interest rate was actually lower than in countries with initially low inflation rates. The demand effects of these different real interest rates pushed inflation higher (lower) where it was initially high (low), leading to an unstable process of growing inflation divergence. But inflation rates did not go on diverging further, probably because of competitive pressure within the single market. Divergence was channelled

through domestic demand, including housing booms in Ireland and Spain, and the current account. Such a process was unsustainable.

There is evidence that the conversion rates adopted at the creation of the Euro implied an overvaluation for Austria and Germany and sizeable undervaluations for other countries.[11]

Therefore, REER appreciation in crisis countries and depreciation in Austria and Germany in the following years was a correction for the initial misalignments, a hypothesis confirmed by the strong negative correlations between changes in REER and the initial degree of over/undervaluation.

With regard to "overly optimistic" growth expectations in some of the deficit countries, the inter-temporal model of the current account predicts that countries with higher growth prospects relative to other countries will run current account deficits to fund higher consumption. This is supported by the empirical evidence of Jaumotte and Sodsriwiboon (2010) on the drivers of current account balances, which finds that a large part of the current account deficits are not explained by medium-term fundamentals (such as demographic trends, the level of development relative to trading partners, relative fiscal positions, etc.). In addition, Lane and Pels (2012) find that countries with more optimistic growth forecasts ran larger deficits, especially between 2002 and 2007, when liquidity conditions were high and global risk aversion low in global capital markets. Furthermore, Sanchez and Varoudakis (2013) show that low interest rates and high GDP growth are much more important drivers of current account balances than cost measures, such as ULC or REER.

Consequently, current account deficits in more optimistic countries went to finance higher levels of consumption and construction investment. The resulting real exchange rate appreciation contributed to crowding out manufacturing and export activities. Portugal experienced a decade of low productivity gains and stagnant economic growth, as the competitiveness of tradable goods declined.[12] In Greece and Spain, growth was sustained by strong domestic demand, which led to significant deterioration of current accounts.

[11] See, for example, Wyplosz, 2013.
[12] See Blanchard, 2007.

Box 1.4 Neoclassical predictions on financial integration

According to neoclassical theory, removing transaction costs on international financial transactions – as was the case following financial integration within the EU or resulting from the elimination of country-specific currency risk – should result in net capital flows from richer to poorer countries. This has been observed among economic and monetary union (EMU) countries (Schmitz and von Hagen, 2009). Countries at a less advanced stage of development should experience net capital inflows and therefore be expected to run current account deficits – the consequence of a healthy convergence process (Blanchard and Giavazzi, 2002). These deficits should be associated with rising domestic investment – to the extent that the marginal product of capital in less advanced economies is higher than in richer countries – and/or with a decrease in savings, which would be the consequence of stronger growth prospects and relaxation of borrowing constraints for firms and households following financial liberalization (Jappelli and Pagano, 1994). As income or productivity in tradable sectors increases, higher consumption of non-tradable goods would result in an equilibrium appreciation of the real exchange rate (the Balassa–Samuelson effect).

In practice, however, this theory encounters three main obstacles. First, it does not account for the changes in the external balance of non-crisis countries in the Eurozone. Since the Euro area is financially integrated with the rest of the world, the rising current account deficits and appreciating real exchange rates of relatively poorer countries within the union should not, in principle, be matched by offsetting changes in the current accounts of the relatively richer countries of the currency union. Second, econometric estimates by Wyplosz (2013) suggest that the Balassa–Samuelson effect has not been a significant driver of real exchange rates in crisis countries. Finally, the evolution of saving–investment balances was not entirely consistent with neoclassical convergence. Greece and Portugal experienced declines in corporate saving at the same time as declines in domestic investment, an observation difficult to reconcile with differences in the marginal product of capital. During the same period, the rising surplus of Germany mainly reflected a rise in corporate savings and a decline in domestic investment.

The immediate crisis response significantly increased public debt levels ...

A large number of EU governments committed to decisive policy action to combat the real effects of the financial crisis in 2008. These measures included significant fiscal expansion in a number of countries, contributing positively to growth in 25 out of the 28 EU countries in 2008, and in 22 countries in 2009. The unweighted average growth contribution of government spending in the EU-28 countries in 2008 was 0.55 percentage points,

which was 0.07 percentage points higher than the average contribution over the 2000–2007 period.

Furthermore, automatic stabilizers provided a significant indirect stimulus to limit the slowdown in growth. However, both these measures gave rise to fiscal deficits in all EU economies over the 2009–2010 average. A total of 21 countries had deficits larger than 3 per cent of GDP, while the deficits of Greece, Ireland, Portugal and Spain exceeded 10 per cent of GDP. These deficits significantly increased public debt.

Additionally, countries' debt levels were exacerbated by the European banking crisis. States provided large guarantees for national banks that faced financing difficulties in the wake of the meltdown of the world financial system that started in 2007, which proved fiscally unsustainable.[13]

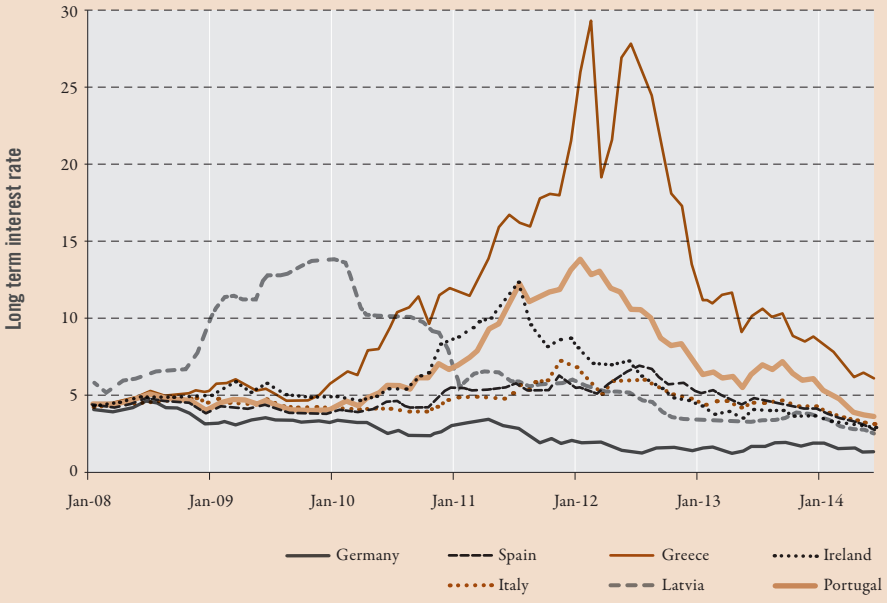
... which was followed by credit tightening ...

Rising debt levels of households, corporations or governments reduce investors' confidence and raise risk premiums. The lack of national central banks in the Eurozone aggravates this problem, potentially creating a vicious circle, culminating in a banking and sovereign debt crisis in individual countries.[14] Only external financing through the European Central Bank (ECB) as well as the European Stability Mechanism (or its predecessors) prevented these crises from materializing.[15]

Figure 1.10 shows the long-term interest rate in six Eurozone countries that suffered from a liquidity crisis, comparing them to the German interest rate. The countries experienced a more or less significant rise in the interest rate, not only making government refinancing more expensive but also severely hindering the provision of loans at low interest rates to households and firms in times of economic crisis, when they are most needed.

[13] While these guarantees do not appear directly as public debt, investors nevertheless took them into account when evaluating the fiscal sustainability of a country, since guarantees could be implemented in the event that the banking system proved too fragile. Ireland is the most prominent example of a country where a direct state bailout of banks was necessary.
[14] See De Grauwe (2011).
[15] Problematically, lower saving rates and lower productive capital accumulation undermined the ability of some countries to service their international loans (Giavazzi and Spaventa, 2010; IMF, 2011; Levy, 2012). Simonazzi et al. (2013) also argue that the productive base in peripheral countries was too narrow –in terms of both quantity and quality – to respond to external demand.

Figure 1.10 Long-term harmonized interest rates, January 2008 to June 2014
(percentages)



Source: ECB.

... reinforcing demand fluctuations during the crisis.

Figure 1.11 shows that, in the countries experiencing the most severe financial tightening (GIPS), the growth contribution of household consumption, government consumption and investment demand fell most strongly. Export growth fell most dramatically in Luxembourg, followed by Ireland and Denmark, while it increased most steeply in Portugal and Spain. Lower imports exert a strong positive contribution to growth in countries experiencing sharp declines in domestic consumption.

Figure 1.11 Change in growth decomposition between 2000–2007 and 2011–2013 (annual averages) (percentages)

Notes: The figure shows the change in the growth decomposition between the period 2000–2007 and 2011–2013. A negative value of 5 implies that the annual average growth contribution of that component fell by 5 percentage points.
Source: Eurostat.

The growth decomposition in figure 1.11 identifies the drivers of growth on a macro level. Figure 1.12 presents the change in the determinants of national saving as a share of GDP between the period 2000–2007 and 2012–2013. Saving and investment of public and private sectors respond to financial constraints and drive the macroeconomic determinants of GDP growth presented in figure 1.11.

Figure 1.12 conveys a number of important results. First, public saving has a negative impact on the current account in almost all countries, in line with rising fiscal deficits. In contrast, public investment fell noticeably in the GIPS, impacting the current account positively but aggregate demand

Figure 1.12 Change in saving and investment contributions to current account

Notes: The figure shows the change in the shares of saving and investment by sector in GDP between the 2000–2007 average and the 2012–2013 average. SH = household saving, IH = household investment, SC = corporate saving (non-financial), IC = corporate investment (non-financial), SP = public saving, IP = public investment, R = residual of current account, including financial corporations' net saving and missing values (for Greece). Only significant components are labelled.
Source: Eurostat.

negatively. Lower public saving was coupled in most countries with higher private sector net saving. However, the main driver of this was a lower investment share in GDP. In contrast, household and corporate gross saving move in opposite directions in nine out of 15 countries, limiting their overall contribution to national net saving.

In conclusion, the financial integration that accompanied the introduction of the Eurozone allowed the formation of large external imbalances among the Eurozone members. The driving force behind the imbalances was and continues to be excess saving in surplus countries, proven by their continuing large current accounts. The ensuing relatively low real interest rates, coupled with high growth, led to the absorption of excess savings by deficit countries, thereby deteriorating their real effective exchange rate and creating employment in domestic sectors. Haksal (forthcoming) provides an extended discussion on intra-EU imbalances and their evolution over the course of the financial crisis.

C FOCUS OF THE REPORT

The remainder of this report will analyse the issue of competitiveness in more depth and assess the role of income, labour and social protection policies in promoting a job-rich recovery. It comprises three main components, namely (i) an assessment of the concept of competitiveness and the interactions involved in creating a job-rich recovery; (ii) an examination of the drivers of employment growth; and (iii) an examination of the role of social protection in providing income support, boosting job creation and competitiveness and fostering long-term sustainable growth.

Chapter 2 discusses various notions of competitiveness, providing an assessment within the EU and relative to other major economies. The chapter demonstrates that there are competitiveness challenges in the EU, which pre-date the economic crisis. Indeed, labour productivity plays an essential role in achieving higher competitiveness as countries with higher labour productivity tend to achieve greater prosperity. Thus, achieving higher labour productivity seems to be desirable, and the relocation of jobs from low to high productivity activities might contribute to overall productivity and, therefore, growth. Nevertheless, the analysis also shows that labour utilization plays an important role in achieving prosperity. In this regard, the role of institutions seems to be pivotal, particularly in smoothing the relocation of workers and capital between firms and sectors, improving productivity through training and introducing measures to increase labour force participation. Simulations performed with the GEL model shed light on and quantify the importance of such policies.

Chapter 3 establishes the fact that balanced and sustainable employment growth requires diversification, both domestically and externally. Domestic and international imbalances of components of aggregate demand have created boom–bust cycles which were concentrated on a number of domestic sectors and countries over the past decade, exacerbating the EU-wide decline in importance of global value chain (GVC) related jobs. The absence of GVC driven employment expansion in most countries, coupled with

the lack of public sector related employment growth, added to the overall negative impact of the crisis. This confirms the assessment that ULCs were not at the core of the dismal employment growth performance in the EU. Policy simulations based on the GEL model show that product differentiation reduces the vulnerability of export demand to foreign shocks, while policies that enhance domestic income imbalances are counterproductive.

Finally, Chapter 4 addresses the interrelations between social protection and competitiveness. Taking the ESM as a starting point, individual country responses to the crisis in terms of social and labour market policies are analysed. The results show that the crisis brought about diverging policy responses, which contributed to changes in the region's competitiveness. While northern and continental countries retained or increased funding levels in vital policy areas (such as active labour market policies, unemployment insurance or education), countries under severe fiscal pressure had to cut back spending in almost every field. The second section of the chapter analyses the links between social protection policies and common measures of competitiveness, taking into account not only productivity-enhancing channels but also adverse effects on cost-competitiveness. The analysis confirms that, while social protection policies are essential in order to improve labour market matching and stimulate employment growth in productive sectors, there is a risk that short-term fiscal pressure may lead to underinvestment in long-term orientated policies, such as those concerning health care and education. Both of these policy areas are crucial for skills supply and development, which in turn are essential to improving competitiveness. The chapter finds that, although further investment in social protection increases upward pressure on labour costs, adverse effects on cost-competitiveness can be mitigated through a well-designed restructuring of taxes and contributions.

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CHAPTER 2
COMPETITIVENESS AND JOBS

INTRODUCTION

The concept of "competitiveness" is rather ambiguous despite being commonly used in academic and policy debates. It is not surprising, therefore, that policy-makers disagree on what measures to adopt in order to improve or restore the "competitive position" of a country, industry or firm. As discussed in Chapter 1, unit labour costs (ULC), are commonly used as proxies for competitiveness. Although they reveal information about the relative cost structure of the economy, they disregard other important elements that determine how successfully a country engages in various social and economic activities (for example, education, health and international trade, among others) and consequently improves the well-being of its people. For this reason, the academic and policy debate has largely moved on from focusing exclusively on "cost competitiveness", to consider other relevant dimensions, such as productivity, the quality of institutions and the degree of sophistication of product and labour markets. Indeed, the literature provides various definitions of competitiveness of a country,[16] each emphasizing a particular dimension based on different sets of indicators.

This chapter provides an overview of various commonly used definitions of "competitiveness". It then discusses the implications of applying these definitions and related indicators to EU Member States and other economies.[17] Section A discusses different notions of competitiveness and applies and analyses them in the context of the EU and other major economies. Section B reveals the limitation of narrow concepts and the validity of broader concepts of competitiveness. Section C discusses policy implications for jobs.

[16] See, for example, Garelli, 2006.
[17] See also Delgado et al., 2012.

A CONCEPT OF COMPETITIVENESS

At the country level, competitiveness is, first and foremost, a measure of prosperity ...

There is some disagreement regarding how meaningful the concept of competitiveness can be at the country level.[18] Despite this disagreement, however, most authors and policy-makers claim that national prosperity should be the end-goal of competitiveness of a country. For example, Schwab (2014) argues that competitiveness is the foundation for the productivity of a nation, which leads to the nation's prosperity. Similarly, the International Institute for Management Development (IMD) (2014) describes prosperity as the purpose of competitiveness in the following definition: "Competitiveness analyses how nations and enterprises manage the totality of their competencies to achieve prosperity or profit" (p. 493).[19] Thus, the concept of prosperity is the point at which both narrow (i.e. focus on productivity) and broad (i.e. focus on people's well-being) definitions of competitiveness are compatible. Looking at competitiveness in terms of prosperity suggests using real GDP per capita as a broad indicator of competitiveness. Box 2.1 provides background on the origins of the concept of competitiveness.

... and the overall trend is that the prosperity gap between the EU, the United States, Japan and the BRIICS has not changed substantially over the past decade ...

In this section, competitiveness is interpreted in a broad sense, i.e. as a synonym for prosperity. The following sections will then use narrower interpretations of competitiveness, such as labour productivity or ULC. An analysis of the trends in prosperity gaps measured by GDP per capita between 1995 and 2013 (see figure 2.1) reveals that there is no long-term downward trend in the EU's GDP per capita compared to the United States. The gap

[18] Krugman (1996) even questions the meaning of the term "competitiveness" when applied to countries without further specification.

[19] Additional studies include the EU Regional Competitiveness Index 2013, which incorporates people's well-being into its definition of competitiveness and recognizes a close connection between competitiveness and prosperity. Similarly, the Chesnais (1992) adopted the following working definition of competitiveness of a country as the general ability of an economy to sustain welfare and living standards: "Competitiveness is the degree to which a country can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long term".

Box 2.1 Origins of the concept of competitiveness and modern use

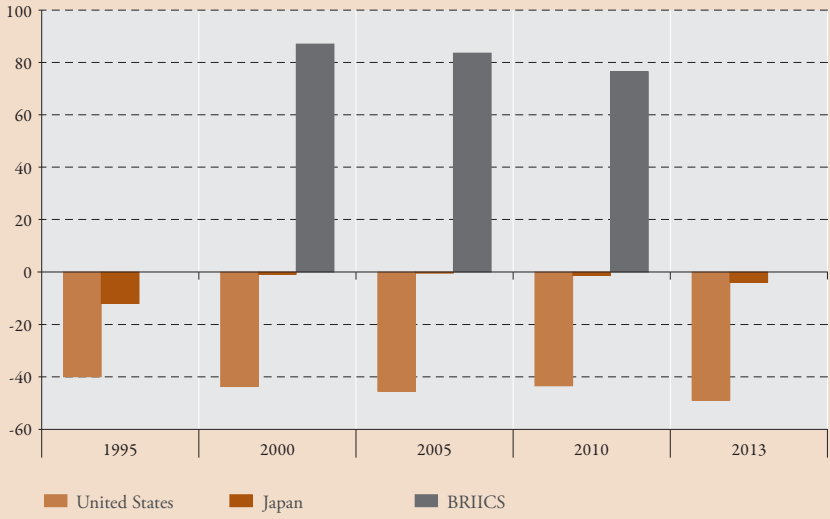
Adam Smith (1776) was the first theorist to emphasize how factor endowments, specialization and free exchange were the pillars of the competitiveness of nations. David Ricardo (1817) further developed these ideas and introduced the concept of comparative advantage, explicitly analysing the principles according to which nations should compete against each other. In developing his theory of creative destruction, Joseph Schumpeter (1943) is the first thinker to connect the microeconomic dimension of firms and entrepreneurs to the macroeconomic performance of nations.

Since then, it has become evident that the concept of competitiveness as applied to firms had strong connections with, but was not equivalent to, the idea of competitiveness of countries. Scholars have been deepening and refining the idea of competitiveness ever since, each focusing on a particular dimension, or emphasizing a specific element of comparative advantage. For example, McGeehan (1968) questioned the popular view at the time that Britain was importing too much and exporting too little, and the consequent conclusion that the country's large trade deficit was the result of a lack of competitiveness. According to McGeehan, Britain's declining export share was an inevitable consequence of the country's structural transformation and the increasingly important role played by emerging economies. As the world economy becomes more complex and interconnected, capturing the significance of competitiveness in a single definition is proving to be a major challenge. Important contributions include Michael Porter's "Diamond Model" (1990), which attempted to condense several distinct dimensions of competitiveness into a single model.

In 2012, the governor of the European Central Bank, Mario Draghi, provided a definition of competitiveness in the following terms: "A competitive economy, in essence, is one in which institutional and macroeconomic conditions allow productive firms to thrive. In turn, the development of these firms supports the expansion of employment, investment and trade". Similarly, the World Economic Forum (2014) defines competitiveness as: "the set of institutions, policies, and factors that determine the level of productivity of a country".

has been fluctuating and this could actually hint at either demand side or supply side factors, or a combination of both. The fluctuations in the prosperity gap may therefore have mirrored the expansion and contraction of aggregate demand during the different phases of the business cycle in the United States in comparison with the EU. In addition, the relative prosperity of EU countries has not shifted dramatically between 2005 and 2013, so that one cannot speak of the EU's deteriorating competitiveness in this sense, at least not in comparison to the United States.

Figure 2.1 Prosperity gap between EU-15 and Japan, the United States and BRIICS, selected years, 1995 to 2013 (percentages)



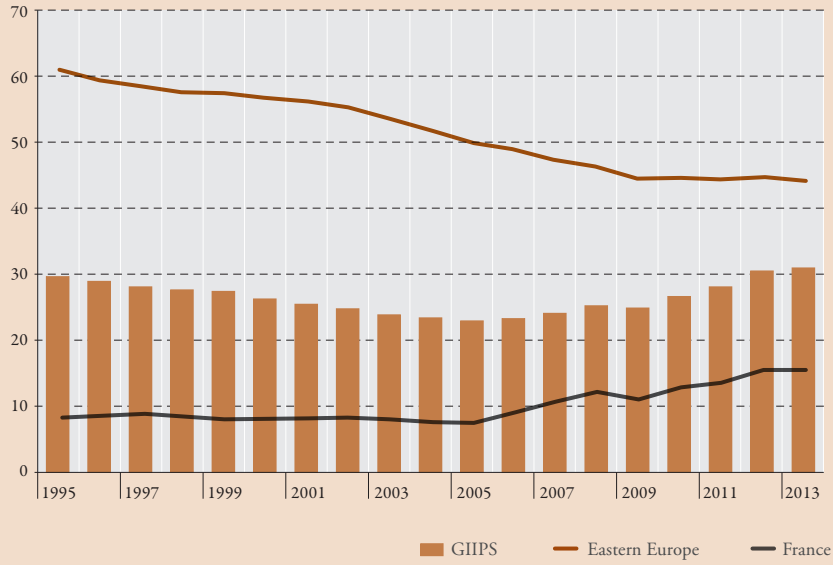
Note: The prosperity gap in percentages consists of the difference between the real GDP per capita of the EU-15 and that of Japan, the United States and BRIICS relative to the EU-15. This prosperity gap can be construed as a competitiveness gap.

Source: ILO Research Department based on OECD and World Bank.

A similar development can be observed for the EU-15's[20] competitiveness relative to Japan (see figure 2.1). The existing gap at the beginning of the 1990s had practically closed by 2005, albeit probably due more to the weak economic performance of Japan than to accelerated performance of the EU Member States. Since the outbreak of the crisis, Japan has regained some competitiveness in relation to the EU-15, though on a very small scale. The only tendency that can be detected is the seeming loss of competitiveness relative to the BRIICS[21] countries, which has accelerated since the crisis. However, this appears to be a normal convergence process and to be expected when conceiving competitiveness as a measure of prosperity.

[20] EU-15 countries comprise Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom.
[21] The BRIICS countries are Brazil, Russia, India, Indonesia, China and South Africa.

Figure 2.2 Prosperity gap within EU economies, selected years, 1995–2013
(percentages)



Note: The intra-EU prosperity gap consists of the difference in real GDP per capita between the group of ABGFN countries on the one hand, and GIIPS countries, Eastern Europe and France on the other. As in figure 2.1, this prosperity gap can be construed as a competitiveness gap.
Source: ILO Research Department based on OECD and World Bank.

... but some EU Member States have lost competitiveness within Europe, mainly after the crisis.

While, for the EU-15 as a whole, by and large no major shifts in competitiveness (prosperity) can be detected, some trends can be seen within various groups of EU Member States. Figure 2.2 compares GDP per capita of Austria, Belgium, Germany, Finland and the Netherlands (ABGFN) as one group with Greece, Italy, Ireland, Portugal and Spain (GIIPS), Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia (Eastern Europe) and France. The figure shows that the gap in competitiveness between ABGFN and the GIIPS or France had not increased before the crisis, but started to widen in the post-crisis period. Thus, in this sense, there was no loss of competitiveness in GIIPS or France relative to ABGFN countries prior to the crisis.

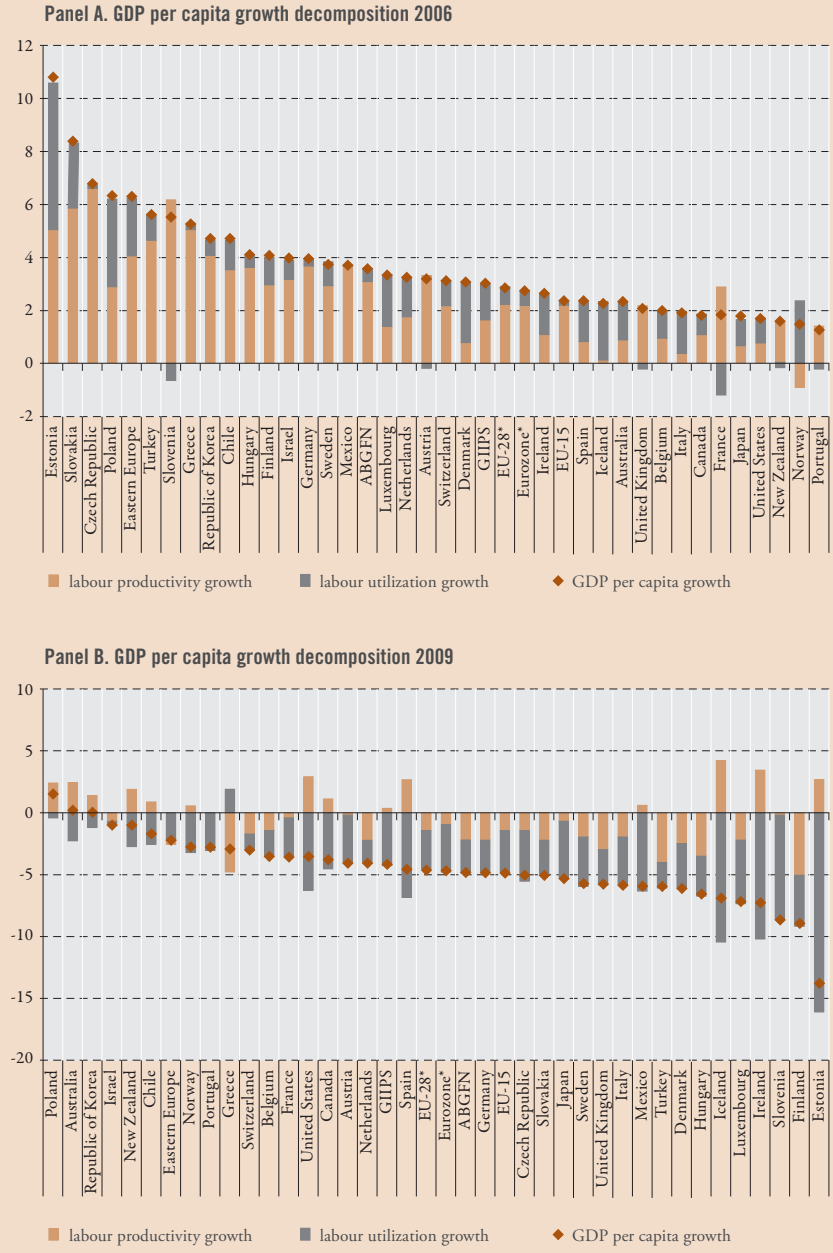
The ABGFN countries have generated trade surpluses within the EU over the past few years (the Netherlands since 2007) and all countries in the group – perhaps with the exception of Belgium – have been relatively lightly affected by the Euro crisis. The competitiveness (prosperity) gap between the GIIPS and ABGFN countries reached a plateau in 2005 and the difference widened by 8.1 percentage points between 2005 and 2013 (7.8 percentage points in the case of France). Eastern European countries have been constantly closing the competitiveness gap with ABGFN, albeit at a slower pace in post-crisis years.

Taking prosperity as a proxy for competitiveness leaves open the question of identifying the underlying drivers. A first step towards understanding the drivers of prosperity differences can be a decomposition of GDP per capita (growth) into labour productivity (growth) and labour utilization (growth).

Positive prosperity growth is mainly driven by productivity growth, while decreasing prosperity is mainly determined by reduction in labour utilization.

A closer look at the decomposition of GDP per capita growth shows the importance of labour productivity for growth. Figure 2.3 shows that when prosperity growth is positive (panel A: 2006), it is generally driven by strong labour productivity growth. In contrast, decreasing prosperity is mainly determined by a reduction in labour utilization and not primarily by a reduction in labour productivity (panel B: 2009). This observation has important policy implications as, in times of negative prosperity growth, policies targeted solely at labour productivity may not lead to the desired result. Of course, labour productivity growth is essential for achieving higher prosperity. Countries with high labour productivity are also highly competitive. However, the analysis of the prosperity growth decomposition suggests that labour utilization generally decreases with negative GDP per capita growth. Therefore, policies that aim to increase labour utilization rates, such as the encouragement of youth and female labour force participation or raising the retirement age, may be more effective in achieving positive GDP per capita growth, and hence competitiveness.

Figure 2.3 Decomposition of prosperity growth by labour productivity and labour utilization growth, 2006 and 2009 (percentages)



Note: Labour productivity is measured as GDP per hour worked. Labour utilization refers to hours worked per total population.

*Due to data limitations, EU-28 does not include Bulgaria, Cyprus, Latvia, Lithuania, Malta or Romania. Similarly, Cyprus, Lithuania and Malta are not included in the Eurozone countries.

Source: ILO Research Department based on OECD and World Bank.

Labour productivity is a narrower concept of competitiveness that is also correlated with broader measures ...

Often, the term competitiveness is used simply as a synonym for productivity.[22] If "labour productivity" is applied as a definition of competitiveness, it has a different meaning in the context of firm competitiveness than in the context of countries' competitiveness. At the firm level, competitiveness usually refers to the struggle for market shares and higher productivity, which enables firms to offer their products at a lower cost. For competitiveness at the country level, labour productivity is important in at least two ways. First, higher labour productivity has a direct influence on prosperity, as has been shown previously. This is confirmed by figure 2.4, panel A, which shows how productivity is positively correlated with per capita income. In addition, figure 2.4, panel B shows that productivity, measured as real GDP per hour worked, is strongly correlated with both the World Economic Forum (WEF) GCI and World Bank Ease of Doing Business Index (EDB), indicating that, ultimately, competitiveness in its broad sense can be linked to productivity.

Second, higher labour productivity can potentially lead to comparative advantages in relations with other countries, allowing for mutually beneficial trade, which in turn may translate into wider benefits in the country (i.e. prosperity and employment growth). In that case, competitiveness can be understood as the ability of a country to engage in international trade and, more broadly, to access potential welfare gains from international trade. Clearly, it is not countries that trade with each other but firms, trading with each other and with international customers. In addition, some products are tradable internationally while others are not, therefore certain domestic sectors cannot be "competitive" in that sense. Furthermore, the distribution of welfare gains within a country depends on its socioeconomic institutions. Thus, comparisons of labour productivity and labour productivity growth between countries at the macro level can only be indicative measures of competitiveness.

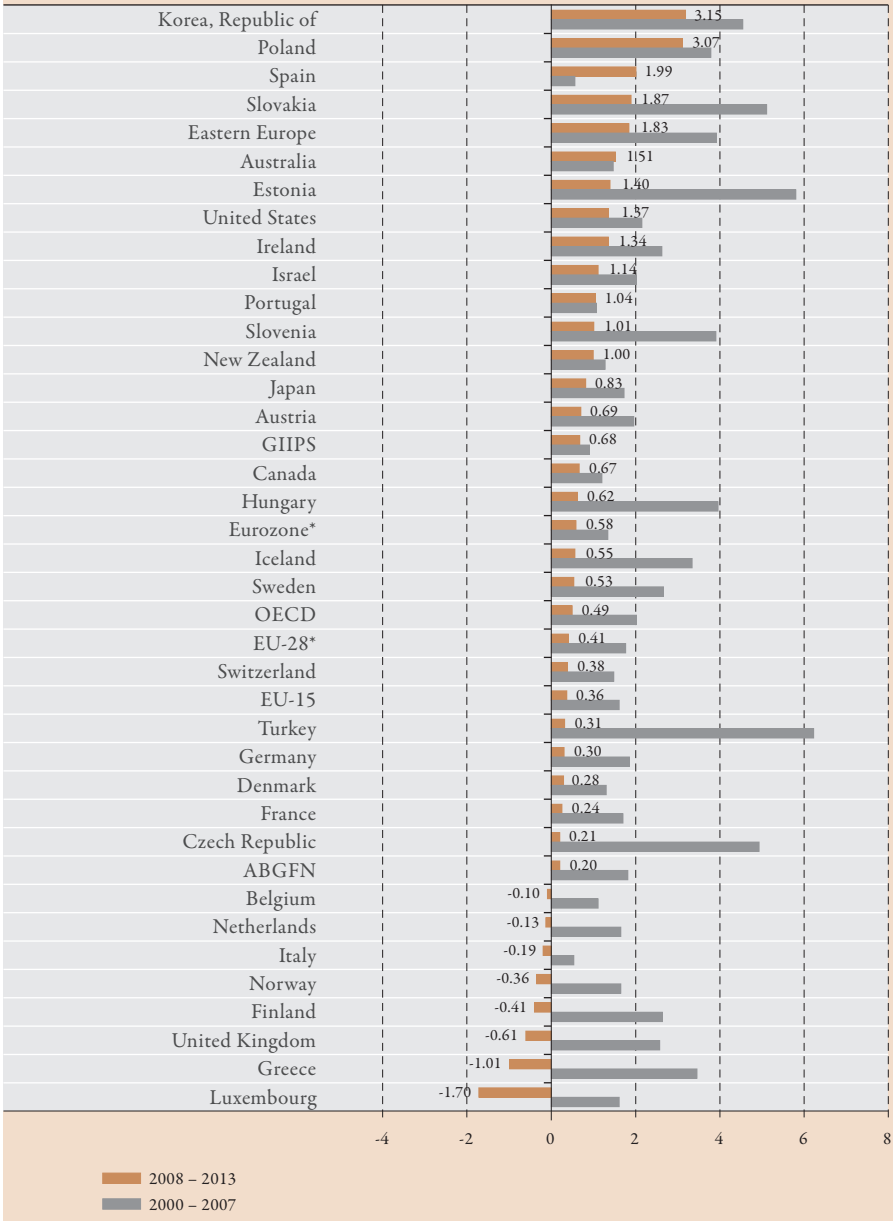
[22] See, for example, Krugman, 1996.

Figure 2.4 **Correlation between labour productivity and broader indicators of competitiveness (2013)**

Note: The countries covered in figure 2.4 are EU-28 countries (excluding Bulgaria, Croatia, Cyprus, Latvia, Lithuania, Malta and Romania due to limited data availability), non-EU OECD countries (Australia, Canada, Chile, Iceland, Israel, Japan, Mexico, New Zealand, Norway, Republic of Korea, Switzerland, Turkey and the United States) and the Russian Federation. The data for Real GDP in national currencies at 2005 constant prices are converted into the international dollar using 2005 PPPs.

Source: ILO Research Department based on OECD productivity database, WEF GCI, World Bank World Development Index, World Bank EDB Index.

Figure 2.5 Labour productivity growth (in Euros) in selected countries, 2000–2013
(percentages)



Note: Real GDP rates in national currencies at constant 2005 prices were converted into Euros using constant 2005 exchange rates.
*Due to data limitations, EU-28 does not include Bulgaria, Cyprus, Latvia, Lithuania, Malta or Romania. Similarly, Cyprus, Lithuania and Malta are not included in the Eurozone countries.

Source: ILO Research Department based on OECD and World Bank.

Figure 2.5 shows average annual labour productivity growth for the period before the crisis (2000–2007) and after the crisis (2008–2013). Productivity growth slowed down considerably in all countries in the sample, except for Australia and Spain. It is clear that the majority of EU countries have consistently lower productivity growth rates in comparison with the United States (see box 2.2 for a comparison between the EU and the United States). Spain is an outlier in that it is the only country which dramatically improved its labour productivity during the post-crisis period in comparison to the pre-crisis period. However, it is questionable whether such an increase in labour productivity should be interpreted as an increase in competitiveness, since Spain is one of the countries that have been experiencing consistently negative prosperity growth during the post-crisis period, with serious deterioration in labour utilization. Thus, the limitations of labour productivity as an indicator of the competitiveness of a country should be kept in mind.

Box 2.2 Europe's persistent productivity gap with the United States

European productivity had been decaying relative to the United States since the mid-1990s. Following the 2008 financial crisis, the productivity gap between Europe and the United States began to widen at a faster pace, with Europe becoming increasingly less productive year by year.

Policy analysts have suggested that Europe's lagging labour productivity in the 1990s was a result of widespread European active labour market policies in the late 1980s and 1990s, which had the effect of increasing the labour force participation rate but without generating proportional increases in output. Furthermore, it was also believed that, although the disproportionate growth in labour compared to output would be significant in the short term, assuming the absence of European production stagnation, European productivity would regain ground and become increasingly competitive in global markets over time.[23]

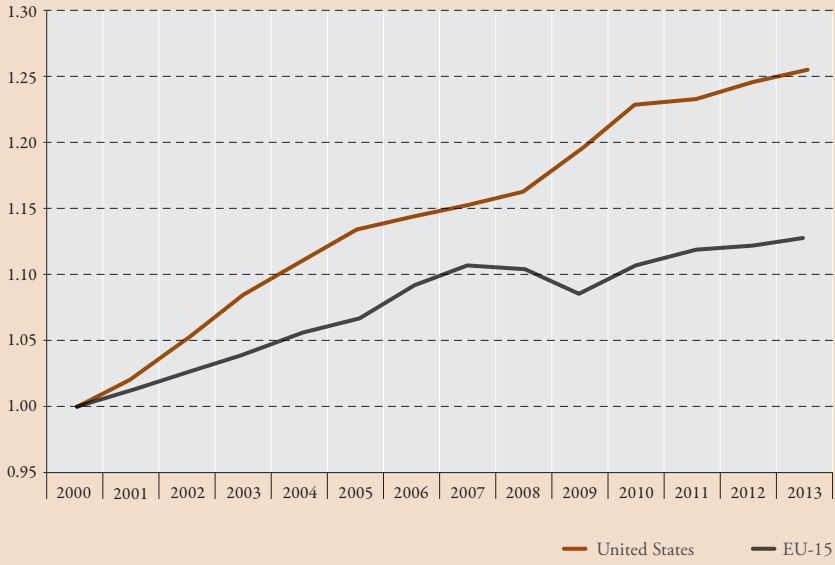
For a short time, it appeared that this prediction would be fulfilled. Around 2006, the percentage difference in productivity between the United States and the EU-15 (measured below as GDP per hour worked) began to reverse as a result of both waning US productivity and cyclical productivity increases for the EU-15.[24] However, during the years following 2008, Europe has started to lag behind the United States again in terms of productivity growth.

[23] See, for example, Ark van et al., 2008.
[24] See, for example, Turner and Bulhol, 2010.

Box 2.2 Europe's persistent productivity gap with the United States (cont)

Figure 2.6 Output per hour worked, EU-15 vs. United States, 2001–2013

(index: 2000 = 1)



Source: ILO Research Department calculations based on OECD.Stat.

An analysis of the literature offers the following explanations for the discrepancies, which generally involve various deficiencies in the service sector or, more specifically, the information and communication technology sector.[25]

- Research and development – Duverger and van Pottelsberghe (2011), the European Commission (2010) and Ortega-Argilés et al. (2011) found relationships between low productivity and smaller research and development allocations for new products in Europe compared to the United States. Furthermore, the Ortega-Argilés study offers the suggestion that US firms are more adept at translating these investments into productivity gains. It is likely also that the higher skill level of the United States allows its workforce to more easily access the technological advancements of the information and communication technologies industry, which are in turn funded by the higher proportion of research and development (Rincón-Aznar et al., 2014).

- Product market regulations – The European Commission (2010) reports that the United States has a lower final goods mark-up level than Europe, which appears to be a result of more competition resulting from lower barriers to entry for businesses. Other authors have been critical of the European regulatory environment as well; Arnold et al. (2011) find that overregulated sectors have additional spillover effects

[25] See, for example, Roxburgh et al., 2010.

into other sectors. The sector which is most affected by spillover effects, they say, is again the information and technology industry, which is stifled by regulations on energy, telecommunications and other frequently regulated inputs that are vital to the development of the sector.

- Allocative efficiency – Closely related to market regulation is the labour market's overall flexibility in removing inefficient agents and rewarding efficient ones (in this case, high productivity firms and workers). Haltiwanger (2011) notes that key features of the European economic environment, such as the relative lack of flexibility in hiring and firing and high internet penetration rates but relatively basic bandwidth, are factors that prevent resources from being allocated efficiently. Other barriers to entry for new market entrants include a patent cost which is five times more expensive than in the United States.[26]

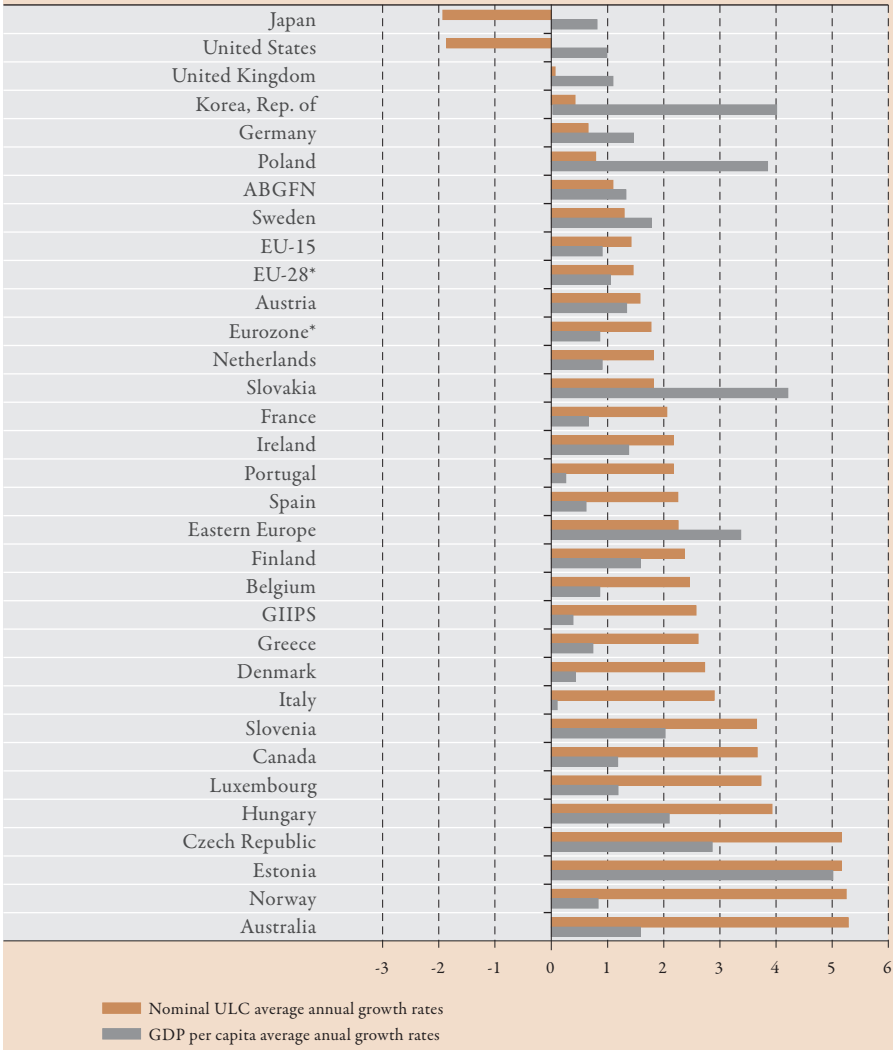
Finally, the European Commission (2010) has also noted a gap between the total factor productivities of Europe and the United States. A decomposition analysis of this phenomenon revealed that Europe's lag stems from lack of innovation and not from lack of adoption of developed technologies (Havik et al., 2008). This finding provides additional evidence to support the theory that a stifled information and technology sector is central to the problem of stagnating productivity in Europe.

... whereas ULC is a narrow measure of competitiveness that bears only a limited relation to broader measures.

Another commonly used indicator of countries' potential to engage in international trade is ULC. The idea is that labour costs are the principal cost component determining the offer prices of companies. When this idea is extended to the country level it would mean that relatively low average ULC, i.e. average wage remuneration over GDP, constitute a price advantage in comparison to other countries with higher ULC. Or, everything else being equal, lower growth rates of ULC improve the competitive position of a country.

[26] See, for example, Centre for Economic Performance, 2006.

Figure 2.7 Growth of nominal ULC and GDP per capita, 2000–2012
(percentages)



Note: ULC are calculated as averages for the whole economy. Labour compensation of employees in national currencies at current prices is converted into Euros using current exchange rates. Real GDP in national currencies at constant 2005 prices is converted into Euros using constant 2005 exchange rates.

*Due to data limitations, EU-28 does not include Bulgaria, Cyprus, Latvia, Lithuania, Malta or Romania. Similarly, Cyprus, Lithuania and Malta are not included in the Eurozone countries.

Source: ILO Research Department based on OECD, World Bank and ECB.

Nominal ULC expressed in terms of Euro has been increasing in Europe over the past decade, while it has been decreasing in Japan and the United States (see figure 2.7). This trend is often referred to as loss of cost competitiveness in Europe. This ULC growth in Europe is a reflection of the trend where wages have been growing faster than productivity. Along the line of such observation, wage moderation is often proposed as a way to restore cost competitiveness in a short run. However, there is an increasingly growing consensus that wage moderation cannot be a long-term solution given the possible negative impact on domestic demand, and that the key to sustainably existing the crisis lies in the improvement of productivity, rather than wage moderation.

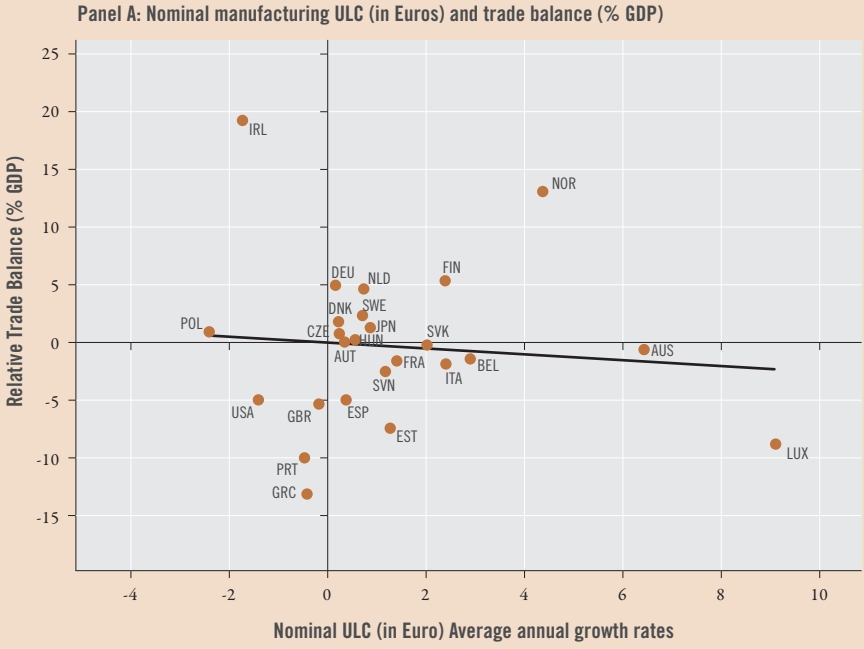
Figure 2.7 shows ULC and GDP per capita growth rates for selected countries. The figure shows that these two concepts of competitiveness bear little relation to each other. As will be shown in table 2.3, there is only limited correlation between the competitiveness ranking based on the ULC definitions and that based on the prosperity definition.

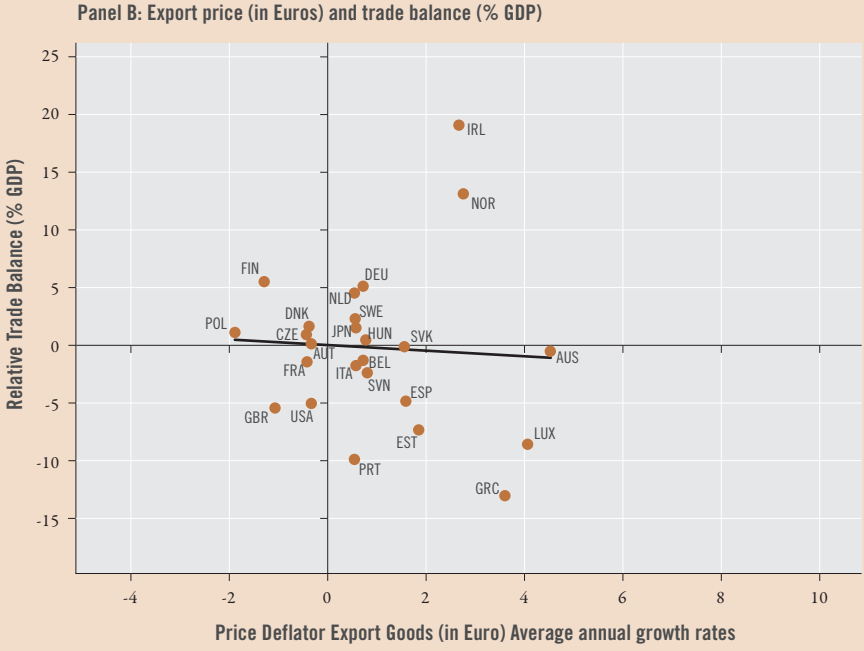
Contrary to common belief, price competitiveness is not strongly correlated with export performance.

It is a common assumption that export performance matters for the competitiveness of a country, and price competitiveness is one of the key drivers of competitive export performance. However, the relationship between price competitiveness and trade performance is not a simple correlation. Taking trade balance as a measurement of export performance, figure 2.8 shows that low ULC and export prices are not indicative of trade surplus.

In addition, price competitiveness shows weak correlation with export growth (as a percentage of GDP) (see figure 2.9). Although the overall relation between nominal ULC growth (manufacturing) and export growth is a statistically significant negative association (panel A), the magnitude of the relation is moderate. Furthermore, figure 2.9 shows that the relation is not a direct link. For instance, countries with negative ULC growth rates (e.g. Ireland and Poland) do not necessarily increase their exports

Figure 2.8 Relationship between price competitiveness and trade balance, 2006–2012



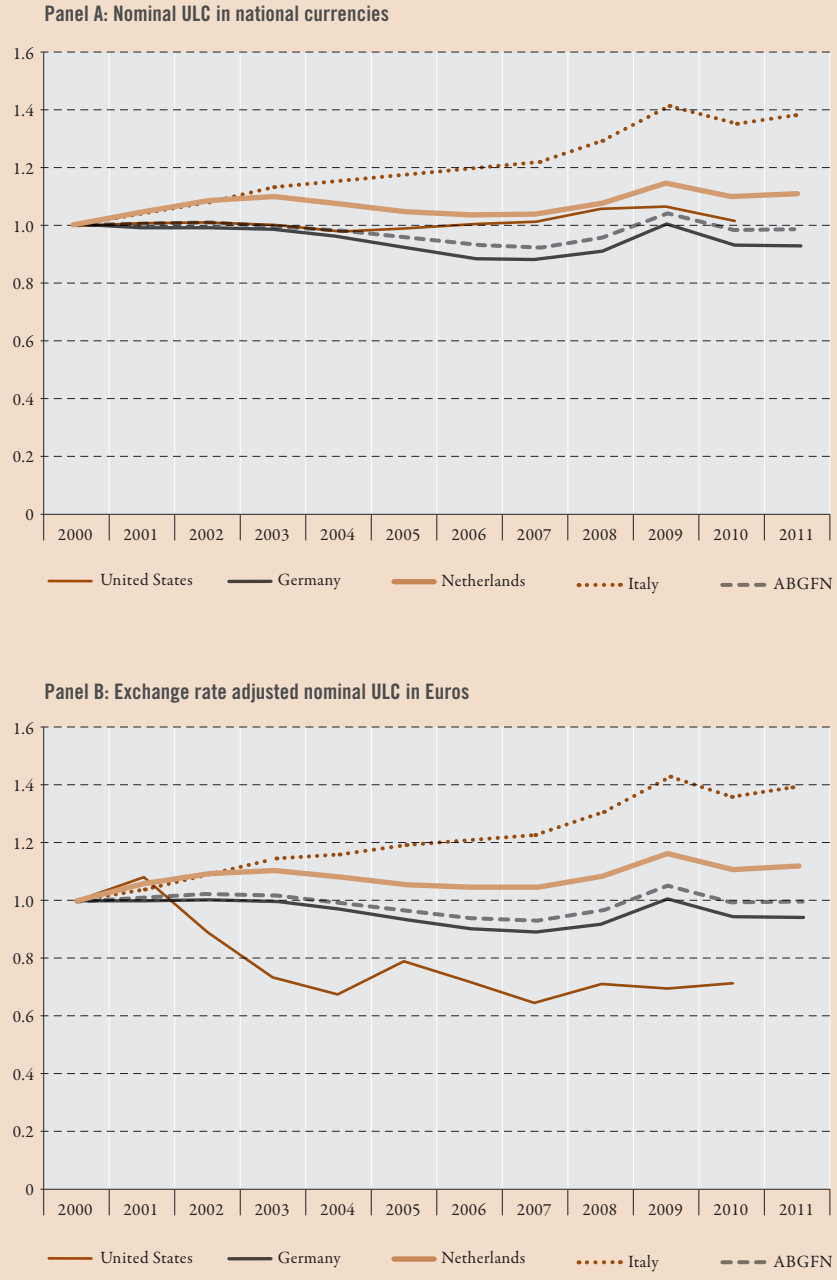


Source: ILO Research Department based on AMECO and World Bank.

Figure 2.9 Relationship between price competitiveness and export growth, 2006–2012

Source: ILO Research Department based on AMECO and World Bank.

Figure 2.10 Nominal ULC in non-agricultural tradable sectors,[27] 2000–2011
(index: 2000 = 1)



Source: ILO Research Department based on OECD STAN database and ECB.

[27] Non-agricultural tradable sectors adopt the AMECO approach and refer to industry, including energy, wholesale and retail trade, transportation and storage, accommodation and food according to NACE Rev. 2. Agriculture was excluded from the analysis, given its volatility due to external factors, such as weather.

to a greater extent than countries with positive ULC growth rates (e.g. Germany and the Netherlands). In addition, countries with similar ULC growth rates (e.g. Denmark and Spain) vary considerably in their ability to increase exports. Thus, the relationship between cost competitiveness and export is relatively ambiguous, suggesting that non-cost factors do exert a significant influence.

In terms of export prices, figure 2.9, panel B shows that the correlation is almost non-existent. Thus, low nominal ULC can indeed indicate some export growth, but provides only a partial explanation, and export price is not a viable indicator of export growth. This observation reveals that the role of price competitiveness in enhancing export performance might be smaller than is commonly believed, and that non-price competitiveness warrants closer attention. Finally, it should be borne in mind in this context that an increase in exports or the generation of trade surpluses is not equivalent to an increase in overall well-being of a country.

Despite the partial role played by ULC in export performance, it is worth noting that price competition is an area in which Eurozone countries are largely disadvantaged due to their less flexible exchange regime. The role of exchange rates in reducing ULC is significant, as can be observed in the marked reduction of ULC in the United States expressed in terms of Euros (see figure 2.10 and Chapter 1 for a more detailed discussion).

B BROADER CONCEPTS OF COMPETITIVENESS

Comparing ULC and productivity with broader concepts of competitiveness shows that differing so-called "competitive rankings" emerge.

As discussed above, one way to measure the competitiveness of a country is to analyse specific economic indicators (e.g. labour productivity). However, there are more holistic approaches to measuring competitiveness of a country. Such approaches often attempt to evaluate competitiveness as total performance of the country by organizing multiple indicators into composite indices.[28]

A typical competitiveness index framework consists of four major building blocks: index, sub-indexes, pillars and indicators (see table 2.1). "Index", expressed as a score or ranking, consists of three to four sub-indexes. Sub-indexes often provide an overview of major determinants of competitiveness of a country. Common determinants of competitiveness include infrastructure, government efficiency, business efficiency and innovation. Each sub-index is, in turn, made of between two and six components called "pillars". Under each pillar, individual indicators and data are gathered through international and national sources or original opinion surveys.

One common factor of competitiveness index frameworks is productivity. For example, the WEF's GCI specifically mentions productivity in its definition of competitiveness, as does Delgado et al. (2012). In fact, many of the building blocks of competitiveness index frameworks have close relationships with a country's productivity.

Nevertheless, the building blocks also suggest that competitiveness results from the interaction of several factors, rather than being defined by a single property of the economy. For instance, an economy characterized by low unemployment can be considered competitive even if it runs a large trade deficit.

[28] Examples are the WEF's GCI, IMD's World Competitiveness Yearbook (WCY), Delgado et al's Foundational Competitiveness and the EU's Regional Competitiveness Index (RCI).

Table 2.1 Overview of major competitiveness index frameworks

Frameworks	World Economic Forum Global Competitiveness Index	IMD World Competitiveness Yearbook	Delgado et al. Foundational Competitiveness		EU Regional Competitiveness Index
Definition	The set of institutions, policies and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy.	A field of economic knowledge that analyses the facts and policies which shape the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people.	The expected level of output per working-age individual given the overall quality of a country as a place to do business.		The ability to offer an attractive and sustainable environment for firms and residents to live and work.
Index	Scores and rankings	Scores and rankings	Scores and rankings		Scores and rankings
Sub-index	Basic requirements	Economic performance	Micro (MICRO	Company operations and strategy (COS)	Basic
	Efficiency enhancers	Government efficiency		National business environment (NBE)	Efficiency
	Innovation and sophistication factors	Business efficiency	Macro (MACRO)	Social infrastructure and political institutions (SIPI)	Innovation
	–	Infrastructure		Monetary and fiscal policy (MFP)	–
Pillars	12	20	12		11
Countries covered	148	60	134		28
Indicators/ data	114 pieces of statistical data and opinion data gathered through international organizations, national organizations and the Executive Opinion Survey.	338 pieces of statistical data and opinion data gathered through private companies, not-for-profit organizations and international/national/ regional organizations.	120 pieces of statistical data and opinion data gathered through international organizations, academic institutions and the Executive Opinion Survey of the WEF.		73 pieces of statistical data gathered through international organizations.

Source: WEF; IMD; Delgado et al., 2012; Annoni and Dijkstra, 2013.

The two composite indices, WEF's GCI and IMD's World Competitiveness Yearbook (WCY), have been developed so that various stakeholders (i.e. business communities, policy-makers and academics) can be better informed on the competitiveness of countries. What can be puzzling for the relevant stakeholders is the fact that the scores and rankings of the two indices often contradict results produced by traditional economic indicators. This is because the indexes consider an individual economic indicator to be only one part of their calculation of competitiveness. In addition, the data collected by indices comprise not only hard statistical data but also subjective data, gathered through opinion surveys, which necessarily colours the indices' outputs.

According to the GCI's methodology, the competitiveness of a country is driven by three major determinants: basic requirements, efficiency enhancers and innovation and sophistication factors. The basic requirements consist of factors such as institutions, infrastructure, macroeconomic environment and health and education. The efficiency enhancers are achieved through higher education and training, goods and market efficiency, labour market efficiency, financial market development, technological readiness and market size. Finally, the innovation and sophistication factors are business sophistication and innovation (e.g. number of patent applications).

The WCY adopts a similar framework when measuring competitiveness. According to the WCY's methodology, competitiveness of a country is driven by four main factors: economic performance, government efficiency, business efficiency and infrastructure. One of the major differences between WCY and GCI is the type of data collected. While 70 per cent of WCY's data consists of hard statistics, only 30 per cent of GCI's data consists of statistics. The remainder of each index comprises opinion data collected through surveys. Thus, the two indices result in different scores and rankings due to the differences in the number of indicators and the types of data that they collect (i.e. the balance between hard statistics and opinion data). In addition, the output of these indices may differ from that of indices that draw on a single economic indicator due to the breadth of indicators taken into considerations in terms of both quantity and quality.

Table 2.2 **Country rankings according to different measures of competitiveness (average 2006–2012)**

Country	IMD	WEF	GDP per capita	Labour productivity	Nominal ULC
Greece	23	25	19	17	1
Slovakia	20	22	22	21	2
Republic of Korea	15	12	17	20	3
Poland	21	21	25	25	4
Ireland	9	14	4	4	5
Italy	23	22	15	14	6
Portugal	21	21	21	19	7
Hungary	22	23	24	23	8
Spain	19	17	16	16	9
Japan	12	6	13	15	10
United Kingdom	11	7	9	11	11
Czech Republic	16	18	20	22	12
Germany	8	4	8	9	13
Austria	8	11	6	13	14
United States	1	2	3	10	15
Norway	5	10	2	1	16
Luxembourg	4	14	1	2	17
Netherlands	6	6	5	6	18
Finland	7	4	12	12	19
Sweden	4	3	7	8	20
France	15	11	14	7	21
Belgium	13	12	11	5	22
Slovenia	22	20	18	18	23
Denmark	4	4	10	3	24
Estonia	15	16	23	24	25

Note: The rankings are rescaled in order to cover the countries selected only on the basis of average rankings between 2006 and 2012. ULC figures (levels) for Japan and the United States are based on 2006–2011 data.
Source: ILO Research Department based on OECD, World Bank, IMD and WEF.

Table 2.2 depicts the country rankings according to five different measures of competitiveness for the years 2006 to 2012. The table shows that the competitiveness rankings based on ULC bear little similarity to rankings based on the other four measures. For example, Denmark is classified among the four most competitive countries when considering labour productivity, IMD and WEF scores, and among the top ten countries according to GDP per capita. In contrast, the ranking based on ULC indicates that Denmark is the second to least competitive country in the group.

When the correlations among the five measures of competitiveness are tested using Spearman's rank correlation coefficient, the results show that ULC correlate only weakly with the other four measures (see table 2.3). It is

Table 2.3 Spearman's rank correlation coefficients applied to different measures of competitiveness

Measures of competitiveness	IMD	WEF	GDP per capita	Labour productivity	Nominal ULC (level)	Nominal ULC (growth)
IMD	1					
WEF	0.882	1				
GDP per capita	0.840	0.709	1			
Labour productivity	0.734	0.617	0.896	1		
Nominal ULC (level)	-0.513	-0.543	-0.341	-0.436	1	
Nominal ULC (growth)	-0.026	0.072	0.075	-0.040	0.466	1

Note: The darker the shading, the greater the correlation.
Source: ILO Research Department based on OECD, World Bank, IMD and WEF.

particularly noteworthy that ULC show weak correlations with productivity (i.e. labour productivity) and prosperity (i.e. GDP per capita). On the contrary, all the other four measures show strong correlations with each other.

The reason for the large variation in rankings when applying different measures lies in the different dimensions of competitiveness that are taken into account. Labour productivity consists of real GDP per hour worked, whereas ULC represent labour compensation per output. Both measures take into account real GDP, but compare it, on the one hand, to the time invested to achieve a certain level of GDP (labour productivity) and, on the other hand, to the cost of labour necessary to achieve this same level of GDP. Obviously, both dimensions play partial roles in determining the competitiveness of a country, but the analysis in the previous sections suggests that the role of labour costs is more limited than that of productivity.

The broader concepts of competitiveness suggest that competitive economies are characterized by high and inclusive employment.

The previous section has shown that price competitiveness is limited in its ability to measure the overall competitiveness of a country, and that broader concepts of competitiveness warrant more attention. According to these broader concepts, a competitive economy can be defined as one that is able to ensure the sustainable expansion of its people's well-being.

Labour is the most important production factor, in the sense that it carries the greatest weight in comparison to other factors, such as capital or land. Labour is also the primary source of income for the vast majority of the population. It follows that a competitive economy is also one in which employment opportunities are guaranteed for its people and labour is adequately maintained and protected.

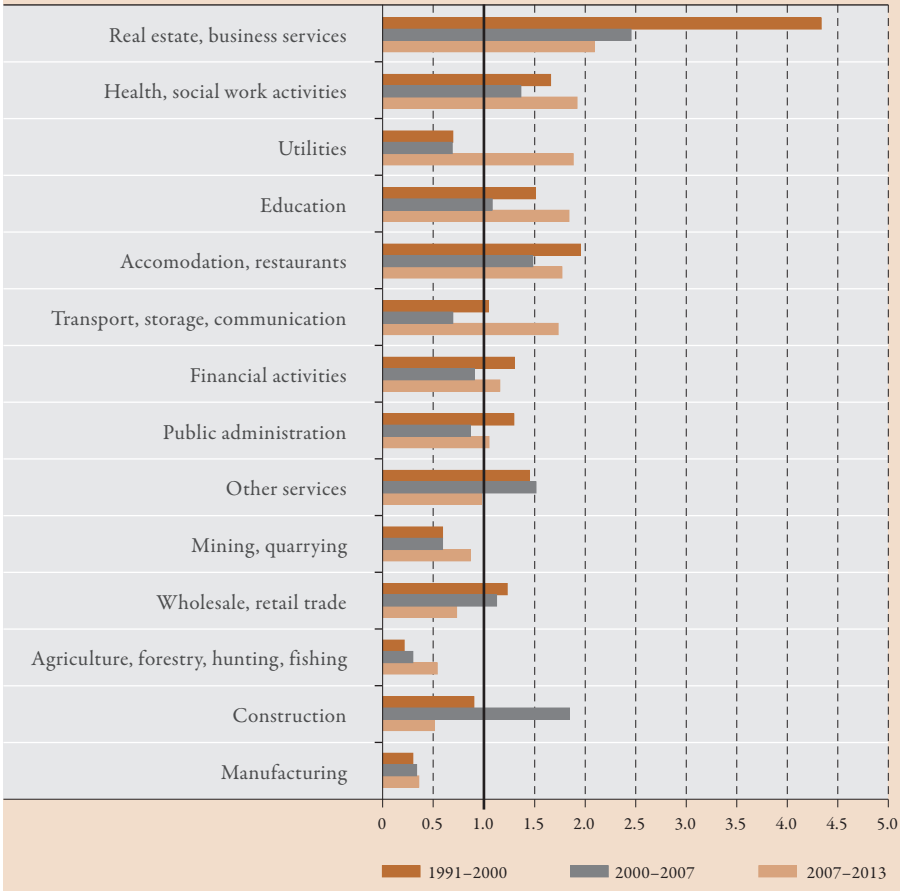
It is therefore tempting to call an economy which is both productive *and* able to create jobs "competitive". However, the relationship between competitiveness and jobs is proving to be complex.

One obvious challenge is the potential for higher labour productivity to result in job losses. By definition, higher labour productivity means that the same output can be produced with less labour effort. Output therefore must grow in line with productivity in order to achieve higher employment. The potential for output growth is dependent on various factors and is difficult to determine a priori. At the aggregate level, it is important that aggregate demand and incomes remain sufficiently strong to ensure that output growth translates into labour demand by firms, thus safeguarding employment prospects.

At the sectoral level, consumer preference for certain goods and services could translate into stronger labour demand and employment gains in some sectors, while in others, particularly those with limited potential for output growth, process innovations that increase labour productivity may lead to a decline in employment. In such a process of structural transformation or structural change, it is important to ensure that workers are able to move from shrinking sectors to growing ones so that the labour force remains efficiently utilized in the total economy.

Close analysis of the data on changes in employment shares reveals trends in job creation and losses by sector (see figure 2.11 and table 2.4). Figure 2.11 shows long-term structural transformation trends for the years between 1991 and 2013. Throughout the whole period, the shares of agriculture and manufacturing sectors have declined. In contrast, many of the service sectors have expanded over the same period. A comparison between pre- and

Figure 2.11 Trends in sectoral employment in the EU-28, 1991–2013
(index of employment share)



Note: The chart shows the number of times the sectoral employment share increased, divided by the number of times the sectoral employment share decreased between one year and the next in countries within the respective region. A value of one implies that an employment share increase is observed as often as an employment share decrease.
Source: ILO, Trends Econometric Models.

post-crisis periods sheds light on more detailed trends. In particular, the job growth in the construction sector during the pre-crisis period was not an indication of sustainable job creation, as confirmed by the sharp decline during the post-crisis period. The surplus of labour from the construction sector was largely absorbed by utilities, education, health and various private service sectors.

Table 2.4 Share of non-agricultural private sector employment, excluding real estate, for selected countries, 2001–2011 (percentages)

Country	Industry, including energy	Construction	Wholesale/ retail trade; transportation; accommodation	Information and communication	Financial and insurance activities	Professional, scientific and technical; administrative
Austria	-3.41	-0.94	0.23	-0.07	-0.09	4.28
Belgium	-6.36	0.65	1.41	0.07	-0.65	4.88
Czech Republic	-3.94	-0.36	2.94	0.69	-0.28	0.94
Denmark	-6.60	-0.40	2.90	0.23	0.62	3.25
Finland	-6.60	1.24	0.07	0.38	0.11	4.80
France	-5.65	1.65	1.61	0.13	0.46	1.81
Germany	-3.01	-2.43	1.07	-0.04	-0.45	4.87
Hungary	-7.94	0.94	2.20	0.57	0.29	3.94
Italy	-6.55	0.61	2.42	0.23	-0.21	3.50
Netherlands	-2.92	-1.12	2.39	-0.12	-0.40	2.18
Norway	-2.78	2.92	-2.38	-0.31	-0.17	2.71
Slovenia	-9.75	1.96	2.64	0.94	0.56	3.66
United States	-4.85	-0.73	3.64	-0.39	0.54	1.80
ABGFN	-3.37	-1.80	1.20	-0.03	-0.41	4.42

Note: Non-agricultural private sectors, excluding real estate, are classified based on the "high-level NACE Rev. 2 aggregation". The following sectors are excluded from the data in table 2.4: Agriculture (A), public administration (O), education (P), human health and social activities (Q), arts and recreation (R), other services (S), activities of household as employers (T) and activities of external organizations (U).The alphabets in the parenthesis refer to NACE Rev 2 sections.
Source: OECD STAN database.

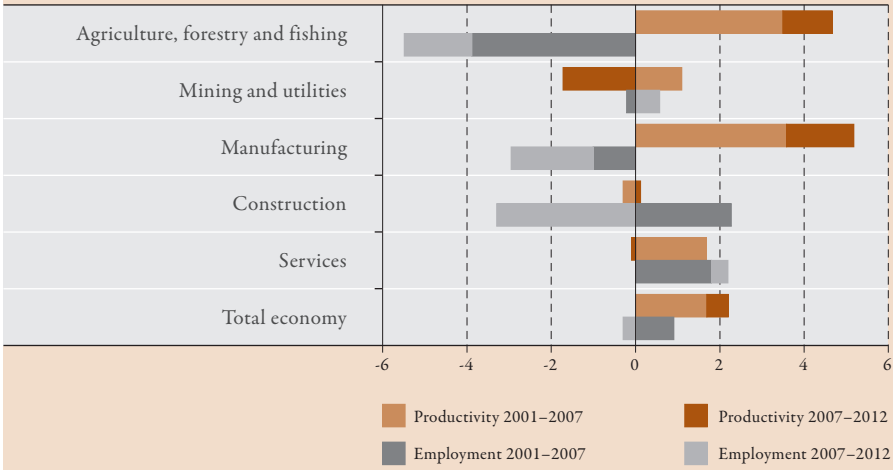
Table 2.4 further narrows the focus of attention to non-agricultural private sectors, excluding real estate, by countries. It is confirmed that job growth was particularly strong in the service sector from 2001 to 2011, with professional services being the fastest growing sector in many countries. On the other hand, the industry, including energy, sector has shrunk rapidly.[29] Such trends are observed in all countries in the sample, regardless of their competitive positions.

The service sector experienced both productivity and employment growth, implying that the potential for sustainable jobs and labour incomes exists.

In order to complement the analysis on employment presented above, figure 2.12 shows productivity and employment growth by sectors for pre- and post-crisis periods. Prior to the crisis, the EU-27 experienced an overall increase in both productivity and employment. The figure shows that, while productivity grew in most sectors, employment was concentrated

[29] It should be noted that the utilities sector has been expanding only during the post-crisis period (see figure 2.11), presenting an exceptional case among the overall trends in the industry sector.

Figure 2.12 EU average annual growth of productivity and employment, 2007–2012
(percentages)



Source: ILO Research Department based on OECD productivity database.

in services. In particular, it is worth noting that productivity in the service sector grew at around the same pace as employment. This implies the presence of a more sustainable source of income for workers in services than in other less productive, job-rich sectors. In the case of construction there was a misallocation of labour. As will be discussed in Chapter 3, excessive capital inflows produced a consumption and investment boom that boosted employment demand, without corresponding gains in productivity.

In the post-crisis period, the situation is mixed. While agriculture and manufacturing display trends similar to those apparent prior to the crisis, in construction, and mining and utilities the trend is reversed. After the bursting of the bubble caused by the crisis, employment fell dramatically in the construction sector, causing a mild "artificial" increase in labour productivity. In mining and utilities, the opposite phenomenon took place; namely, a contraction of productivity growth triggered by a large increase in employment. Finally, unlike other sectors, the service sector created jobs without experiencing a significant drop in productivity.

C CONCLUSION AND POLICY IMPLICATIONS

This chapter has shown that neither a unique, generally accepted definition of the term competitiveness nor a single measurement exist. Instead, several concepts of competitiveness have been used in economic policy-making which are not necessarily incompatible, but do emphasize different aspects of economic performance.

It is possible to broadly distinguish three different notions of competitiveness.

The first view sees competitiveness as the ability of a country to provide well-being and prosperity for its citizens. This very broad concept of competitiveness attempts to specify stylized conditions under which countries provide such a beneficial enabling environment. Usually, countries are assumed to be open economies; thus, it makes sense to compare these specific conditions of competitiveness relative to other countries. The main idea is not that countries compete directly with each other with regard to certain products but that, in open economies, capital and (to a certain degree) labour are free to move and seek those countries which provide the best opportunities for generating incomes.

The second view is basically a derivative of the first with more measurable output, achieved by shifting the general focus more towards enterprises and businesses. It is based on the assumption that, in free market economies, incomes and well-being are mainly generated through private enterprises. Hence, the enabling environment is seen as one that should promote the ability of private enterprises to thrive and remain in business. As in the first view, competitiveness remains a rather broad concept, and many factors are considered important in rendering a country competitive. This view of competitiveness is used frequently in the business environment and attempts have been made to further specify and measure its determinants.[30]

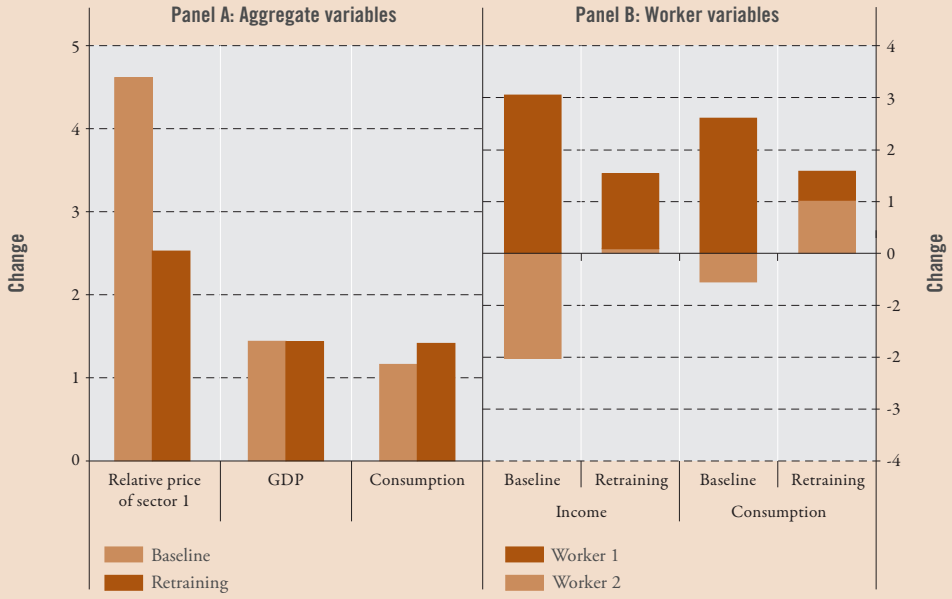
[30] For example, see WEF GCI or IMD WCY.

Finally, there is the (macro) economic approach that has been popularized in policy debates. Competitiveness is interpreted in a narrow sense, i.e. not in terms of a broad concept of well-being, but as the capacity of a country to engage in international trade, specifically in terms of its ability to create exports. In a further simplification, aggregate ULC are identified as the main determinant of exports. Often, ULC are therefore treated as a synonym for competitiveness, or at least as "the" measure of competitiveness.

All three concepts jointly emphasize certain aspects of economic performance that are crucial to improving or maintaining a country's competitiveness. For example, labour productivity is an important determinant according to all three concepts. However, there are also clear differences in scope. While the macroeconomic approach stresses low ULC as being an essential component, the other two approaches ascribe limited importance to the development of ULC in isolation.

This report largely accepts the first view of competitiveness as the most useful concept, in general terms. Therefore, considerable effort is made to elaborate on dimensions of competitiveness that have been neglected in the recent policy debate (e.g. employment or social security systems, see also Chapter 4). Nevertheless, given that the predominant view on competitiveness in the context of the European crisis has been the macroeconomic one, the report also discusses competitiveness in the sense of price competitiveness and ULC. However, the main conclusion drawn from this discussion on price competitiveness is that it is not suitable either as a measure of well-being or as a crisis response, and may even be counterproductive. Furthermore, even the impact of higher price competitiveness on the ability to export appears limited. Therefore, broader concepts of competitiveness, which go beyond discussing the reduction of ULC, are needed in the policy debate. Intensifying efforts that focus on promoting technology, nurturing a stable and coherent macroeconomic environment, facilitating supporting regulatory policy and bolstering the labour market would be beneficial.

Figure 2.13 Trade opening with retraining in place (percentage points)



Note: The figure shows the difference in the reaction of variables to trade opening between the baseline scenario and when 1 per cent of the labour force is retrained to be able to work in sector 1 instead of sector 2.
Source: Kühn, S., forthcoming.

Given the importance of employment, retraining workers is suggested as a key policy response to globalization and inequality.

More specifically on the issue of employment, the lack of labour mobility between sectors is the main obstacle preventing some countries from fully benefiting from structural change by shifting productive resources to the most productive sectors. Hence, a direct policy measure that could allow inter-sectoral transition of labour would be pivotal. Figure 2.13 shows the impact of trade opening when 1 per cent of the labour force is retrained to be able to work in the skilled sector instead of the unskilled. This simulation does not investigate how costly in terms of time and resources this retraining would be, but only assumes that, in the long-term equilibrium, it has succeeded.

Retraining shifts domestic relative output from the unskilled to the skilled sector. This move slightly raises aggregate output as the skilled sector is the more productive of the two, but also lowers its relative output price leading to increases in skilled sector exports and unskilled imports. The most important impact of retraining is on worker incomes and consumption opportunities. The rise in income inequality when retraining is available is only a third as high, 1.5 percentage points instead of 5 percentage points in the absence of effective retraining policies. The impact on consumption inequality is even larger. In fact, consumption of unskilled workers also increases with retraining in place, so that consumption inequality rises only by half a percentage point instead of 3.2 percentage points withtout retraining in place. Not surprisingly, enabling labour mobility, when its lack is the cause of rising inequality, is the best available policy.

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CHAPTER 3
COMPETITIVENESS AND JOBS IN THE GVC

INTRODUCTION

In the decade before the financial crisis, the world economy experienced deep structural transformation. In less than a decade, about half of the value added of global manufacturing moved from advanced to emerging economies.[31] The emergence of new large economies, the reduction of trade barriers and the decrease in transportation costs, as well as the dramatic improvements in communication delivered by information and communication technologies (ICT) opened new markets and led to the reorganization of production along GVC.

The previous chapters discussed the root causes of the crisis and assessed the role of competitiveness. Although competitiveness was not found to be the driver of the crisis, it has been determined to be important from the standpoint of moving the economy to higher levels of employment and growth. In the process of structural transformation, the broad notion of competitiveness can support and maintain a highly productive labour force, which firms need as they continuously adjust their strategies to fit within this new context. This is achieved by adopting new business models and searching for new sources of international competitiveness. With regard to GVC, the basic theory of comparative advantage suggests that European exports should focus on high value added production which is intensive in physical and human capital. As a consequence, on the one hand, labour-intensive activities would be outsourced with labour transitioning to the service sector in Europe, thereby reducing the number of jobs in manufacturing. On the other hand, jobs related to support activities within GVC, e.g. logistics, would also be created in Europe.

[31] Source: ILO calculation based on World Input Output Database (WIOD).

Section A of this chapter shows that only a few European economies succeeded in maintaining employment growth in activities that form part of GVC, while employment growth in activities driven by domestic sources of growth predominates. Hence, a significant part of structural transformation occurs away from rather than along GVC, shifting the principal source of employment growth towards domestic demand. Is this structural transformation a sign of reduced competitiveness or a healthy process reflecting shifts in comparative advantage? Or is it a temporary shock owing to imbalances that built up prior to the crisis?

Section B identifies the drivers of employment growth in GVC and non-GVC jobs as driven by demand preferences rather than competitiveness losses. However, internal and external imbalances within the Eurozone (highlighted in Chapter 1) caused unsustainable employment booms in some domestic sectors, which reversed after the financial crisis, thereby contributing to the large employment losses during the crisis.

Section C decomposes the drivers of employment growth using the GEL model. Finally, Section D underlines the importance of balanced drivers of employment for sustainable growth.

A EMPLOYMENT SHARES IN GLOBAL VALUE CHAINS

A country's employment share in GVC-related jobs indicates the percentage of workers directly engaged in activities facing international competition. It is therefore more informative than the share of exports in GDP. The latter shows gross exports and can exceed 100 per cent of GDP in countries where exports contain a large amount of imported intermediates. A better measure captures the value added of all activities in a country that serve as intermediate or final input of tradable goods, thus forming part of GVC.

The World Input–Output Database (WIOD) is used to determine the number of GVC-related jobs for final output in the manufacturing sector as well as the financial intermediation sector (see box 3.1 for details). While most of manufacturing output is tradable, financial intermediation only serves as a proxy for tradable services. Not all financial intermediation is tradable, while services are becoming increasingly globalized.

Box 3.1 Computing GVC-related jobs

The World Input–Output Database (WIOD) provides the database and methodology to measure GVC incomes and jobs. Each final good which is traded is produced using labour, capital and intermediates (note that intermediates are also composed of labour, capital and intermediates). GVC imply that intermediates often originate from other countries. Furthermore, raw materials and services, such as logistics, are also intermediate inputs for the production of final goods.

The GVC decomposition allows researchers to identify the value added (by country) of all activities that contribute as intermediates to a final output of a given sector in the same or some other country. GVC jobs can be calculated by multiplying the output needed for production of the final demand by workers per unit of output for each sector, as pioneered by Timmer et al. (2014). For information about the database, see Timmer (2012).

The methodology does not allow traded and non-traded final output to be distinguished by sector. Hence, the full final output of a sector is assumed to be tradable when including it in the GVC computation. In addition to total manufacturing output, this report also assumes financial intermediation to be a tradable service. The GVC computation therefore fails to capture when final output produced in another service sector utilizes GVC inputs, such as outsourced accounting services.

The data reveal that manufacturing GVC create a significant number of jobs in all sectors of the economy. In the EU-27, between 1995 and 2011, while 52 per cent of jobs related to manufacturing GVC were in the manufacturing sector, 39 per cent were in the service sector and 9 per cent were in the agriculture sector. These figures vary across countries, with the actual share of manufacturing jobs in total manufacturing GVC ranging from 40 per cent to 63 per cent. In contrast, in the financial intermediation GVC, most of the related jobs (95 per cent in the EU-27 average) are in the service sector itself.

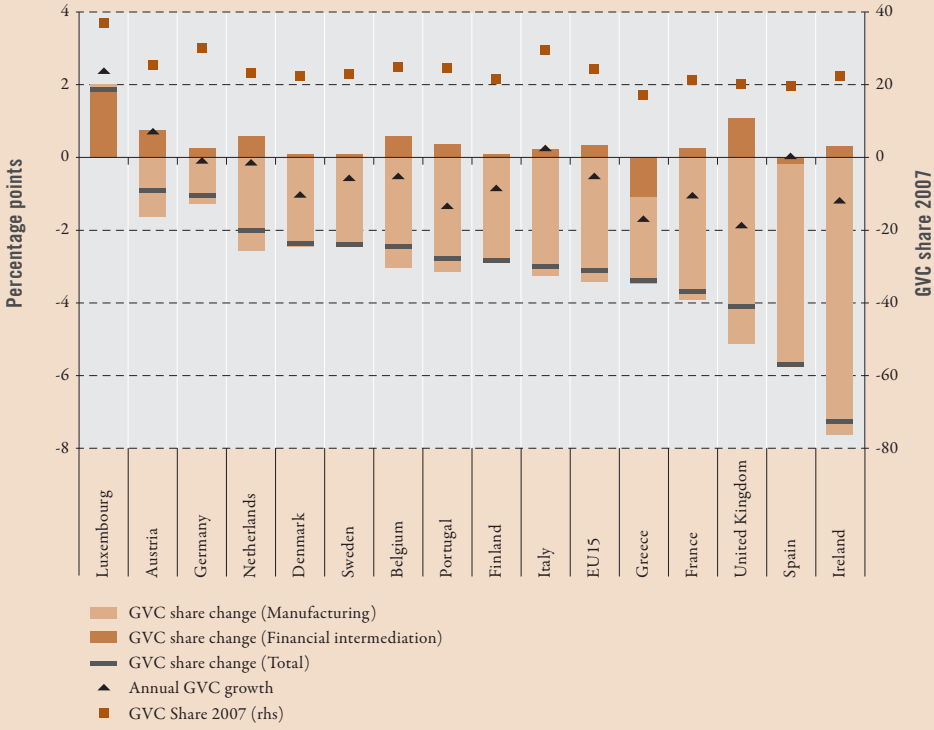
This suggests that, although the process of globalization and technological progress may diminish the number of manufacturing and agriculture jobs in advanced economies, it can potentially create new jobs in the service sector that form part of GVC. Hence, employment could move along GVC into different sectors. It could also move out of GVC into domestic sectors.

Jobs are retrenching to non-traded activities in most EU countries ...

The share of employment associated with GVC declined in almost all the EU economies between 2000 and 2007 (see figure 3.1). In fact, the EU-15 as a whole would require 5.5 million jobs to be located in GVC-related activities instead of domestic activities in order to keep its share in total employment constant. The increasing shift of employment to domestic sectors has not taken place equally across countries – with Ireland, Spain and the United Kingdom showing stronger shifts, relative to Austria and Germany. Additionally, this shift is mainly owing to Europe's loss of participation in GVC related to manufacturing products as opposed to services. The share of jobs in GVC related to financial intermediation increased in the EU-15, implying half a million additional jobs in 2007 compared to the share in 2000.

In close to half of the EU-15 economies (seven countries), the share of GVC-related jobs fell by 2 to 3 percentage points between 2000 and 2007. Meanwhile, Luxemburg experienced a significant increase in financial intermediation related jobs, although this effect is small for the EU-15 as a whole. The United Kingdom also experienced a strong increase in its share

Figure 3.1 Change in jobs associated with GVC in EU-15, 2000–2007

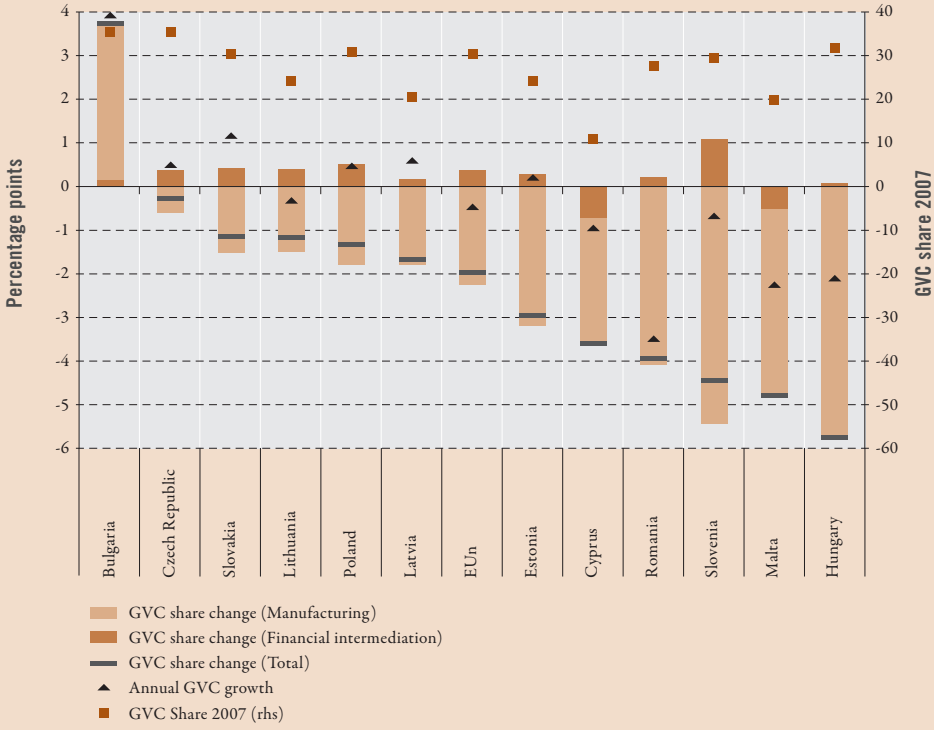


Note: The figure presents the evolution of the jobs related to manufacturing and financial intermediation final output in the EU-15 between 2000 and 2007. The squares indicate the absolute share of GVC jobs in total employment in 2007. The black lines indicate the percentage point change of the share of GVC jobs between 2001 and 2007, while the triangles represent the percentage point annual growth rate in the number of jobs between these periods. Finally, the light blue and dark blue bars decompose the total change in the share of GVC jobs into jobs related to manufacturing and to financial intermediation, respectively.

Source: ILO calculations based on WIOD.

of financial intermediation related jobs, thereby constituting the driving force of the overall increase in the EU-15. In contrast to Luxembourg, the share of jobs related to manufacturing GVC fell dramatically in Ireland, Spain and the United Kingdom. In 2007, Luxembourg, Germany and Italy had the highest shares of GVC-related jobs, while Greece had the lowest. The remaining countries had GVC shares ranging from 20 to 24 per cent. In comparison, the GVC employment share in the United States fell from 19 per cent in 2000 to around 14 per cent in 2011.

Figure 3.2 Change in jobs associated with GVC in remaining EU economies, 2000–2007



Note: The figure presents the evolution of the jobs related to manufacturing and financial intermediation final output in the remaining EU countries between 2000 and 2007. The squares indicate the absolute share of GVC jobs in total employment in 2007. The black lines indicate the percentage point change of the share of GVC jobs between 2001 and 2007, while the triangles represent the percentage point annual growth rate in the number of jobs between these periods. Finally, the light blue and dark blue bars decompose the total change in the share of GVC jobs into jobs related to manufacturing and to financial intermediation, respectively. EUn represents the weighted average of the countries shown in this Figure.

Source: ILO calculations based on WIOD.

Among the EU-15 economies, only Austria and Luxembourg experienced a significant rise in GVC-related jobs. In Germany, Italy, the Netherlands and Spain, the share of GVC employment fell, owing to strong domestic labour market performance, not due to losses in GVC jobs. In all other countries, job destruction in GVC-related activities was at least partially responsible for each country's declining share in overall employment. For the EU-15, the annual growth rate is minus 0.5 percentage points, implying a cumulative loss of 3.6 per cent of GVC-related jobs over the period.

Meanwhile, the employment situation in Central and Eastern Europe (CEE) with respect to GVC contrasts with that of the EU-15. The absolute number of GVC-related jobs grew in a number of the CEE member States that acceded since 2004 (see figure 3.2). The employment share related to GVC still fell in a majority of countries, but this was because overall job growth was even stronger. The region's overall number of GVC-related jobs fell between 2000 and 2007 due to the large drop experienced in Romania. If Romania is excluded, GVC employment would have risen in the region. It is true that the development of GVC employment is at least partially due to the integration of CEE countries within value chains of European enterprises (see box 3.2 for more information).

Box 3.2 **Central and Eastern Europe (CEE) in intra-European value chains**

"Near-sourcing" within EU has expanded in the past decade ...

The progressive enlargement of the European Union since 1995 has considerably intensified the internationalization of production within Europe.[32] In the past decade, CEE[33] countries attained a lucrative position in the global outsourcing business, in both the service and manufacturing sectors, and are becoming one of the leading information technology (IT) outsourcing destinations.[34] The exploitation of GVC is one of the main elements of the new growth model and industrial policy at the centre of the Europe 2020 strategy for a smart, sustainable and inclusive economy.[35,36] The EU Commission has expressed its support for the development of intra-European value chains. It has invited the Member States to improve cooperation and information sharing on raw materials and to exploit research and innovation strategies for smart specialization.[37]

Indeed, empirical evidence suggests that near-sourcing from Western to Central and Eastern Europe has increased in the past decades following the EU enlargement. For example, export of goods and services from CEE countries to the advanced economies has more than quadrupled since 2000. In particular, countries such as Hungary, Poland and the Slovak Republic have seen a considerable increase in exports to other industrialized economies. Furthermore, since 1990, the supply chain between Germany and four

[32] See European Commission, 2012a.
[33] The definition of CEE encompasses the following countries: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.
[34] See CEEOA, 2010.
[35] See European Commission, 2010.
[36] Further information on the Europe 2020 strategy and priorities is available at: http://ec.europa.eu/europe2020/index_en.htm [10 Nov. 2014].
[37] See, for example, European Commission, 2012b, 2013a and 2013b.

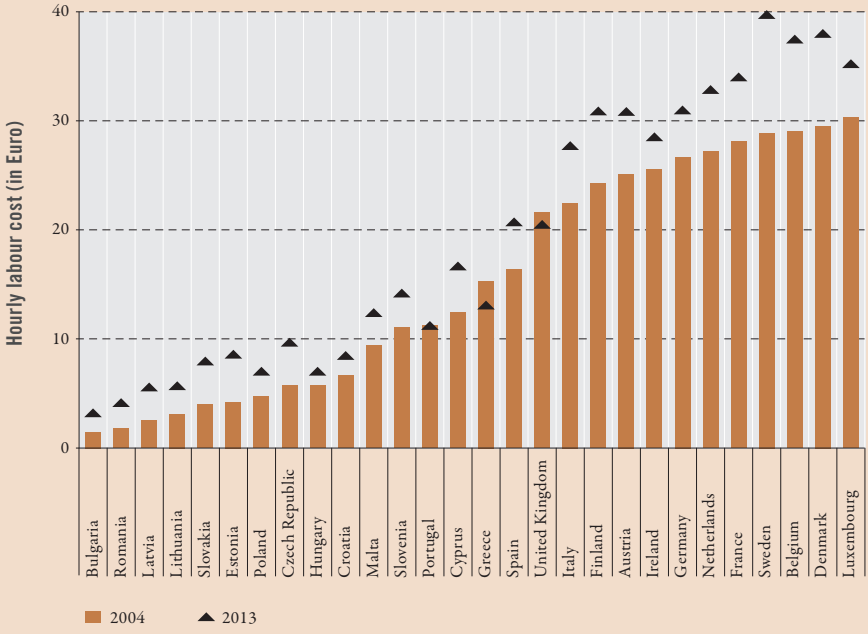
Box 3.2 Central and Eastern Europe (CEE) in intra-European value chains (cont)

Central European countries (Czech Republic, Hungary, Poland and the Slovak Republic – CE4) has greatly evolved. As a consequence, bilateral trade linkages, as well as technology transfer between Germany and the CE4, have expanded rapidly.[38]

... driven in part by lower labour costs in Central and Eastern Europe.

There are several factors behind outsourcing, chief among which are: cost reduction, efficiency and quality improvements.[39] Indeed, the main reasons for outsourcing from Western Europe to CEE countries are the geographical proximity and cultural affinity, the adoption of the Euro and lower transaction costs within the EU, as well as the institutional framework (legal and regulatory environment) stemming from the EU's enlargement. The region's most evident advantage, however, is the low labour cost (see figure 3.3).

Figure 3.3 Difference in hourly labour cost (Euros), 2004–2013 across the EU



Note: The figure shows hourly total labour cost for Industry, construction and services (except public administration, defense, compulsory social security).

Source: Eurostat.

[38] See IMF, 2013.
[39] See Ernst & Young, 2013.

This has had a mixed impact on employment outcomes.

Meanwhile, the economic evidence on the impact of the EU integration on labour market outcomes in Western Europe is largely mixed as the effects of trade integration on the labour market are among the most debated consequences of globalization. Moreover, having grown from six members in the 1950s to the present 28 members, with the accession of Croatia in 2013, the enlargement of the EU is ongoing, and the economic evidence shifts with time. Several studies analyse the economic impact of the integration of Western European countries with CEE countries, in particular during the 1990s, when the links between the two groups intensified and brought about the EU enlargements of 2004 (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia) and 2007 (Bulgaria and Romania).

According to Abraham and Konings (1999), the fear of competition from the newly emerging economies, mostly related to employment, failed to materialize. Supported by the analysis of 300 Belgian firm samples that developed business activities in the CEE countries, the authors conclude that integration could instead be a great driver for expansion of employment through increased labour mobility, trade and multinational operations. This is the case for larger firms that would establish their presence in the new markets in order to expand and become more efficient as a consequence of globalization rather than with the aim of profiting from lower wages. Therefore, the negative effects on employment would be limited to few sectors and smaller firms, and could be counterbalanced by social policies. In conclusion, the overall effect of integration on employment can be positive and encourage further integration.

Along the same lines, Konings and Murphy (2004) suggest that, on average, the competition from low-wage countries in CEE and the South of the EU did not contribute to a relocation of domestic jobs to these low-wage regions. Based on the analysis of a data set of more than 1,000 EU multinational enterprises (MNEs), the authors conclude that, on average, the opening of CEE should not be viewed as a threat to European employment.

However, in contrast, research by Geishecker (2005) contends that integration poses a threat for employment in Western Europe. The paper analyses how international outsourcing has affected the relative demand for manual workers in Germany during the period 1991–2000. The empirical analysis shows that international outsourcing to CEE countries is an important explanatory factor for the decline observed in relative demand for manual workers in German manufacturing in the short run. According to this study, the negative impacts of EU enlargement on employment are likely to worsen in the future.

Finally, Lo Turco and Parteka (2011) analyse the consequences of trade integration in Europe (1995–2005) and reveal how the labour costs in partner countries affect the domestic demand for high- and low-skilled labour in the 'Old' (EU-15) and five 'New' EU Member States (5-NMS), namely, the Czech Republic, Hungary, Poland, Slovakia and Slovenia. The authors argue that the 5-NMS are interconnected by different phases of a complex EU-based production chain and that labour in these countries is complementary with respect to labour from partners, both from the 'Old' group (EU-15) and from other new Member States. Therefore, they conclude that the enlargement did not cause severe adjustments in Western European labour markets.

Figure 3.4 Change in manufacturing and service sector jobs associated with GVC, 2000–2007 (percentages)

Note: The figure presents the change in the share in total employment of jobs in the manufacturing and the service sectors involved in GVC of manufacturing and financial intermediation output. In countries above (below) the solid line, the service sector fares relatively better (worse) than the manufacturing sector. In countries above the dashed line, the total share of GVC employment in manufacturing and services increases. GVC employment change in agriculture is not shown, but is negative in all countries, except Bulgaria.
Source: ILO calculation based on WIOD.

... due to limited creation of GVC jobs in the service sector.

Figure 3.4 decomposes this fall in the share of GVC jobs in the manufacturing and the service sector, thereby showing the extent to which countries managed to move jobs along the GVC towards services. Agricultural jobs related to GVC, whose share fell in almost all EU countries, are not shown in figure 3.4 but were taken into account in the previous calculations.

The dashed line in figure 3.4 represents the points where this movement along the GVC occurs on a one-for-one basis, meaning that a fall in the share of manufacturing jobs is matched by an increase in the share of services jobs related to GVC. The figure shows that almost half of EU countries

(13 out of 27) at least managed some employment movement along GVC towards services, but that in only six countries did employment gains in services outperform employment losses in manufacturing related to GVC. Additionally, the figure shows that only in Estonia did the service sector fare worse than the manufacturing sector in terms of GVC employment, since all other countries are above the solid line representing equal sectorial performance.

B EMPLOYMENT AND STRUCTURAL TRANSFORMATION

The movement of employment between sectors (as discussed in Section A) is a fundamental component of economic development. In fact, the loss of GVC-related jobs is not necessarily a sign of deteriorating competitiveness, but could be a sign of functioning structural transformation. This section analyses whether this is indeed the case within the EU and finds that at least part of the shift towards domestic job creation until 2007 was due to unsustainable imbalances (presented in Chapter 1).

Overall employment growth is driven by domestic and foreign demand. Growth fuelled by strong domestic demand creates employment, which in turn generates more domestic and import demand, thereby creating a strong self-reinforcing multiplying effect. However, this effect can also work in the opposite direction when there is weak domestic demand, as was the case during the crisis. Heavy dependency on foreign demand serves as an automatic stabilizer to domestic shocks, but makes employment vulnerable to trade disruptions. Hence, a balance is necessary between internal and external forces.

Table 3.1 classifies EU economies along two dimensions. In export-focused countries, exports made a major contribution to overall GDP growth between 2000 and 2007. When this contribution is offset by imports, then countries are internationally balanced. Table 3.1 shows a concentration of countries among the export-focused set having an increasing balance and among the domestic-focused having a decreasing balance. These imbalances, where domestic demand and import growth of some countries drive export growth of other countries that lack domestic demand, are the mirror image of the current account evolutions presented in Chapter 1.

Table 3.1 Export growth contribution and external balance change, 2000–2007

	Exports focus (*efr* >1.4)	Neutral focus (0.6 < *efr* < 1.4)	Domestic focus (*efr* < 0.6)
Increasing external balance (*ebc* > 0.1)	Austria, Belgium, Czech Republic, Germany, Ireland, Sweden	Finland, Hungary, Luxembourg, Netherlands, Slovak Republic	Malta
Unchanged external balance (-0.1 < *ebc* < 0.1)	Poland, Slovenia	Italy, Portugal	United Kingdom
Decreasing external balance (*ebc* < -0.1)	Denmark, Lativia	Bulgaria, Estonia, France, Lithuania, Romania	Cyprus, Spain, Greece, Croatia

Notes: Growth contribution is defined as $G^c_{EX,1} = \frac{EX_1 - EX_0}{EX_0}\frac{EX_1}{Y_1}$, growth as $g_{Y,1} = \frac{Y_1 - Y_0}{Y_0}$, then,

$efr = \frac{\sum_{j=2000}^{2007} G^c_{EX,j}}{\sum_{j=2000}^{2007} g_{Y,j}}$ the ratio of contribution of export to growth over GDP growth;

$ebc = \frac{1}{8}\sum_{j=2000}^{2007} G^c_{EX,j} - G^c_{IM,j}$ the sum of contribution of export and import growth to GDP growth.

Export focus means that growth in exports is large relative to growth in domestic demand components. An increasing external balance implies a positive contribution of net exports to growth.

Source: ILO calculations based on Eurostat national accounts.

Strong domestic demand reduced the share of GVC-related jobs until 2007 ...

For the purposes of this report, an econometric analysis was conducted to investigate the relationship between aggregate demand and the share of GVC-related jobs in total employment in the EU. In this respect, the analysis links external and internal imbalances (in the form of the components of demand) with the heterogeneous development of GVC-related jobs in the EU.

The share of employment in GVC jobs is given by the ratio of the number of jobs in GVC over the number of total jobs. Hence, in a dynamic sense, the change in the share of GVC jobs will be given by the growth rate of the number of GVC jobs minus the growth rate of total jobs. Both of these variables are related to GDP growth and to the unemployment rate. However, higher GDP growth could stem from either GVC or non-GVC related activities, so that a priori the relationship between GDP growth and the growth in the share of GVC jobs is unclear.

The share of GVC jobs will depend on the relative demand for labour by firms producing GVC products and firms producing domestic products. GVC products could be exported, which in turn allows a country to import goods. Over the long run, the value of exported goods needs to equal the value of imported goods, while over the short run deviations can occur. Consequently, the relative domestic demand for GVC and domestic products will determine the share of the value of GVC products in the long run. Finally, the share of employment in GVC depends on the relative value added per worker in GVC and domestic activities. For instance, when GVC workers are very productive, an economy can have a small share of GVC employment while still consuming a high share of GVC products.

A trade balance surplus indicates that a country earns more income than it consumes, implying that the share of value added related to GVC will be larger than the share of GVC products in consumption. Hence, the trade balance should be positively related to the share of GVC jobs. The export share of an economy is not necessarily linked one-to-one with the share of GVC jobs, since exports are measured in gross values and can be very large when there is a high content of imported intermediates, while GVC jobs are linked to value added. Furthermore, there might be GVC-related jobs that produce non-exported output. Growth in exports, in contrast, should be a good indicator of growth of GVC jobs since a country's production input mix will not, on aggregate, shift significantly year on year to more imported intermediates.

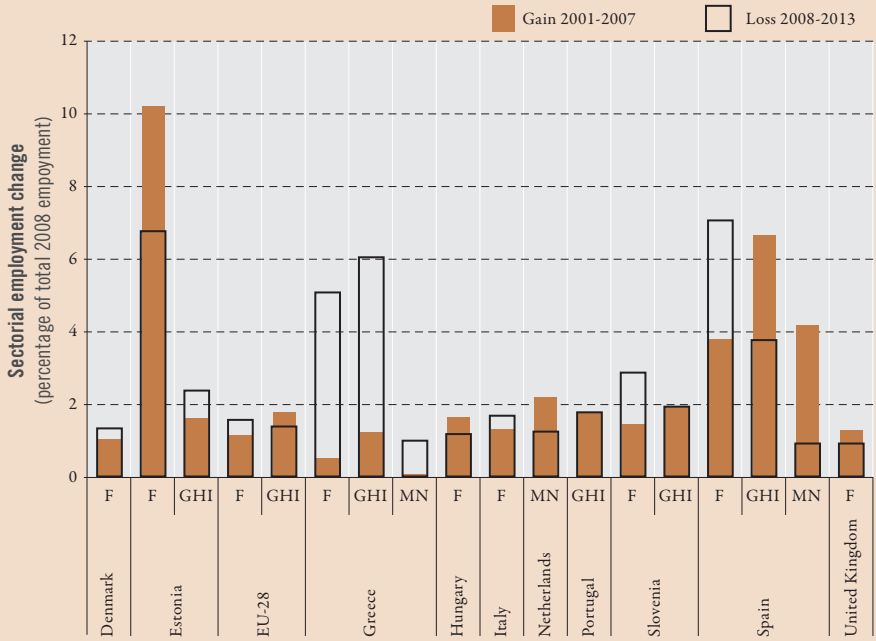
On the demand side, a reliable indicator capturing relative demand for GVC products is very hard to find. However, household investment, essentially dwelling construction, is a partial indicator of relative demand since construction work is, for the most part, domestic and unrelated to GVC. Public sector spending should have a negative impact on GVC jobs, since public employment is usually unrelated to GVC. Additionally, public sector spending provided an important backstop to aggregate demand during the crisis at times when export and domestic private demand faltered.

An econometric estimation (details shown in Appendix A) confirms the theoretical impact on GVC jobs for most variables. Notably, the government consumption share has a clear negative impact on the share of GVC jobs, in terms of the long-term level, long-term changes and short-term changes. Household investment has a negative impact as well, although the coefficient is only significant for the short-term dynamic estimates in the panel regression. Growth in the export–GDP ratio implies an increase in the share of GVC jobs. Furthermore, a current account surplus is associated with a larger share of GVC jobs, as has been predicted in the theoretical discussion. Additionally, countries that experienced larger GDP growth over the entire period also had a larger loss of GVC-related jobs. This implies that the larger GDP growth was driven more by demand for domestic jobs than by exports. In the panel estimation, GDP growth is not significant. Finally, neither growth in unit labour cost nor growth in the real effective exchange rate is related to the evolution of GVC job shares.

... creating a boom–bust cycle in some domestic sectors ...

A domestic demand boom in the EU is likely to have a larger impact on growth in services and construction than manufacturing. However, there are differences between those sectors that are more impacted by changes in private demand and the sectors that are impacted by public spending. Construction (F), wholesale and retail trade (GHI) and professional as well as administrative activities (MN) depend mainly on private demand, while

Figure 3.5 Private sectors subject to boom–bust, 2001–2013



Source: ILO calculations based on OECD productivity database and unit labour cost (ULC) by main economic activity, sectorial employment by Eurostat. Sector codes according to ISIC Rev.4.

public services and defence (O), education (P), health and social services (Q) as well as art, entertainment and recreation (R) depend mostly on public spending.

In the EU, the private demand sectors (F, GHI and MN) are by far the largest contributors to employment growth over the period 2000 to 2007. However, this has proven to be costly during the crisis as these sectors have suffered tremendously, due to a decline in private demand in some of the EU countries. Indeed, some of the largest job losses were in these sectors.

Figure 3.5 shows the percentage change in employment in sectors that depend on private consumption expenditure relative to the total economy's

employment in 2008. The figure only includes sectors that contributed at least one percentage point of total employment loss following the financial crisis in the country. Hence, the figure shows the sectors in the country that experienced a cycle of boom and bust before and after the financial crisis, driven by excessive and collapsing demand. The figure also provides an explanation for some of the large shifts in the share of GVC-related jobs shown in figure 3.1 since strong employment growth in other sectors lowers the GVC jobs share.

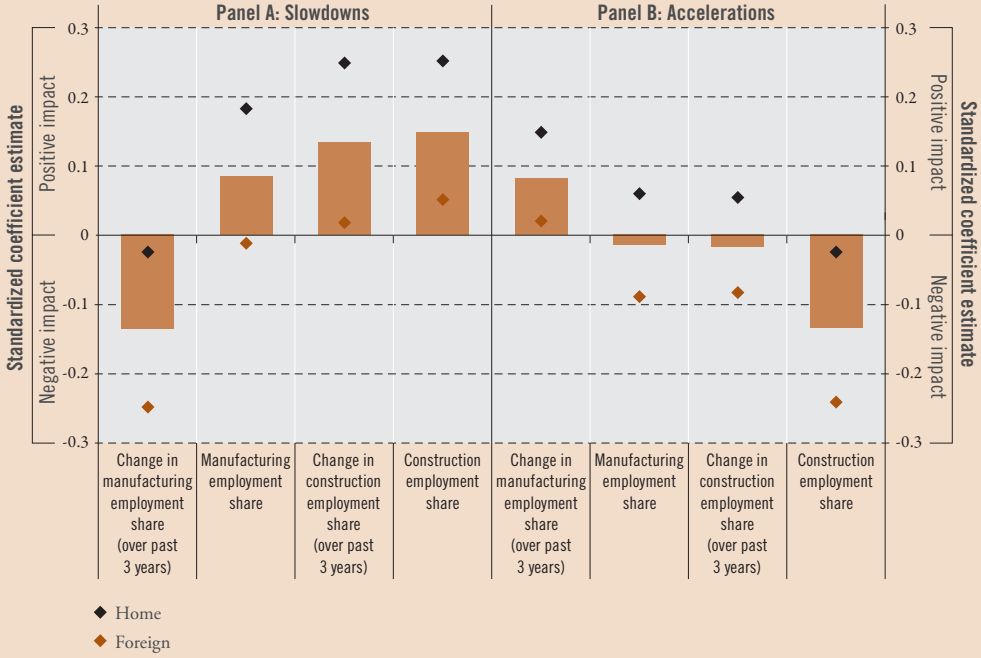
Indeed, the construction sector experienced a significant boom–bust cycle in all the countries considered in the empirical analysis, with the exception of the Netherlands and Portugal. For example, in countries such as Greece, Slovenia and Spain, the employment losses were much larger than the previous employment gains (the same trend is visible for the EU-28). The boom–bust cycle is less pronounced in the wholesale and retail trade sectors (GHI), where essentially only Greece experienced a significantly larger loss than its previous employment gains. Finally, the sectors for professional and administrative activities (MN) suffered serious post-crisis employment losses in only three economies, out of which only Greece experienced post-crisis losses that were larger than the pre-crisis gains (this is explained by a very low pre-crisis job growth in this sector).

To summarize, pre-crisis employment growth in the construction sector (F), and to some extent in the wholesale and retail trade sectors (GHI), in the EU can be classified as unsustainable. Employment growth in these sectors was fuelled by excessive build-up of private demand, which in turn contributed to the boom–bust cycle. These findings are supported by an econometric analysis, which shows that employment shifts into the construction sector increase the probability of growth slowdown in EU-28 economies (box 3.3). Meanwhile, since business rather than household demand drives jobs in the administrative (MN) sector, the large employment losses in the Netherlands and Spain were caused by the crisis-induced economic slowdown instead of excessive demand, thereby not really qualifying as a boom–bust cycle.

Box 3.3 Sectorial employment and economic growth dynamics in EU countries

The sectorial employment structure of an economy and changes thereto can be important drivers of economic growth. First, the average productivity of workers in different sectors varies so that shifts in the sectorial allocation of workers necessarily affect aggregate productivity and hence economic growth. Second, sectors are heterogeneous with regard to their exposure to macroeconomic shocks. The bursting of speculative bubbles, for example, is expected to primarily cause lay-offs in sectors such as construction, real estate or finance. As a consequence, countries with large employment shares in these sectors will then suffer higher increases in unemployment, which can remain a drag on economic growth in the medium and long term.

Figure 3.6 Impact of the sectorial employment structure on the probability of economic growth slowdowns and accelerations, EU-28, 1987–2011



Note: The figure illustrates the impact of sectorial employment shares and changes thereof on the respective probability of an economic growth slowdown (panel A) and acceleration (panel B). If the confidence interval comprises only values above (below) 0, the variable on the horizontal axis has a positive (negative) impact on the probability that an economic growth slowdown (panel A) or acceleration (panel B) will occur. The data points shown correspond to standardized coefficients (point estimates and 90% confidence interval) from a pooled probit model estimation. The dependent variable is a dummy variable that indicates whether a year is identified as a slowdown (panel A) or acceleration (panel B) year. In addition to the four variables listed on the horizontal axis of each panel, the following control variables are included in the regression: GDP per capita and its square, the ratio of a country's GDP to the world's leading country in terms of GDP and its square and the average pre-slowdown (panel A) or pre-acceleration (panel B) growth rate.

Source: ILO estimation based on Penn World Tables 8.0 and Eurostat.

Figure 3.6 illustrates the results of two econometric specifications that relate the probability of economic growth slowdowns and accelerations to levels and changes of the employment shares of the construction and the manufacturing sector. The analysis covers all EU-28 countries and uses data on economic growth for the period from 1987 to 2011.[40] Years are identified as growth slowdown (acceleration) years if average growth in the past (coming) seven years was positive and, in addition, by more than 2 percentage points higher than average growth in the coming (past) seven years.[41]

Panel A shows the impact of the sectorial employment structure on the probability of economic growth slowdowns. Results demonstrate that movements of employment into manufacturing are associated with a lower probability that countries will suffer from a slowdown. In contrast, an increase in the share of workers that work in the construction sector can be associated with a higher slowdown probability. Also, countries in which the number of construction workers is high relative to total employment tend to experience more frequent slowdowns of economic growth.

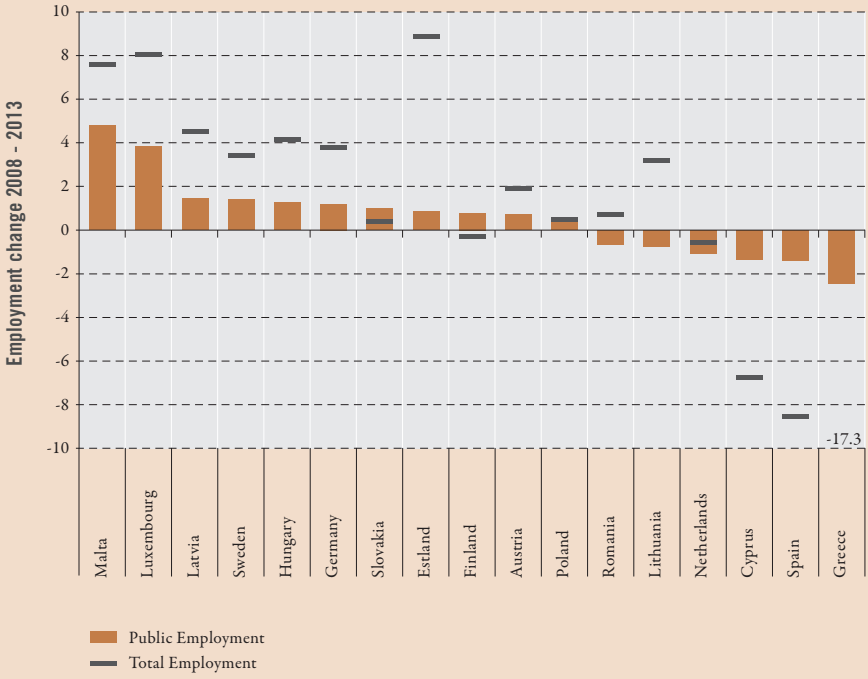
Panel B focuses on the determinants of growth accelerations and illustrates that increases in the manufacturing employment share, on average, boost the likelihood that growth acceleration will occur. It is also the case that countries with a high employment share in construction are less likely to experience an acceleration of economic growth.

... reinforced by fiscal consolidation ...

In a climate of rising debt levels, countries across the EU were engaging in fiscal tightening by 2010. Indeed, by 2011 only half of the countries in the EU showed a positive contribution to growth from government spending. Furthermore, due to strong fiscal consolidation measures introduced in some of the countries in the region, the overall growth impact of government spending in the EU only returned to positive territory in 2013. In fact, the average direct effect of fiscal consolidation measures on countries' growth was around minus 0.5 percentage points, while in some countries the shortfall was considerably larger (e.g. Greece, Portugal and Spain).

[40] Results for a wider range of countries and labour market related growth determinants will be published in Viegelahn, forthcoming.
[41] A similar methodology to define growth slowdowns and accelerations was used, respectively, in Eichengreen et al., 2012, 2013 and Hausmann et al., 2005.

Figure 3.7 Employment change in sectors OPQR and total employment change, 2008–2013 (percentages)



Note: The figure shows EU-28 countries in which employment changed significantly in the sectors OPQR that rely largely on public financing. Furthermore, the figure shows the total change in employment between 2010 and 2013.

Source: ILO calculations based on Eurostat.

The analysis conducted for this report shows that employment in sectors that rely on public financing (public services, defence, education, health and social services, etc.) changed by more than 0.5 percentage points between 2010 and 2013. Furthermore, the analysis shows that employment in these sectors decreased in 11 out of 28 countries. For example, in Lithuania and the Netherlands falling employment in OPQR sectors offset positive employment growth in the remaining sectors. Furthermore, reduced employment in the OPQR sectors in Cyprus, Greece and Spain contributed directly to the overall employment losses.

Meanwhile, the contribution of fiscal restraint to job destruction can go far beyond its direct impact, as presented in figure 3.7. Lower total labour incomes of publicly financed employees can have a strong negative multiplier effect on aggregate demand and employment, particularly when an economy is demand constrained. In fact, the decline in the total public wage bill between 2010 and 2013 was much larger than the decline in employment in countries such as Cyprus (-7 per cent), Greece (-21.4 per cent), Portugal (-16 per cent) and Spain (-7.6 per cent).

… but only partially related to unit labour costs.

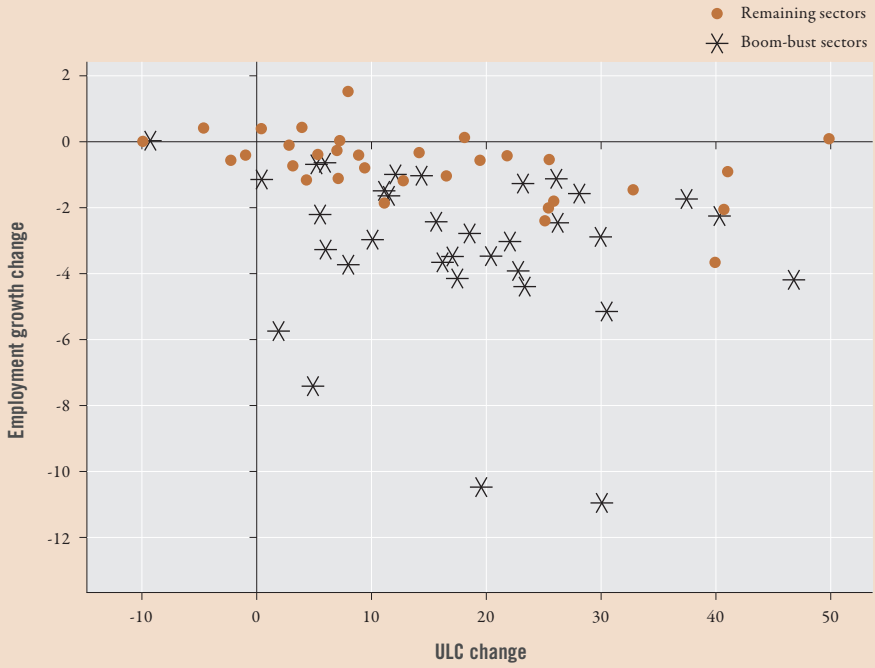
Large job losses in previously booming sectors could have been due to an excessive increase in ULC. Figure 3.8 shows that almost all the sectors under investigation have had lower employment growth since the start of the crisis; sectors that suffered a boom–bust cycle have also had a much larger decline in employment growth than other sectors, irrespective of the change in ULC.

Consequently, it is not possible to conclude that sectors which suffered an employment boom–bust cycle did so because of excessively high ULC growth leading up to the crisis. Indeed, comparing the constant coefficient of simple regressions for both categories shows that at zero ULC change boom–bust sectors suffer an employment growth slowdown which is about 2.3 percentage points higher than remaining sectors.[42] This slowdown effect is primarily due to demand factors which are unrelated to ULC.

Nevertheless, there is a slight negative correlation between the change in ULC and the size of the employment growth slowdown. For example, an increase in the ULC by 10 percentage points between 2001 and 2007 is associated with a 0.3 percentage point decline in the employment growth rate. This relationship is explained by the fact that sectors that grew strongly before the crisis also suffered a larger employment growth slowdown in the wake of the crisis, coupled with the positive relation between employment expansion and ULC.[43]

[42] Results from regressing constant, ULC growth and boom–bust dummy on employment growth slowdown: constant=-0.40(0.40), slope=-0.032(0.016), dummy=-2.28(0.45).
[43] Slope of pre-crisis growth in OLS regression on slowdown: -1.26, significant at 1 per cent. Slope of pre-crisis growth in OLS regression on ULC growth: 1.72, significant at 1 per cent.

Figure 3.8 Employment growth and ULC in selected service sectors
(percentages)



Note: Sectors refer to F, GHI and MN. The figure plots the growth of ULC in the period 2001–2007 on the horizontal axis and the difference in the sectorial employment growth rate between the period 2001–2007 and 2008–2013 on the vertical axis. Hence, a value of minus 1 implies that employment growth in that sector from 2008 to 2013 was 1 percentage point lower than in the period 2001 to 2007. The crosses represent sectors suffering an employment boom–bust cycle, while the diamonds represent the remaining sectors relying on private demand.
Source: OECD, Eurostat, ILO calculations.

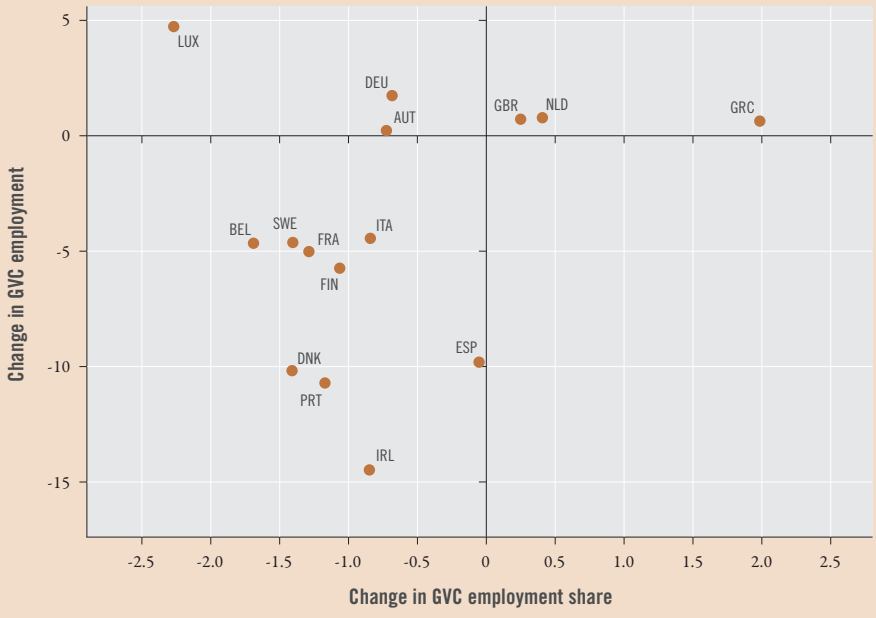
In conclusion, sectors that experienced a stronger employment expansion before the crisis experienced both larger increases in ULC and a larger drop in employment growth in the wake of the crisis. There is, however, no evidence that sectors experiencing a boom–bust cycle did so because of excessive ULC increases before the crisis. Empirical analysis shows that other factors besides ULC might be at play behind the slowdown in employment growth.

Since the crisis there has been limited employment support through GVC.

As has been evidently clear in the past few years, the global crisis caused major disruptions to domestic and export demand. Indeed, as figure 3.9 shows, in countries situated in the left half of the figure, employment growth (losses) in GVC-related activities was slower (faster) than in domestic activities, implying that the external sector slowed down employment creation. In contrast, in countries on the right-hand side, GVC-related jobs gained in share and therefore had a positive impact on employment. The vertical axis shows those countries in which GVC-related jobs grew or shrank in absolute terms.

As figure 3.9 shows, most countries are positioned in the lower left quadrant with negative GVC-related employment growth that did not support the economy. A few countries in the upper left quadrant experienced strong

Figure 3.9 GVC employment share and growth (2011 relative to 2007)
(percentages)



Source: ILO calculations based on WIOD.

overall employment growth, to which GVC employment contributed, but did not grow at the same pace. Contrastingly, in Greece, the Netherlands and the United Kingdom, GVC-related employment grew faster than overall employment. Hence, these are the only countries that really used the external sector as a driver of employment growth.

However, export demand requires foreign countries to have strong import growth while employment growth based on domestic demand is self-reinforcing and relatively more sustainable. Therefore, it is not possible for all countries to rely only on export demand as a driver of growth; at least some countries are required to have strong internal demand growth. A balanced growth path is characterized by exports and imports growing at the same rate, allowing all countries to benefit from export-driven growth.

To summarize, the composition of domestic demand matters for the evolution of GVC-related jobs. Intra- and inter-country imbalances in the Eurozone created demand patterns that directed job creation away from GVC towards domestic sectors in some countries, creating boom–bust cycles in some sectors when the financial crisis removed the drivers of demand. In the wake of the crisis, public employment served as a driver of growth in some countries, but as a destroyer of growth in others. Sectors experiencing a boom–bust cycle did not do so due to excessive ULC growth before the crisis. Finally, GVC job growth supported employment growth in only six out of 15 countries in the wake of the financial crisis.

C DECOMPOSING DRIVERS OF JOB LOSS: THE GEL MODEL

This section identifies the underlying structural drivers of employment with the help of a historical shock decomposition using the GEL model. Such decomposition identifies which exogenous, fundamental shocks were responsible for movements in the endogenous observable variables. For example, a financial shock lowering the cost of capital could have a positive impact on investment over a given period, while at the same time an exchange rate shock, by lowering export demand, exerts a negative influence. In the framework of a dynamic stochastic general equilibrium (DSGE) model, such as the GEL model, any shock could affect any variable, although shocks will have a more significant impact if they affect a variable more directly. Annex 1 provides a detailed description of the GEL model, while Box 3.4 depicts the essence of the historical shock decomposition.

Box 3.4 Historical shock decomposition

A dynamic stochastic general equilibrium (DSGE) model expresses the behaviour of an economy based on underlying optimization decisions of agents in the economy. Furthermore, fluctuations in aggregate economic variables are driven by fundamental shocks to the economy. In a first step, the parameters of the model are estimated so that the endogenous relationships between the modelled macroeconomic variables are as close as possible to the relationships in the observed time series. Hence, one can think of matching the covariance matrix of the autoregressive (AR) representation of the model to the covariance matrix of a vector autoregression (VAR) of actual data. In a second step, a historical shock decomposition identifies a combination of shocks that allows the model to reproduce the actual time series data.

A historical shock decomposition allows the causes of movements in macroeconomic variables to be allocated to observable or unobservable fundamental shocks. For instance, a rise in consumption could be identified as being caused by a fall in the interest rate risk premium, which is at least partially observable, and an improvement in consumer confidence, which is unobservable. Since the GEL model is a general equilibrium model, any type of shock can potentially have an impact on the labour market.

The discussion in Chapter 2 clarified that a competitiveness shock does not exist. However, the GEL model includes a number of shocks, such as productivity, financial risk premium, product market distortions, labour cost and REER with respect to the Euro and non-Euro area that all affect competitiveness. Furthermore, exogenous demand shocks occasioned by the government or foreign GDP affect macroeconomic outcomes.

Supply shocks describe output movements which are not explained by changes in factor utilization as well as employment creation which is not explained by the relationship between labour demand and the wage-bargaining process.[44] Financial shocks alter the cost of funds, affecting investment and consumption, and include, among others, the country risk premium. Product market distortions, labelled mark-up, create monopoly distortions. Bargaining power shocks affect the real wage growth and thus labour cost. REER shocks include processes that affect the relative price of domestically produced output in relation to foreign products.

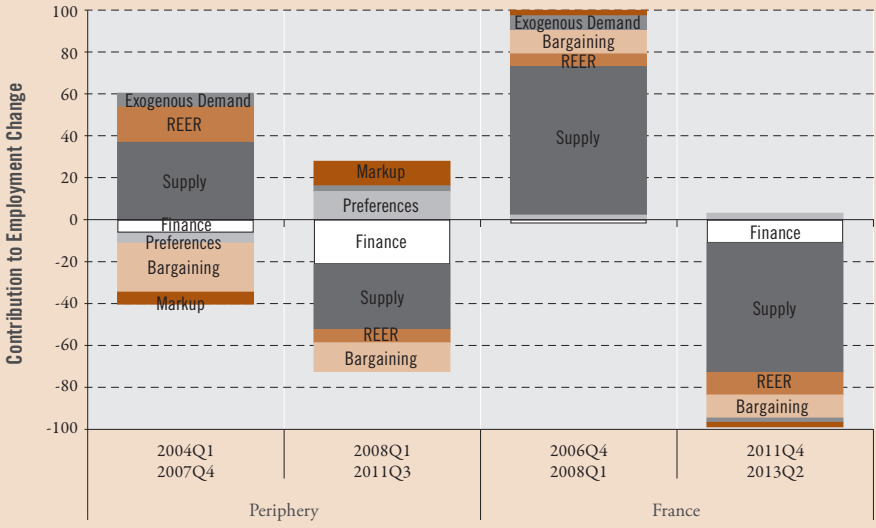
Excessive wage growth can be ruled out as a cause of job losses.

Based on the GEL historical shock decomposition, figure 3.10 presents the drivers of employment during the immediate pre-crisis boom as well as during the crisis years for the periphery countries and France. The figure shows that, in the Euro periphery, supply shocks were the main driver of the pre-crisis employment gains as well as the post-crisis employment losses. The REER follows a similar pattern, although its effect is more limited. Financial shocks have a significant deteriorating impact on employment during the crisis. In contrast, consumer preferences actually have a positive impact, implying that private consumption is restricted by incomes and financial conditions, not confidence. Finally, bargaining power of workers had a diminishing impact on employment, although this effect was weakened during the crisis.

[44] This is called a matching shock in models of labour market search and matching.

Figure 3.10 Fundamental drivers of employment

(percentages)



Notes: Periphery countries include Ireland, Italy, Portugal and Spain. The figure shows the average positive or negative contribution of the various shocks to employment changes over the specified periods. Insignificant shocks are not labelled.

Source: Kühn, Forthcoming.

In France, employment developments in the pre- and post-crisis period are driven much more by supply factors than in the periphery countries. Furthermore, the REER, in combination with bargaining power, contributed to the pre-crisis employment increase as well as to its post-crisis decline. Finally, financial shocks also had some deteriorating effect on employment during the crisis.

This is an important point for policy consideration: although supply side measures can improve employment growth in periphery countries, they contribute less than half to total underperformance.

Other studies support these findings. For example, Kollmann et al. (2014a) utilize an extension of the QUEST model to perform a historical shock decomposition of Spanish output and capital flows, though not of the country's employment. In line with the results from the GEL model, they identify wage mark-ups to be of minor importance in explaining low GDP growth during the Euro crisis, while they actually had a moderating impact in the current account in the pre-crisis period. They identify falling risk premia, loosening collateral constraints and a fall in the interest rate spread as the main drivers of the Spanish output boom and capital account surplus until the global financial crisis. During the crisis, a severe credit crunch is identified as the main driver of the recession.

In Kollmann et al. (2014b) the driver of external imbalances in the Eurozone – German current account surpluses – is explained with the help of a historical shock decomposition based on an extension of the QUEST model. The authors find that positive shocks to the German savings rate and the ROW demand for German exports are the key drivers of the large German current account surplus. Furthermore, they identify a positive impact of a reduced labour cost wedge as well as other supply factors. In contrast, interest rate convergence on the creation of the EMU had only a weak effect on the German current account and aggregate output.

In sum, historical shock decompositions confirm the important role played by European financial markets as well as REER movements due to the existence of the common currency. Consequently, solutions to unemployment problems cannot be focused on individual countries alone but have to be found in the context of an encompassing European policy. Nevertheless, this section also shows that domestic supply factors play an important role, necessitating a review of policies regarding investment promotion, product markets, labour markets and skill development at the individual country level.

D BALANCED AND SUSTAINABLE EMPLOYMENT GROWTH

Stronger diversification is needed to counterbalance shocks ...

Competitive economies are characterized by a high sustainable level of prosperity, driven in the long run by productivity growth, education and labour force participation among other factors. Additionally, countries need to undergo continuous structural change to adjust to changing economic realities, whether these are driven by technological progress or globalization.

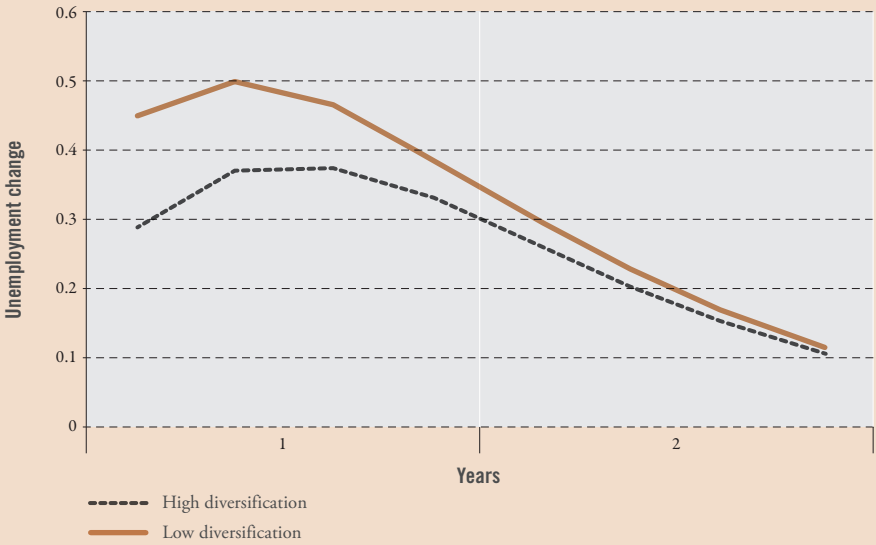
This chapter shows that a reduction in the share of GVC jobs forms part of structural change in most of the EU economies. However, countries differ in terms of their sectoral employment shifts in the run-up to the crisis. Strong employment growth proved to be unsustainable once the crisis disrupted the debt-driven demand in some of the EU countries.

Sustainable structural change and employment growth require both internal and external balance over the medium term. Internally, demand should not rely on debt financing, necessitating sufficient incomes for households, which are the main drivers of aggregate demand. External balances financing domestic demand deficiencies are the mirror image of unsustainable internal imbalances, and hence will not occur in the absence of internal imbalances.

Furthermore, a competitive economy requires a functioning financial market that facilitates and promotes productive investment, a well-educated and trained labour force, a business environment that facilitates the start-up and growth of enterprises, a well-designed competition policy to allow functioning product markets as well as functioning social dialogue to promote employment and income growth.

Figure 3.11 Moderating effect of export diversification

(percentages)



Notes: The figure shows the impact of a currency appreciation on the unemployment rate simulated using the GEL model calibrated for the Euro periphery under two scenarios. In an environment of high diversification, the export price elasticity is low (0.5), while it is high (1.5) in the low diversification scenario.

Source: Kühn, Forthcoming.

Policy simulations based on the GEL model support these policy measures.

The presence of the abovementioned policy measures will ensure an innovative business environment and a fair distribution of income. The former allows the country to expand the diversification, differentiation and quality of its export products, thereby lowering its vulnerability to external shocks and stabilizing employment and prosperity. The latter ensures internal balances, stabilizing domestic aggregate demand.

Using the GEL model of the ILO, the benefits of larger export diversification and differentiation can be simulated. Figure 3.11 shows that unemployment rises by 20 per cent less on average over two years in response to an exchange rate appreciation when export diversification is high, owing to lower price sensitivity of export demand.

Neither a trade surplus nor lower wages are consistent with balanced and sustainable employment growth. Indeed, wage restraint can even be counterproductive. Aggregate domestic and export demand of countries is not exogenous to wage development. Labour income constitutes an important part of the aggregate demand. Based on GEL simulations in a previous study, ILO (2013) shows that in times of a shortfall in aggregate demand, as is still the case in a few EU economies, the negative effect of a fall in labour income outweighs the positive effect of higher export and labour demand due to lower wage costs. Additionally, no cost competitiveness is gained when wage restraint occurs symmetrically across all trading partners, thereby amplifying the negative demand effect.

APPENDIX A

Estimation of drivers of GVC employment shares: Econometric details

This section presents details on the econometric specification used to estimate the drivers of GVC employment shares as well as its results. The dependent variable is yearly GVC employment shares for EU-15 countries from 1995 until 2011. Independent variables are the log of GDP (gdp) as well as the share in GDP of a number of variables: exports (EX), current account (CA), government consumption (G) and household investment (IH).

GVC employment is explained using three different models. First, the average share of GVC employment over the whole period is explained in a cross-country regression with 15 observations using a number of explanatory variables. Next, the change in the share of GVC employment between 1995 and 2011 is explained, again using a cross-country regression with 15 observations. Finally, an unbalanced time series panel model of 15 countries over 17 years is estimated using fixed effects. Since all variables are shares of GDP, except for GDP growth, there is no unit root present and hence the equations can be estimated using OLS. It turns out that the error terms are normally distributed for the panel estimation.

The following three equations are estimated:

1) $$gvc_i = \alpha_0 + \alpha_1 CA_i + \alpha_2 G_i + \alpha_3 IH_i$$
2) $$\Delta gvc_i = \beta_0 + \beta_1 \Delta EX_i + \beta_2 \Delta G_i + \beta_3 \Delta IH_i + \beta_4 \Delta \mathrm{gdp}_i$$
3) $$\Delta gvc_{it} = \gamma_0 + \gamma_1 \Delta EX_{it} + \gamma_2 \Delta G_{it} + \gamma_3 \Delta IH_{it} + \gamma_4 \Delta \mathrm{gdp}_{it} + \gamma_5 d_{2002}$$

The subscript i represents the country, while t represents the year of the panel regression. Furthermore, a dummy for the year 2002 has been included in the panel regression as it has proven to be significant. Regression (1) for the average GVC employment share does not include GDP as there is neither a theoretical nor an empirical relationship between the long-term average GDP and the long-term average GVC employment share in the

EU-15. Furthermore, following the previous discussion on the variables, regression (1) includes the current account level, while the regressions explaining the change in GVC jobs include the change in exports. This choice also improves the empirical fit of the estimated equations.

Table 3.2 presents the results of estimating equations (1), (2) and (3).

Table 3.2 Estimated determinants of GVC jobs

	Specification 1 cross-country	Specification 2 cross-country	Specification 3 (panel fixed effects)
Dependent variable	Share of GVC-related jobs in 1995–2011 average	Change in share of GVC-related jobs 1995–2011 average	Annual change in share of GVC-related jobs 1995–2011
Independent variables	Level (average)	Average yearly change over period	Annual change
Constant	47.705***	0.130	-0.285***
Current account	0.426**		
Exports		0.131***	0.101***
Government consumption	-0.928***	-0.604*	-0.199***
Household investment	-0.567	-0.025	-0.187***
gdp		-0.131***	-0.013
Dummy 2002			-0.449***
Adjusted R2	0.51	0.71	0.41
Observations	15	15	212

Notes: asterisks indicate significance level: *** = 1%, ** = 5%, * = 10%.
Source: ILO calculations based on WIOD and Eurostat

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CHAPTER 4
SOCIAL PROTECTION AND COMPETITIVENESS

INTRODUCTION

This chapter examines how social protection policies affect competitiveness, as defined in Chapter 2. To deliver a comprehensive analysis on the interrelations between policies and outcomes, this research question is addressed within a broad public economics framework. That is to say, a wide range of social and labour market policies which are relevant for competitiveness are considered in terms of expenditures as well as revenues. The structure of the chapter is as follows.

Section A takes the situation in Europe before the crisis as a starting point. It offers a short description of the European Social Model and discusses its implementation in terms of revenues and expenditures. Next, it presents a typology of European social policy models based on their performance with regard to inverse poverty and employment. While the analysis shows that there is not necessarily a trade-off between equity and efficiency, a short summary of the policy responses to the global economic crisis reveals diverging approaches to social protection.

Section B sets out to analyse the links between social protection, productivity and competitiveness in more detail. It starts by discussing the relative performance of different revenue structures in terms of cost competitiveness within a cross-country context. Although financing requirements imply certain burdens on labour costs, the remainder of Section B argues that social and labour market policies have productivity-enhancing effects which are strongly linked to competitiveness. Empirical results in this section are then backed up by a short review of relevant policy evaluations.

The final section discusses how social protection policies redistribute income across different groups of households, thus providing a powerful policy tool for reducing inequality and stimulating demand on the aggregate level. The section then summarizes how social protection policies can be restructured by national governments so as to reduce inequality and improve competitiveness in the short and long term. A policy simulation based on the GEL model shows how policy coordination on the European level can support this process.

A DIVERGENCE IN SOCIAL POLICIES AND COMPETITIVENESS

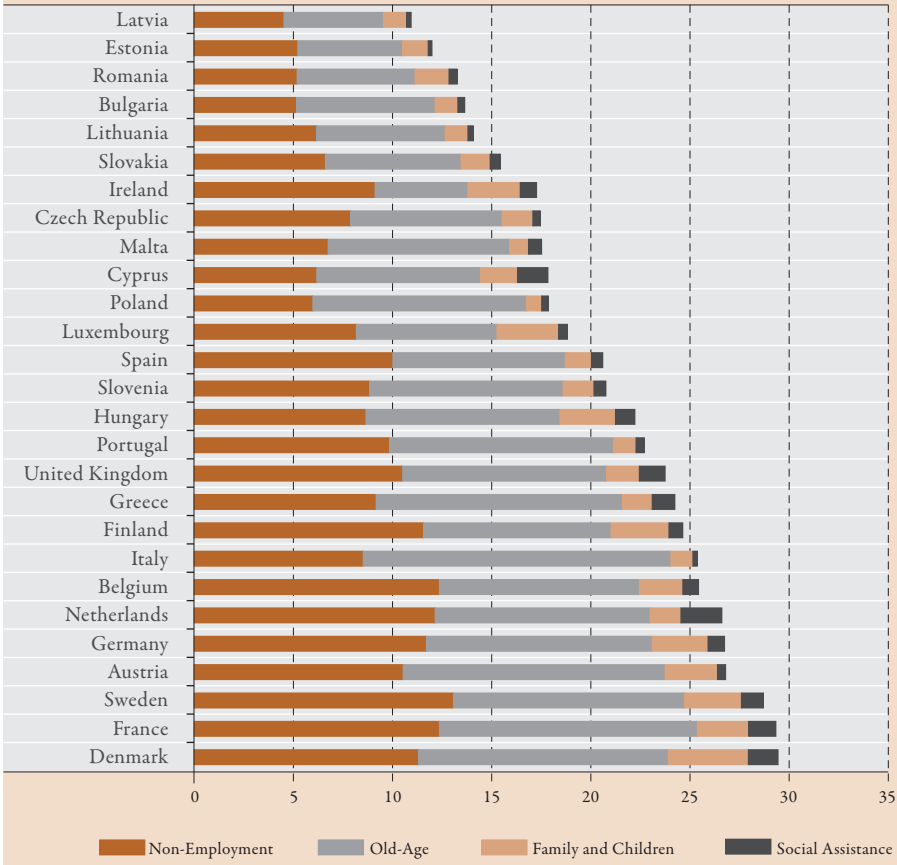
The European Social Model is an important feature of European economies ...

The discussion on competitiveness and the response to the global economic crisis in Europe has to take into account the fact that publicly provided social security is an important feature of European economies. As a starting point for the analysis, this chapter first focuses on the situation before the crisis. In 2007, aggregate social expenditure from public sources, including spending on unemployment, old-age, maternity, family, disability, survivors, employment-related injury and health, constituted 24.1 per cent of GDP in Western Europe (ILO, 2014a). The figure is lower in Central and Eastern Europe (CEE), at 16.2 per cent of GDP, however, it is still in line with North America (16.4 per cent) and higher than in Latin America and the Caribbean (12.0 per cent), the Middle East (6.5 per cent), Africa (4.8 per cent) and Asia (4.1 per cent).

There is considerable variation across countries within Europe, including both EU Member and non-Member States. At the lower end of the distribution, the Baltic countries and Bulgaria spend around 10–14 per cent of GDP on social protection. At the higher end, countries such as Austria, Denmark, France, Germany and Sweden devote between 26 and 28 per cent of GDP to social expenditures (see figure 4.1). Although a more disaggregated perspective reveals considerable variation in spending and financing structures, comparatively high levels of overall social expenditure point towards a common preference among European countries.

These expenditure patterns are, in fact, motivated by a common ESM which has been at the heart of a long-standing academic and political debate regarding solidarity and sustainability. As Jepsen and Serrano Pascual (2005) point out, most contributions to this debate define the ESM in terms of a common set of institutions. Vaughan-Whitehead (2014) follows this approach and provides a definition of the ESM on the basis of six main pillars (see box 4.1).

Figure 4.1 Social protection expenditure EU-27, 2007 (% of GDP)



Note: Non-employment benefits summarize all kinds of transfers that can be obtained while out of work, such as unemployment benefits, sickness benefits, invalidity pensions and early retirement, whenever listed separately from old-age pensions.
Source: European System of Integrated Social Protection Statistics (ESSPROS).

While this definition of the ESM emphasizes cross-country similarities between current social protection policies and institutions, it has been argued that an interpretation as a dynamic and evolving political project is a more suitable basis for forward-looking analysis.[45] In fact, comparative empirical analyses find considerable cross-country variations in terms

[45] See, for example, Jepsen and Serrano Pascual, 2005.

of institutions as well as outcomes, typically suggesting the grouping of national social policy models within the EU-15 into between three and five different clusters.[46]

Most of the countries that joined the EU after 2004 still devote considerably lower proportions of GDP to social protection (between 12 and 18 per cent, with the exception of Hungary) compared to the EU-15. Indeed, the resulting variation has implications in terms of labour costs and social standards for social policy objectives in the new member countries and the ESM more generally.[47] Thus, a forward-looking interpretation of the ESM would emphasize the set of universal values,[48] while promoting policy variation and experimentation aimed at attaining these objectives.

The economic crisis has not only renewed interest in the debate on the ESM, but it has also increased its urgency. While automatic stabilizers played a crucial role in cushioning the effects of the crisis in European countries, it has been pointed out that the failure to consolidate public finances and address sustainability problems in high-growth periods reduced the fiscal space of many European governments during and after the crisis.[49] The issue has been compounded by the difficulties arising from the current institutional setting in which macroeconomic policies are determined at the supranational level while social policies are addressed at the national level.

Thus, the crisis not only increased fiscal pressures but it also highlighted the necessity for policy coordination with regard to social (and other) policies.[50] This represents an opportunity to strengthen the ESM, based on a common approach that recognizes the current institutional diversity and provides a normative framework supporting member and non-member countries in their attempts to face the challenges ahead.[51]

[46] See Esping-Andersen, 1990; Sapir, 2005.
[47] See Vaughan-Whitehead, 2003.
[48] See, for example, ILO, 1952; Council of Europe, 1950; Council of Europe, 1996; United Nations, 1966.
[49] See, for example, Andersen, 2012.
[50] See, for example, Darvas and Wolff, 2014; ILO, 2013.
[51] See Vandenbroucke, 2012.

Box 4.1 European Social Model (ESM)

According to Vaughan-Whitehead (2014) the ESM rests on six main pillars:

The first main pillar of the ESM is the progressive extension of EU legislation with regard to minimum rights on working conditions. This entails improving the legislative framework, for instance with regard to labour mobility, equal opportunity for men and women, occupational safety and health or workplace democracy. Extension of these rights to workers outside regular employment (e.g. through implementing regulations on atypical or temporary employment contracts) is of particular importance.

The second main pillar of the ESM is its commitment to universal and sustainable social protection systems. While this commitment promotes the non-discriminatory provision of social security to all population groups, any community action in this field is subject to the principle of subsidiarity.

Inclusive labour markets are the third main pillar of the ESM. To this end, quantitative goals have been defined with regard to active labour market policies for all Member States. In addition, requirements with regard to job quality have been formulated and minimum wage regulations have been implemented throughout the Member States (either through statutory minimum wages or based on collective bargaining).

Strong and well-functioning social dialogue is seen as the fourth main pillar of the ESM. This is mainly due to the fact that this model of social dialogue includes negotiations not only at the enterprise level but also at regional, sectoral, national or even EU level. This form of multi-employer collective bargaining typically leads to agreements covering a much wider range of employees.

High-quality public services and services of general interest, such as electricity, gas, public utilities and transport, are recognized as the fifth pillar of the ESM. In addition, a general commitment to the promotion of social inclusion and cohesion makes up the sixth pillar.

Well-designed social policies improve not only equity but also efficiency ...

Although there have been attempts to include all countries in the EU-28 within a similar typology,[52] it is more informative for the purposes of this report to use the familiar categorization of Boeri (2002) and Sapir (2005) as an analytical framework. According to this definition, social policy models are divided into the following four distinct groups based on institutional characteristics:[53]

[52] See, for example, Knogler and Lankes, 2012.
[53] Earlier research typically relied on the typology developed by Esping-Andersen (1990) for the original EU-12, distinguishing between the liberal, conservative and social-democratic models of social policy. More recently, Boeri (2002) and Sapir (2005) further refined this typology and applied it to include the EU-15.

- The Nordic social policy model is characterized by universal welfare provision based on citizenship, extensive use of active labour market policies and comparatively high tax rates. In addition, it features high levels of public employment and union wage bargaining. This group includes Denmark, Finland, Sweden and the Netherlands – those countries with the highest social protection expenditures in Europe.
- In Ireland and the United Kingdom (the Anglo-Saxon countries), social protection typically features comparatively high levels of social assistance aimed at securing minimum living standards. Cash transfers and activation measures are used to increase work incentives for low-wage as well as regular employment. Public employment and union involvement are comparatively low.
- Continental countries (i.e. Austria, Belgium, France, Germany and Luxembourg) also share a range of institutional characteristics. In these countries, social policy is based on a strong insurance component, e.g. extensive unemployment benefits, health insurance and old-age or invalidity pensions. These policy instruments are aimed at preserving living standards and are typically financed through contributions from employment income. Public employment and union wage bargaining are also important features of the continental social policy model.
- In Mediterranean countries social protection is typically more fragmented. Indeed, in Greece, Italy, Portugal and Spain policies tend to focus on old-age pensions and employment protection while labour markets are often highly segmented and characterized by higher levels of informality. However, union wage bargaining is an essential feature of the formal sector.

Social policies have remained very diverse within the group of ten CEE countries[54] that have joined the EU in the first decade of the new millennium.[55] Consequently, Knogler and Lankes (2012) propose an alternative typology based on shared institutional characteristics among the entire EU-27. Based on this analysis, the Czech Republic, Hungary and Poland have similar characteristics to the group of Anglo-Saxon countries.

[54] These countries are Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia.
[55] See Vaughan-Whitehead, 2003.

Bulgaria, Latvia, Lithuania and Romania appear to share institutional features with the Mediterranean countries, except for Greece, which forms a separate group together with Estonia and Slovakia. The remaining Eastern European countries are found to have similar institutions to the Nordic and Continental countries, although the distinction between these two groups is blurred, based on this framework. Therefore, the new Member States will not be attributed to a specific category, taking into account their institutional diversity.

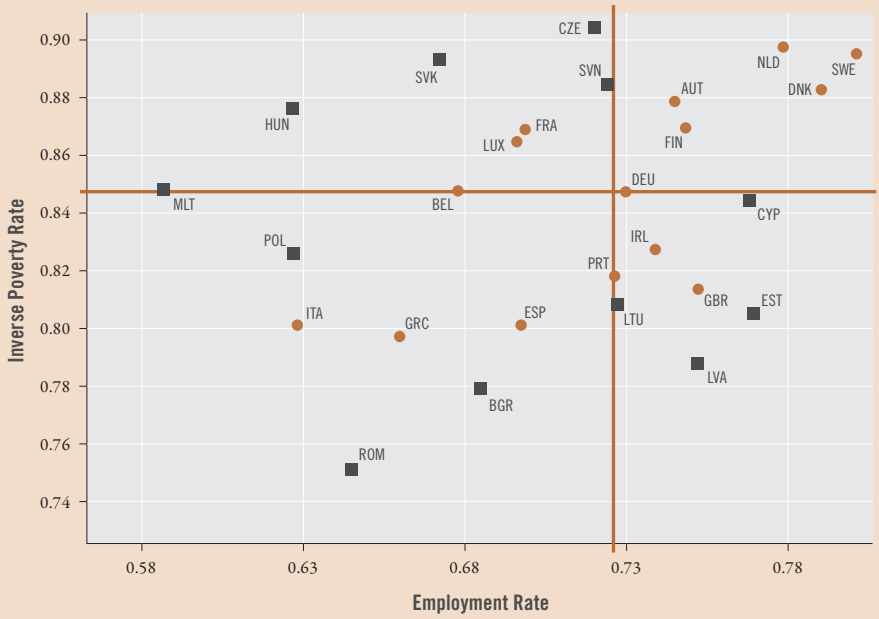
Any attempt to characterize the EU-27 countries[56] in terms of a specific typology necessarily conceals a wide array of institutional differences. However, simple empirical analysis shows that similar patterns exist within groups. In order to abstract from the effects of the crisis, the empirical classification, which will be used for the remainder of the chapter, is based on data gathered just before the crisis (2007).

Social protection policies have often been discussed in terms of a trade-off between the amount of redistribution that can be afforded and the degree of economic inefficiency that a society is willing to accept. However, this trade-off does not provide a suitable framework within which to consider the outcomes of social protection policies. Taking, for instance, employment and inverse poverty rates as relevant outcome variables associated, respectively, with efficiency and equity shows a very different picture. While, on the one hand, several countries succeed in achieving high levels of both indicators, the opposite is true for a specific group of other countries. These results therefore suggest that countries tend to be either successful in both regards or they fail to achieve relatively strong outcomes at all.

Figure 4.2 plots the inverse poverty rate and employment rates against each other based on pre-crisis data for the EU-27 (2007). This representation suggests that Mediterranean countries, represented in the lower left quadrant, tend to be relatively less effective at achieving both outcomes, since all four countries in this group perform below the EU-15 average in both dimensions. While social policies and institutions in Anglo-Saxon countries, such as Ireland and the United Kingdom, support relatively high

[56] For the purposes of analysis in this chapter EU-27 is used instead of EU-28 owing to data availability.

Figure 4.2 Employment and inverse poverty EU-27 (2007)



Note: The inverse poverty rate represents the probability of escaping poverty. Poverty is defined as living below 60 per cent of the median equivalized disposable income after taxes and transfers (on household level); red lines correspond to cross-country averages in the EU-15.
Source: ESSPROS.

employment and poverty rates, the best-performing countries in the Nordic group are able to achieve much better outcomes in both dimensions.

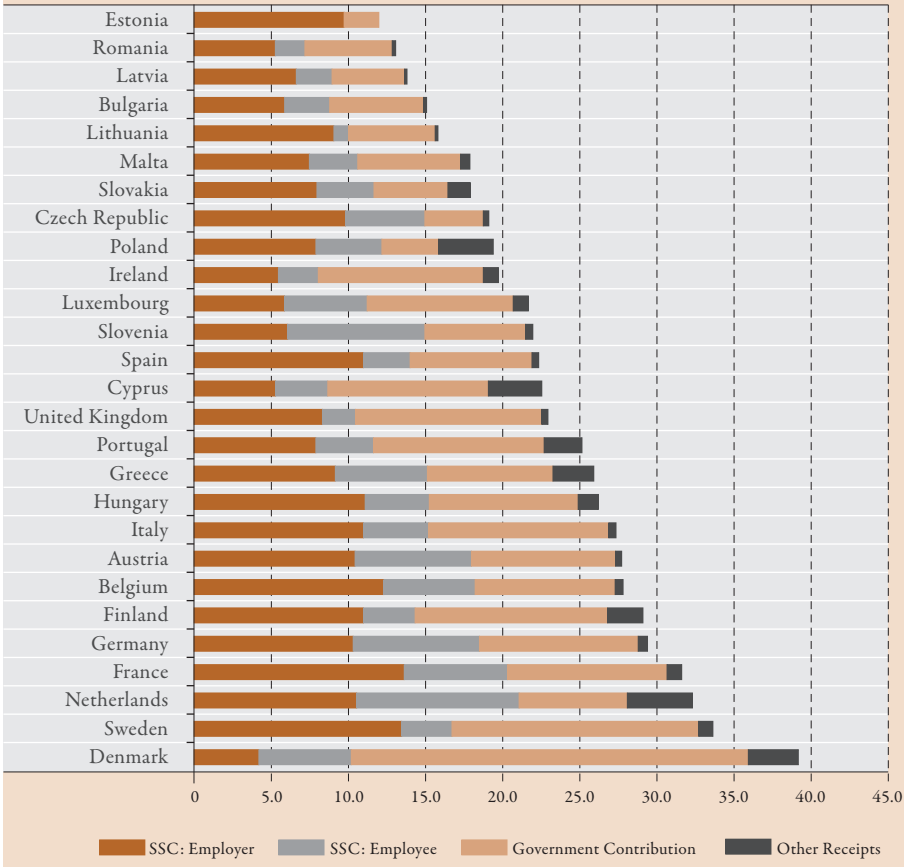
This figure again confirms the significant degree of heterogeneity among the post-communist countries in CEE, Cyprus and Malta. While social policies are comparatively effective in Czech Republic and Slovenia, outcomes in Bulgaria, Poland and Romania are below average in both dimensions. Based on this analysis, the Baltic countries achieve outcomes similar to those in Anglo-Saxon countries. Hungary, Malta and Slovakia, on the other hand, show suboptimal results with regard to employment rates.

With regard to total expenditures, data from before the crisis (2007) confirm that Nordic and Continental countries have the highest level of expenditures, followed by Mediterranean countries (see figure 4.1). Within the new Member States, only Hungary and Slovenia spend more than 20 per cent of GDP on social protection. Meanwhile, in the EU-15, only Ireland and Luxembourg (which is an outlier compared to other Continental countries) spend below that threshold. Moreover, with regard to the composition of expenditures, Nordic countries tend to spend less on old-age related benefits, compared to both Continental and Mediterranean countries. Instead, somewhat larger fractions of total benefits are spent on social assistance, family and child-related benefits. Non-employment benefits, including unemployment, sickness and disability benefits, are highest in Continental countries.

With the exception of Luxembourg, receipts of social protection are also highest in Nordic and Continental countries, constituting between 27.6 and 39 per cent in this group (see figure 4.3). However, structural differences between the two groups are more obvious with regard to receipts than expenditures. Nordic countries finance social protection to a much larger extent through contributions from the general budget, i.e. based on public revenues from taxation (Denmark, Finland and Sweden), thus social security contributions (SSC) from employers and employees are correspondingly lower. Continental countries finance higher proportions of their social protection receipts through employer and employee contributions, placing a comparatively heavier burden on labour. In Mediterranean countries, overall receipts tend to be lower than in Continental countries, but the revenue structures are similar, while Anglo-Saxon countries are more comparable to Nordic countries.

While this short discussion of revenues and expenditures patterns is in line with the typology discussed above, an empirical analysis of the outcomes of social protection spending further highlights structural differences between European countries.

Figure 4.3 Social protection receipts EU-27, 2007 (% of GDP)



Note: SSC refers to social security contributions.
Source: ESSPROS.

... however, policy responses to the crisis are likely to increase competitiveness gaps across countries.

Vaughan-Whitehead (2014) includes a detailed review of the reforms of social and labour market policies that have been implemented in response to the crisis. To set the stage for the analysis of the interconnections between

social protection and competitiveness, this subsection concentrates only on those policy areas which can be expected to affect the issue of competitiveness.

Policy changes with expected short-term effects on competitiveness are compiled in table 4.1. Each of the columns focuses on reforms in a specific policy area which have been enacted by EU Member States as a response to the crisis (see box 4.2 for an elaboration of these policies). In general, the political rationale for the implementation of these reforms depended strongly on pre-crisis institutional characteristics. However, as pointed out by Pochet and Degryse (2012), mounting fiscal pressures during the course of the crisis tended to shift policy objectives towards the consolidation of public finances from 2010 onwards. However, this representation also shows that governments which had sufficient degrees of freedom in public finances were actually investing additional funds in specific policy areas.

Table 4.1 is generally in line with this interpretation. Although the columns show a considerable amount of cross-country heterogeneity, several implications emerge from this representation. The first column summarizes reforms that target employment contracts. Reforms in the contractual framework typically aim to increase flexibility (e.g. with regard to working hours or turnover). Although this is commonly perceived as having a positive influence on competitiveness, an unambiguously positive relation is not borne out by subsequent empirical analysis, especially with regard to employment protection. The figure shows that, although some restrictions with regard to standard working hours have been lifted in Sweden and the Netherlands, Nordic countries did not weaken restrictions on non-standard employment or employment protection as a response to the crisis. The picture is similar for Continental countries, which were also most active in the area of working hours regulations. Starting out from a comparatively strict contractual framework, Mediterranean countries, on the other hand, mainly weakened restrictions on non-standard employment and employment protection.

The second column further refines this picture by showing that many Nordic or Continental countries were actually increasing social protection spend-

Table 4.1 Policy changes after the crisis

	Working Hours Restriction	Restriction of Non-standard Emp.	Emp. Protection	Active Labour Market Policies	Unemp. Benefits	Social Assistance	Minimum Wages	Pensions	Education	Health	Income Taxes and SSC	Value Added Tax	Taxes on High-Earners
Denmark				+	+	-							+
Finland								-					
Netherlands	-												
Sweden	-			+		+					-		
Austria	-	+	-			+		--		-			+
Germany	-			+			+	-					
Belgium	-		+		--	--		--		-			
France		-		+		+		-					+
Luxembourg	-						-						
United Kingdom	-		-	-		--	-	--	-	-			-
Ireland		+		+	--	--	-	--	-			+	
Bulgaria		+			+	+		-					
Czech Republic		--	-	+			-	--			+	+	+
Estonia		-	--	+	+	-		--	-	-			
Hungary				-	--	--	--	--			+		
Latvia				+	+	--	-	--	-	-			
Lithuania		-	--	+		--		--					
Poland		-	+			+							
Romania		-	-		-	-		-			+	+	
Slovakia	-							--			-		
Slovenia		+	--		--	-	-	-					
Cyprus						--	-	--	-	-			+
Malta							-						
Greece		--	--		--	--	--	--	-	-	+	+	
Italy	-		-					--			-	+	
Portugal		-	-		--	--		--	-	-		+	+
Spain		-	--		--	--	-	--	-	-			+

Note: pluses refer to the adoption of worker-friendly policies, e.g. increased unemployment spending or higher minimum wages; minuses imply disadvantageous changes, e.g. lower employment protection or educational spending.
Source: Authors' compilation based on ILO and World Bank, 2012 and Vaughan-Whitehead, 2014.

Box 4.2 Policy responses to the crisis

With regard to basic workers' rights and working conditions (pillar 1) there have been two groups of reforms which are likely to affect competitiveness. On the one hand, there have been changes to minimum wage legislation and practice in several countries, including Czech Republic, France, Greece, Hungary, Portugal, Spain and the United Kingdom, among others. On the other hand, regulations regarding working hours have been made more flexible in a wide range of countries. Many Northern countries, e.g. Austria, France, Germany, Luxembourg, the Netherlands and Sweden extended short-time working schemes during the crisis.

Labour market reforms (pillar 2) have affected a wider range of policies. First, non-standard forms of employment have been promoted in most countries except for Austria, Bulgaria, Ireland and Slovenia, where regulations governing agency workers have become more favourable. Other countries have, for instance, liberalized the use of agency work and fixed-term contracts or increased related time-limits (e.g. Czech Republic and Greece). Second, employment protection legislation has been reduced as rules for individual or collective dismissal have been relaxed. These types of reform have been more relevant in Southern and Eastern European countries, such as Estonia, Greece, Spain and Slovenia. In addition, severance pay has been cut in many of these countries. Third, active labour market policies have been unevenly affected across Europe. While efforts have been scaled back in Czech Republic, Estonia, Hungary, Ireland, Latvia, Lithuania and the United Kingdom, a range of Northern countries (including Denmark, France, Germany and Sweden) increased government funding in this policy area.

Regarding social protection (pillar 3) in the narrower sense, reforms which can be expected to affect competitiveness over the short or long term have mainly affected three policy areas: unemployment benefits, changes in transfers or universal benefits and pension systems. Changes in unemployment insurance have included reductions in coverage as well as in benefit amounts and duration. Such reforms were implemented mainly, but not exclusively, in Southern European and CEE countries. Denmark presents a counter-example, as the duration of eligibility for unemployment benefits has been extended from two to four years (although with reduced benefits). Cuts in universal benefits have affected family-related benefits (e.g. child tax allowances and maternity leave), care- and sickness-related spending, as well as housing benefits. Countries in Southern and Central and Eastern Europe were again more active in this policy area. However, notable changes have also been made in Belgium, Denmark, Ireland and the United Kingdom. The third set of reforms included various changes in pension systems. This has been an area of considerable policy change across the whole continent both before and after the crisis. Many countries introduced increases in statutory retirement ages, including Austria, Belgium, Finland, France, Germany and the United Kingdom, among others. Some of those countries also limited access to early retirement schemes (Austria, Belgium, Finland and France). However, outright cuts in benefits have been implemented mainly in Southern European countries. Far-reaching structural changes to the pension system as a whole have been introduced in Czech Republic, France, Greece, Hungary, Italy and the United Kingdom.

Reforms regarding the structure of social dialogue have been widespread before and after the global economic crisis and generally introduced limitations to collective bargaining and tripartism as well as weakening of representative organizations (pillar 4). The developments were again most pronounced in Eastern and Southern Europe (the Baltic States, Bulgaria, Greece, Hungary, Italy, Portugal, Romania and Spain). In addition, general cuts in public expenditure for health and education have also been observed in several countries, including Cyprus, Estonia, Greece, Latvia, Portugal, Spain and the United Kingdom (pillar 5).

Measures affecting public revenues have also played a role in the policy response to the crisis (pillar 6). While some countries, for instance, Czech Republic, Greece, Hungary, Italy and Romania, made use of regressive (income) tax increases which affected larger parts of the population, other countries, such as Austria, Denmark and France, introduced tax measures aimed specifically at high earners. Measures in this category included the abolition of tax exemptions as well as the introduction of new taxes or tax brackets affecting higher income individuals and households. Some countries also opted for an increase in value added taxes (Czech Republic, Greece, Ireland, Portugal and Romania). On the other hand, Italy, Slovakia, Sweden and the United Kingdom reduced income taxes for parts of their population. Other policy measures affecting social cohesion (pillar 6) included reductions in specific programmes aimed at regional redistribution, gender equality or the fight against discriminatory practices.

While all of these reforms are likely to contribute to the competitiveness of a given country in a broader sense, it is useful to distinguish social and labour policies in terms of the timing of the expected effects. On the one hand, some of the abovementioned policy areas will affect competitiveness only in the long term. This category includes pensions, social cohesion policies, changes in the structure of social dialogue as well as spending cuts on education and health. Policies which are likely to have a more immediate impact on competitiveness include regulations relating to minimum wages, working hours and non-standard employment contracts, employment protection legislation, active labour market policies and policies relating to unemployment insurance and social assistance.

ing. Most prominently, spending on active labour market policies has been increased in Denmark, France, Germany and Sweden. Notwithstanding higher initial spending levels, unemployment insurance or social assistance has been made more generous in Austria, Denmark, France and Sweden. In addition, Germany will introduce minimum wages on the national level for the first time ever in 2015.

These reforms are likely to have a positive effect on competitiveness, since they have the potential to increase the functioning of the labour markets in terms of search behaviour and matching. Mediterranean countries were not able to increase funds for active labour market policies and have instead moved in the opposite direction by reducing unemployment benefits and social assistance as well as by weakening minimum wage regulations.[57] As a result it will be more difficult, broadly speaking, for unemployed jobseekers in these countries to find a new position matching their skills and experiences. Starting out from somewhat lower spending levels, Anglo-Saxon countries relied on a similar policy mix. However, while less has been spent on active labour market policies in the United Kingdom, Ireland was able to increase funds in this policy area in response to the crisis.

The financing structure of social protection has direct effects on competitiveness since income taxes and social security contributions are a major component of total labour costs. As the previous subsection has shown that large differences exist with regard to social protection receipts across Europe, it is necessary to include tax policies in the analysis. The fourth column of table 4.1 presents a simplified picture of policy changes in this field. For ease of comparison, policy measures have been considered in only three broadly defined groups: income taxes and social security contributions, value added taxes and taxes aimed specifically at high-income individuals and households. While the links between tax policies and competitiveness will be discussed in more detail in the next section, this schematic representation again reveals certain group-specific patterns.

Tax policies aimed at increasing the tax incidence of high-income households were enacted in three of the Nordic and Continental countries. No other tax increases were introduced in these countries. On the contrary, Sweden even reduced the tax burden through a new income tax credit. Even without further distinguishing between the effects of different taxes on competitiveness, it is clear that such a policy strategy will at least not be harmful to cost competitiveness. However, extensive fiscal pressure meant that Mediterranean countries had to resort to more far-reaching tax increases. While Greece, Ireland and Portugal increased statutory value

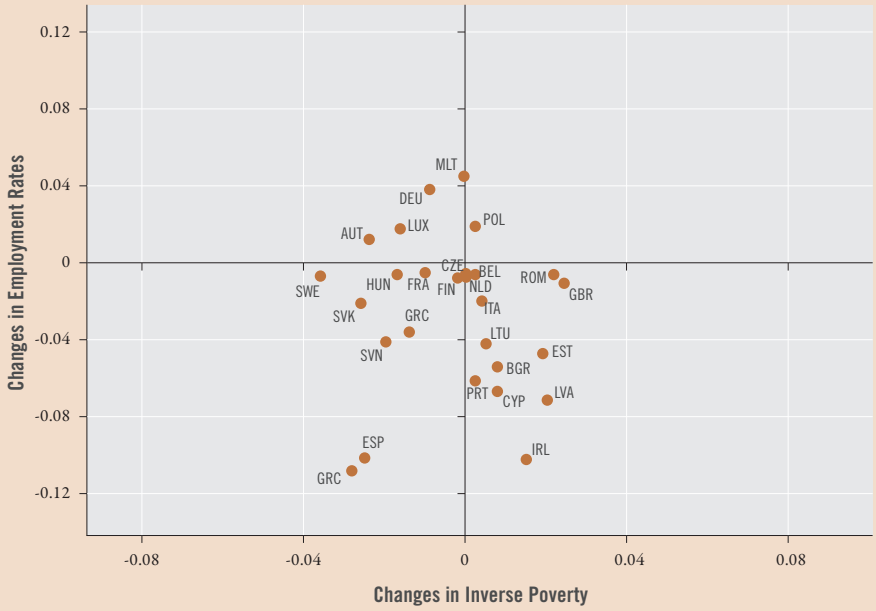
[57] Several reforms have recently been enacted, e.g. in Greece spending on old-age and health was reduced. At the same time overall spending on unemployment increased, though levels of unemployment benefits were significantly reduced.

added tax (VAT) rates, thus increasing the tax burden for the broad population, Italy combined its VAT increase with a decrease in income taxes. As will be discussed below, such a shift in tax policies has the potential to affect competitiveness positively. However, fiscal space in Greece was insufficient to allow for tax reductions, thus leading to tax increases on both margins. Interestingly, Greece and Italy have not yet implemented tax measures aimed at high-income households. The United Kingdom followed an alternative approach by reducing the marginal tax rate in the highest bracket from 50 to 45 per cent.

What becomes clear from this analysis of crisis responses in European countries is that governments which had fiscal space were actually investing additional funds in policy areas likely to have direct positive effects on competitiveness (e.g. active labour market policies, unemployment insurance or social assistance). On the other hand, countries which were experiencing the most severe fiscal pressures, Greece, Italy, Portugal and Spain, were not able to invest in any of the relevant policy areas.

The impacts of these policy changes on outcome indicators are depicted in figure 4.4 with inverse poverty denoted on the x-axis and employment rates on the y-axis. Several observations emerge from this analysis. First, only Poland managed to improve in both dimensions, all other countries have seen reductions (or stagnation) in at least one of the indicators. Second, inverse poverty declined most sharply in Eastern European countries as well as in Ireland and the United Kingdom. This result is to be expected, since the highest incomes fell overproportionately in these countries, leading to a corresponding decline in relative poverty measures. Changes in employment rates, on the other hand, have been more heterogeneous. Several countries were able to increase employment, namely Austria, Germany and Luxembourg, but also Malta and Poland. While the experiences in new Member States have been very diverse, the majority of the countries in Continental and Northern Europe could successfully stabilize employment rates around the pre-crisis levels. Except for Italy, Southern European countries have witnessed the strongest employment reductions. Ireland, which also experienced strong pressure for fiscal consolidation, falls into a similar category.

Figure 4.4 Changes in inverse poverty and changes in employment rates (2007-2012)
(percentages)



Source: ESSPROS.

Taken together, this analysis shows a pattern of divergence between countries under strong fiscal pressures and those that managed to sustain a certain amount of fiscal space throughout the post-crisis years. Therefore, ad hoc reductions in social policies could be largely avoided in the latter group of countries, including mostly Nordic and Continental countries. In the former group, however, fiscal pressure led to wide-ranging cutbacks of social protection spending. Although it is not possible to attribute the change in outcome indicators over the crisis years entirely to these reductions, it is clear that adverse social policy responses will have detrimental effects on equality. Notwithstanding a potentially positive impact of fiscal consolidation on cost competitiveness, however, there is also a strong case for the productivity-enhancing dimension of social policies. The positive channels through which competitiveness is affected by social policies will be further explored in the next section.

B LINKS BETWEEN SOCIAL PROTECTION, PRODUCTIVITY AND COMPETITIVENESS

To better understand the interrelations between social protection, inequality and competitiveness it is necessary to cover a broad policy area including not only spending but also financing policies. Section A provided a classification of the primary policy instruments within the ESM in four main groups: employment contracts, social and labour market policies, long-term related policies and revenue-related policies. This section will analyse the relative effectiveness of these policies with regard to cost competitiveness as well as broader definitions of competitiveness.

Social protection is an effective way to redistribute income and reduce inequality ...

As discussed in the previous section, social protection covers a wide range of policies and the effectiveness of different programmes will naturally depend on country-specific contexts. However, these policies share a common feature in the sense that they redistribute income from higher income households to those in need of support. Therefore, social protection typically has an overall negative effect on income inequality. Although parts of this effect will be due to discretionary policy measures, such as specific labour market programmes, the largest fraction will typically result from automatic stabilizers. This set of policies includes all fiscal policy measures that mitigate fluctuation in economic output without additional government intervention. In an economic downturn, for instance, increased unemployment leads to losses in household income. However, as unemployment insurance, social assistance and related transfers increase in line with individual eligibility, a fraction of the overall loss in income will be compensated automatically.[58]

While the following subsections will highlight the productivity-enhancing effects of social protection, the impact on income inequality represents an alternative, and in some sense more fundamental, rationale for such poli-

[58] See Dolls et al., 2010.

cies. On the one hand, there is an ethical argument for containing (excessive) inequality. On the other hand, an overall reduction in inequality will also have positive effects on overall economic performance (over and above its implications for productivity) through its positive effect on aggregate demand.[59]

Inequality and its interrelations with economic growth have become a topic of intense academic and public interest in the aftermath of the crisis.[60] Many potential causes for the rise in inequality are cited, including technological progress and integration of the global economy, changes in household structure and working hours, relaxation of minimum wage and employment protection legislation or changes in the tax and benefit structure.[61] In the context of the present discussion on competitiveness, however, the impacts of changes in technology and trade patterns are most relevant. Box 4.3 outlines how technological change and trade can have beneficial effects for the economy as a whole while, at the same time, increasing unemployment for unskilled workers, thus potentially leading to an increase in inequality.

Measures of income inequality are typically based on individual or household disposable income. This income measure includes not only net after-tax income but also transfers, subsidies and refundable tax credits accruing to the respective individual or household. Inequality and living standards will thus be affected not only by changes in gross market income but also by changes in the tax and transfer system.

The overall redistributive effects of the tax–benefit system can be analysed by comparing measures of income inequality before and after redistribution takes place. To do this, Gini-coefficients are calculated, first, on the basis of gross market income and, second, based on disposable income including transfers. The percentage change in Gini-coefficients thus gives an indication of the redistributive effects of the tax–benefit system.

[59] See ILO, 2014b.
[60] See, for example, Narayan et al., 2013; Behringer and van Treeck, 2013; Förster and Cingano, forthcoming; Heshmati and Kim, 2014.
[61] OECD, 2011.

Box 4.3 Effects of trade opening on inequality

By exerting varying influences on productivity, all the determinants of competitiveness discussed in Chapter 2 have an important role in shaping patterns of comparative advantage and international trade. In turn, international trade has an impact on jobs and inequality.

Trade may have beneficial effects on the economy by increasing income and reducing prices; it may also lead to an increase in the productivity of firms through technology diffusion and adoption, both directly, via import of capital goods, and indirectly, via stronger pressures on firms to innovate. But by fostering competition for both exporting and importing firms, and by redistributing resources from the least to the most productive sectors, international trade might also lead to employment losses. An additional concern is that the employment effects as well as the productivity gains from trade may not be equally distributed throughout society, but that they would benefit the highly skilled to a greater extent than the low-skilled, thus contributing to increasing inequality (see figure 4.5).

In the short term, trade is also likely to create adjustment costs, which might translate into higher unemployment. The contraction of import-competing sectors, together with an expansion of export-competing ones, as well as the reallocation of resources from less productive to more productive firms, implies that some workers will, at least temporarily, lose their jobs. In turn, the long-run effect on employment would depend on the degree of workers' mobility between different sectors.[62]

We simulate the long-term impact of trade opening when there are two countries – domestic and foreign – each of which is composed of two sectors, which are named "skilled" and "unskilled", both producing a tradable good using, respectively, skilled and unskilled labour.

The domestic country has a competitive advantage in the skilled sector, as it has a more abundant skilled workforce, and vice versa for the foreign country. Trade opening causes a rise in aggregate output and employment, in line with basic trade theory. The relative price of the good produced in the unskilled sector falls strongly since the domestic unskilled sector is at a comparative disadvantage. Thus, capital moves to the skilled sector as it earns higher returns there. This raises labour demand and output in the skilled sector and lowers labour demand and output in the unskilled sector.

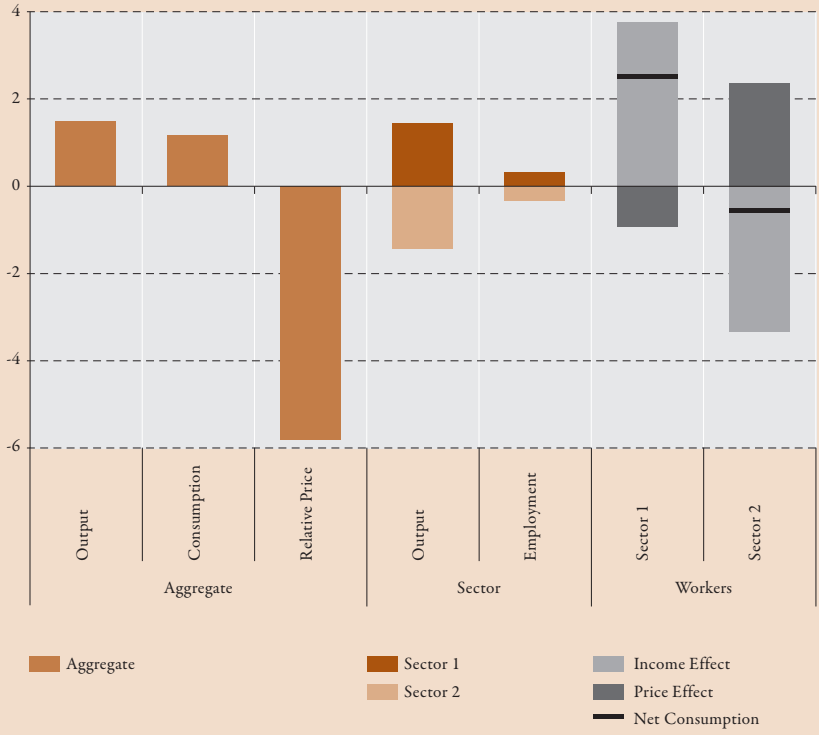
In a basic trade model, workers would also move to the skilled sector, equalizing returns to labour across sectors and causing a large relative shift of output into the latter, in line with the theory of comparative advantage. However, in this version of the model, labour is fixed because some workers are unskilled and so unable to operate in the skilled sector. Consequently, skilled wages rise and skilled unemployment falls, while the opposite holds true for the unskilled sector.

[62] See the discussion in, for example, Hoekman and Winters, 2005.

Box 4.3 Effects of trade opening on inequality (cont)

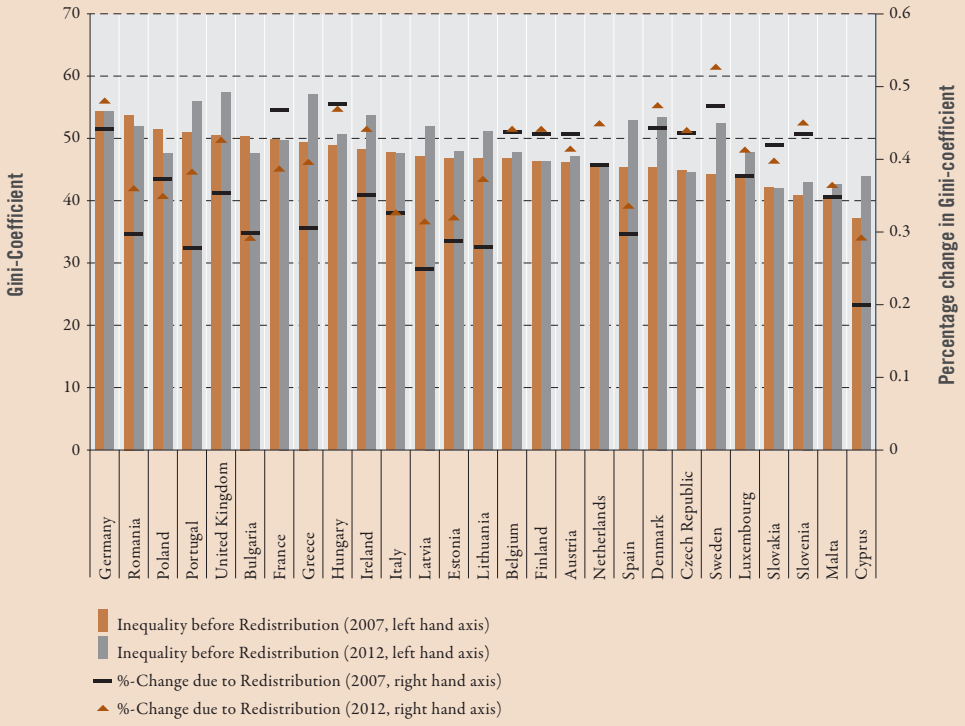
High unskilled unemployment, in combination with a lower wages, produces income inequality, which has direct welfare implications for unskilled workers. In contrast, cheaper imports reduce the price of the consumption basket, creating a positive price effect of trade opening that counters, but does not negate, the negative income effect, resulting in consumption inequality.

Figure 4.5 Impact of trade opening on domestic economy
(percentages)



Note: The figure shows the impact of trade opening on the domestic economy, assuming non-homothetic preferences. The fallen relative price represents the price of sector 2 goods in terms of sector 1 goods. The consumption change of workers is composed of their income change and the price effect stemming from their consumption basket becoming more expensive or cheaper.
Source: ILO, GEL model.

Figure 4.6 Inequality in gross market income and redistribution before and after the crisis



Note: Inequality before redistribution is given by the Gini-coefficients calculated on the basis of gross market income (left hand axis). The percentage changes are calculated as the difference in Gini-coefficients before and after redistribution relative to the Gini-coefficient based on gross market income (right hand axis).

Source: ESSPROS.

While changes in the income distribution in the years after the crisis have already been analysed elsewhere,[63] it has to be kept in mind that these effects are due not only to the dispersion in gross market income, which was affected by the crisis, but also to changes in the tax–benefit system.

Figure 4.6 disentangles these effects by depicting inequality before redistribution, measured as Gini-coefficients calculated on the basis of gross market income, before and after the crisis. In addition, it shows the percentage change in the Gini-coefficients due to taxes and transfers.[64]

[63] See, for example, ILO, 2013.

[64] The percentage changes are calculated as the difference in Gini-coefficients before and after redistribution relative to the Gini-coefficient based on gross market income.

In terms of preference for redistribution, the figure provides no indication that countries with higher inequality in market income have a stronger taste for redistribution (or vice versa). Although Germany ranks high in terms of both indicators, other countries with high pre-tax-and-transfer inequality redistribute considerably less. On the other hand, there are several countries that redistribute comparatively large shares of income even though market income is distributed relatively equally (Czech Republic, Denmark, Slovakia, Slovenia and Sweden).

Comparing redistribution before and after the crisis shows that there was a general tendency towards more redistribution in the most recent years.[65] This tendency was strongest in countries with higher market-income inequality (Greece, Ireland, Latvia, Lithuania and Portugal; except for Cyprus). France is a special case as it experienced a strong reduction in redistribution after the crisis, while redistribution decreased moderately in Austria, Poland and Slovakia.

Figure 4.7 plots redistribution, measured as percentage changes in Gini-coefficients, against social protection expenditures per inhabitant, in order to gain a clearer understanding of the relationship between social protection policies and redistribution prior to the crisis. In the EU-15 there is significant positive correlation between social protection expenditure per inhabitant and redistribution (corr = 0.67). Inclusion of the new Member States weakens this relationship (corr = 0.62).

Nordic and Continental countries are clustered in the upper right quadrant, while Mediterranean countries devote considerable funds to social protection but rank much lower in terms of redistributive effects. In Ireland and the United Kingdom, redistribution through the tax–benefit system is limited (i.e. the Gini-coefficient is reduced by around 35 per cent due to taxes and transfers), although expenditure in per capita terms is higher in the United Kingdom.

[65] Redistribution decreased in several countries in the year immediately after the crisis as a result of the contraction of the distribution of gross market income.

Figure 4.7 Expenditures on social protection and redistribution, 2007 (% change in Gini-coefficient)

Source: ESSPROS, author's calculations.

New Member States, on the other hand, are very diverse in terms of both indicators. Although most countries in this group are clustered in the lower left quadrant (low expenditure and low redistribution), some countries achieve high degrees of redistribution with only limited expenditure levels (Czech Republic, Hungary, Slovakia and Slovenia).

Repeating this analysis for the years after the crisis produces a similar picture (see figure 4.8). Per capita expenditures in terms of GDP increased in most countries after the crisis. However, corresponding increases in redistribution were comparatively low, leading to a rightward shift of most data points. As a result, the positive relationship between the two indicators weakens further in the period after the crisis (EU-15: corr = 0.52; EU-27: corr = 0.56).

Figure 4.8 Expenditures on social protection and redistribution, 2012 (percentage change in Gini-coefficient)

Source: Author's calculation based on ESSPROS.

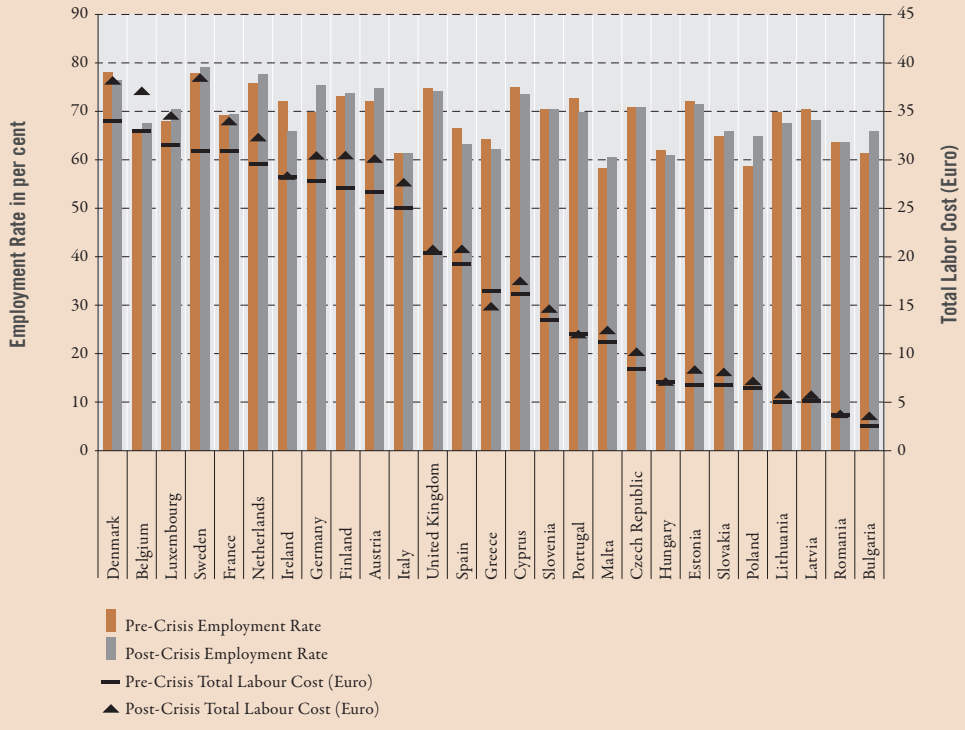
This analysis shows that there is a positive relationship between social protection spending and the amount of inequality reduction. However, the correlation is generally lower once new member countries are included and it has been much weaker in the period following the crisis. This pattern might be due either to different policy objectives or to more structural issues which prevent certain countries from achieving the desired degree of redistribution. For example, redistribution is not a primary objective of social policies in Anglo-Saxon countries, leading to a combination of relatively high expenditures and low redistribution. In the social policy model of Mediterranean countries there is no explicit focus on employment promotion or poverty reduction. As a result, it is more likely that structural inefficiencies with regard to types or effectiveness of social policy programmes are driving the performance of this group of countries.

... while financing requirements have adverse effects on cost competitiveness ...

Social protection expenditures are financed through contributions or taxes. Since a large share of the costs is levied on labour, total labour costs (per hour) are strongly correlated with social protection receipts (per inhabitant and as a fraction of GDP). Thus negative effects of social protection on cost competitiveness could be felt through related increases in total labour costs. This could translate into lower employment rates, all other aspects of production being equal.

There are considerable differences in employment rates, ranging from just above 60 per cent in some Mediterranean and Eastern European countries to almost 80 per cent in Sweden and the Netherlands. Figure 4.9 summa-

Figure 4.9 Employment rates and total labour costs before and after the crisis



Source: Eurostat.

rizes pre- and post-crisis employment rates as well as total labour costs per hour in both periods. It shows that variation in total labour cost is relatively large, especially between the EU-15 and new member countries. However, variation in employment rates is not directly linked to differences in total labour cost.

Total labour costs (TLC) increased in almost all countries before and after the crisis (except Greece and Portugal), with the strongest increases in Nordic and Continental countries which had comparatively high pre-crisis levels. Most of these countries also experienced an increase in employment rates. These increases were especially pronounced in Austria, Germany and the Netherlands. In Italy and Spain, total labour costs increased while employment rates were either decreasing or stagnating. Greece and Portugal were the only two countries to experience a decrease in TLC; however, no positive effect on employment rates could be detected within the observational period.

In new member countries, TLC mainly stagnated (except for Czech Republic); employment rates typically decreased by small amounts. Notable exceptions were Bulgaria and Poland, which experienced considerable increases in employment rates.

While higher total labour costs are expected to lead to lower labour demand, labour supply decisions by individuals and households will also be affected by taxes, social security contributions and benefits. These effects can be studied on the basis of marginal tax wedges, which typically show significant variation across household types and income categories.

Figures 4.10 and 4.11 depict employment rates and marginal tax wedges for several household and income groups. Ranking the countries in terms of post-crisis employment rates shows that countries with higher male–female gaps tend to have lower overall employment rates.

Figure 4.10 Employment and marginal tax rates of second earners (2012)

Note: Marginal tax wedge second earner A refers to the marginal tax wedge in households with two children, where the primary earner receives 100 per cent and the secondary earner 33 per cent of the average wage. Marginal tax wedge second earner B refers to the marginal tax wedge in households with two children where the primary earner receives 100 per cent and the secondary earner 67 per cent of the average wage. Marginal tax wedge second earner C refers to the marginal tax wedge in households without children where the primary earner receives 100 per cent and the secondary earner 33 per cent of the average wage.

Source: Employment rates are taken from ESSPROS; tax wedges are taken from the OECD Taxing Wages database.

From figure 4.10 it can also be observed that the countries with the highest female employment rates have comparatively low marginal tax wedges for second earners. This is true regardless of the income level of the second earner (33 or 67 per cent of the median) and independent of the number of children in the household (0 or 2). Austria and Germany rank high in

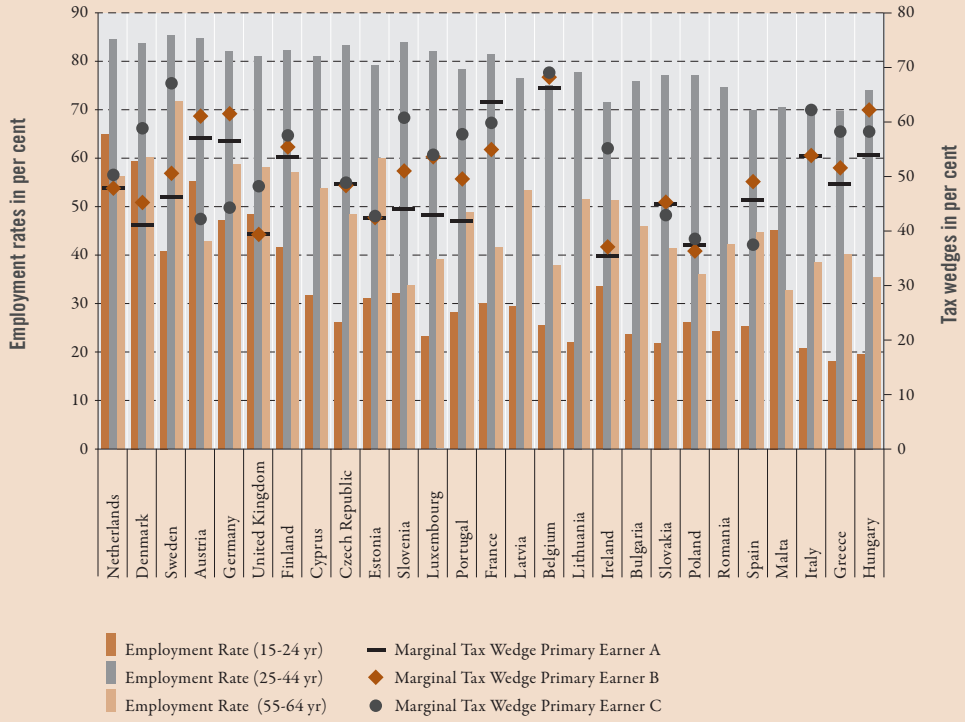
terms of overall employment rates; however, female employment rates are considerably lower than in Nordic countries. This can partly be explained by comparatively large marginal tax wedges in these countries. Similarly, some of the countries in the middle range of the distribution (Belgium, Czech Republic and France) have the potential to boost overall employment rates by increasing work incentives for second earners. At the lower end of the scale, differences between male and female employment rates are quite high. A reduction in marginal tax wedges, which are comparatively high in Greece, Hungary, Italy and Spain, will thus play an important role in closing this gap.

Figure 4.11 depicts employment rates by age group as well as marginal tax wedges for single earners at 67, 100 and 167 per cent of median income. While the countries with the highest overall employment rates are successful in activating workers in all age groups (Denmark and the Netherlands), several other high-employment countries show comparatively low employment rates in specific age groups. For instance, Finland, Germany, Sweden and the United Kingdom have relatively low youth employment rates while being very successful in activating older workers. On the other hand, Austria and the Netherlands are characterized by high youth employment rates and comparatively low activation of older workers.

Marginal tax wedges for lower income workers are comparatively low in those countries with the highest employment rates. However, in Denmark and Sweden marginal tax wedges are significantly higher for high-income workers (167 per cent of median income). Austria and Germany show a contrasting picture as marginal tax wedges are higher at lower income levels (67 and 100 per cent of median income). Belgium, France, Greece, Hungary and Italy have relatively high marginal tax wedges, although the negative incentive effects appear to be less effective in Belgium and France.

This short exposition shows that the financing structure of social protection is likely to have substantial effects on the incentive structure driving labour supply and demand. To further analyse differences in revenue structures, figure 4.12 depicts social security receipts by source in per capita terms and total labour cost before the crisis. Several implications emerge.

Figure 4.11 Employment by age group and marginal tax rates of primary earners (2012)
(percentages)

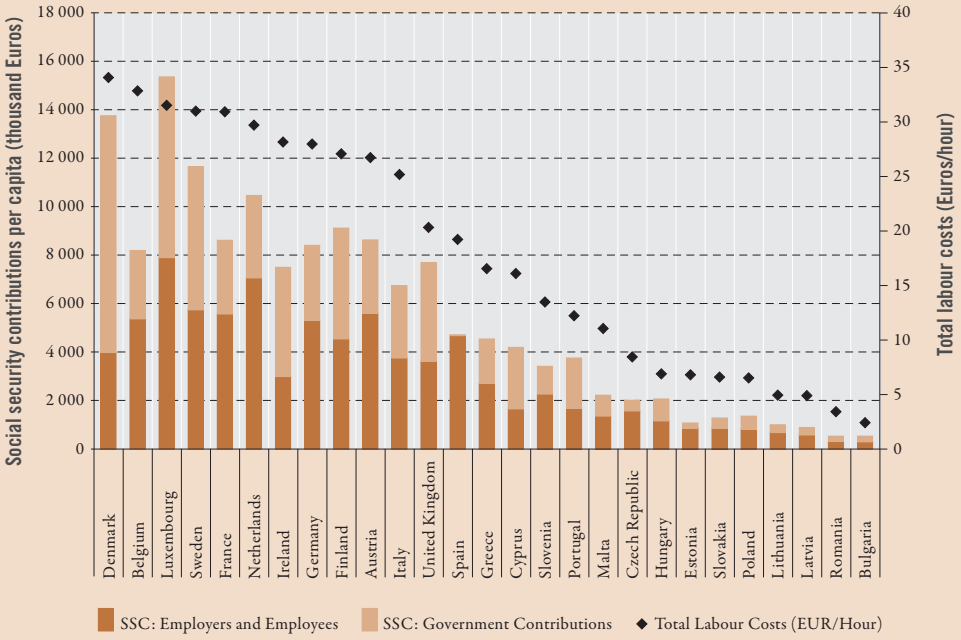


Note: Marginal tax wedge primary earner A refers to the marginal tax wedge in households without children where the primary earner receives 67 per cent of the average wage (no secondary earner). Marginal tax wedge primary earner B refers to the marginal tax wedge in households without children where the primary earner receives 100 per cent of the average wage (no secondary earner). Marginal tax wedge primary earner C refers to the marginal tax wedge in households without children where the primary earner receives 167 per cent of the average wage (no secondary earner).

Source: Employment rates are taken from ESSPROS; tax wedges are taken from the OECD Taxing Wages database.

First, there seem to be several countries where high total labour costs go together with high levels of social protection receipts per capita, i.e. Denmark, Luxembourg, the Netherlands and Sweden. On the other hand, there are several countries which have high total labour costs and comparatively low social protection receipts, i.e. Belgium, France and Ireland. Several countries with high total labour costs lie between these two extremes with regard to receipts, i.e. Austria, Finland and Germany.

Figure 4.12 Total labour costs and social security contributions (2012)



Note: Social security contributions are shown in per capita terms (thousand Euros at 2005 rates); total labour cost in Euros per hour.

Source: ESSPROS.

The Mediterranean countries and the United Kingdom fall within the medium range in terms of TLC. However, the level of social protection receipts is much higher in the United Kingdom and, to an extent, also in Italy. Portugal and the new Member States rank much lower in terms of both indicators. A comparison with post-crisis levels shows that the basic revenue structures have changed little over the past couple of years.

Figure 4.12 further differentiates between sources of social protection financing, i.e. receipts which are levied on labour and contributions from the general public budget in per capita terms (left-hand axis). This repre-

sentation shows that countries chose very different financing structures, thus pointing to the conclusion that there is no straightforward relationship between TLC and labour-related contributions. However, theoretical analysis highlights the fact that financing social protection through social security contributions and payroll taxes increases upward pressure on TLC and thus places a heavier burden on labour as an input to production. In order to avoid negative effects of social protection financing on competitiveness it is therefore essential to choose an optimal tax policy mix.

Increases in competitiveness are more likely to be achieved by lowering labour-related levies at the expense of other tax sources which have a comparatively lower effect on TLC and cost competitiveness. However, this is not the only channel through which cost competitiveness is negatively affected. Higher marginal tax wedges (including social security contributions and income taxes) also result in decreased work incentives. Research on labour supply behaviour has shown that elasticities with regard to disposable income are highest in the following groups: female second earners, low-skilled and old-age workers.[66] It clearly emerges from this analysis that ensuring comparatively low tax wedges for flexible population groups is essential for achieving high overall employment rates (extensive vs. intensive margin), although the analysis on tax wedges shows that not all of the differences in employment rates can be explained by the tax structure.

In terms of policy it can therefore be concluded that, if social protection spending is to be increased, for instance in Mediterranean countries, careful consideration has to be given to financing structures. Financing increased expenditures through higher social security contributions is detrimental in terms of cost competitiveness. As an alternative measure, government contributions to the social security system could be increased. This strategy would imply a corresponding increase in taxes which are not directly linked to total labour costs. Depending on the country context, this could include property and wealth taxes, value added taxes (with exemptions for basic goods), environmental taxes or even an increase in progressivity of income taxes.

[66] See, for example, Blundell and MaCurdy, 1999; Blundell, 2012.

... social and labour market policies have a productivity-enhancing dimension ...

Apart from its function as a safeguard against poverty and income inequality, social protection also has an important efficiency-enhancing dimension. The effects of social policies on economic efficiency can take very different forms, depending on the policy areas discussed in the previous section.

Short-term oriented social and labour market policies include mainly active labour market policies, unemployment insurance and social assistance. Abstracting from negative effects due to financing of these policies, public efforts to help jobseekers find employment will reduce unemployment duration on average, thus increasing overall efficiency. This form of active labour market policy includes, for instance, job-placement services, training programmes, benefit administration and explicit job creation.

Unemployment insurance is another short-term oriented policy measure affecting labour market matching and thus efficiency. In this policy area, outcomes are driven by the amount and duration of benefits. While in most countries benefits are initially determined as a fraction of previous labour market income, they typically reduce with the duration of the unemployment spell. Recipients are transferred to social assistance after a prolonged period of time in unemployment. This set of policies is therefore crucial for job-search behaviour and matching outcomes. On the one hand, it increases the available time for unemployed workers to actually find a suitable job, thus increasing the quality of worker–firm matches. On the other hand, it also increases reservation wages and reduces work incentives, therefore potentially leading to longer average unemployment spells. Efficiency effects of these policies will therefore depend on the balance between these two aspects.

Family policies generally include a broad set of short-term oriented policy instruments. This includes, for instance, various forms of universal child benefits, as well as tax deductibles for child-care expenditures. While the former will be mainly directed towards redistributive (or equity-related) goals, tax deductibles and credits have important efficiency implications

due to their effects on marginal tax wedges for second earners. These policies have been discussed together with taxes and social protection revenues in the previous section.

The third set of policies includes long-term oriented measures, such as pensions, health and education. While the redistributive component of the pension system is an important policy tool to counteract old-age poverty, it is unlikely to have significant productivity-enhancing effects. If anything, a generous public pension system, which allows for early retirement, will reduce work incentives for old-age workers thus leading to lower employment rates and corresponding losses in efficiency.

However, spending on education and health is likely to be productivity enhancing in the long run. The underlying argument has recently been summarized by Corak (2013). In this review the author investigates the link between income inequality and intergenerational mobility, as measured by the intergenerational earnings elasticity. This indicator is particularly relevant in the present context, since higher intergenerational earnings elasticities imply lower intergenerational mobility in the sense that persons with low-income backgrounds will find it more difficult to move up the income distribution (and vice versa for high-income persons). Equality of opportunity will therefore be restricted and this is likely to have negative effects on productivity since family background predetermines economic outcomes (at least to a certain degree).

However, it is important to understand the reasons behind this link in order to distinguish between the desirable and the undesirable share of the intergenerational earnings elasticities.[67] Corak (2013) therefore stresses the importance of further research on the causal links between these two indicators, indicating several potential channels of transmission. His review of the existing evidence suggests that human capital is likely to be the most important link between parents' and children's earnings. While family contexts and labour markets affect human capital investments, there is also a substantial role for public policies. In this regard the evidence shows that subsidization of tertiary education increases the intergenerational earnings

[67] See, for example, Black and Devereux, 2011; Chetty et al., 2014a, 2014b.

elasticity while early childhood development and high-quality primary education work in the opposite direction. Health and educational policies thus have the potential to increase social mobility, further promoting investment and productive use of human capital in the long term.

... and are therefore essential for high levels of competitiveness ...

The subsequent analysis takes productivity, measured as real GDP per working age person, as the relevant outcome variable in order to study the empirical relevance of the interconnections between social policies and the efficiency of economic outcomes. Using this indicator implies that the analysis abstracts from purely demographic changes while at the same time taking the effects of overall employment rates into account. This is a suitable indicator for measuring a country's performance in terms of overall competitiveness, as elaborated in Chapter 2.

Figure 4.13 relates productivity[68] to total (net) social protection expenditures as a percentage of GDP. Comparison between the two time periods in panels A and B shows that the percentage of GDP devoted to social protection expenditures increased in most countries. This relative increase in expenditures is due, on the one hand, to lower economic growth and, on the other, to discretionary policy measures in the post-crisis years. It has been strongest in those EU-10 and Mediterranean countries which were most affected by the crisis.

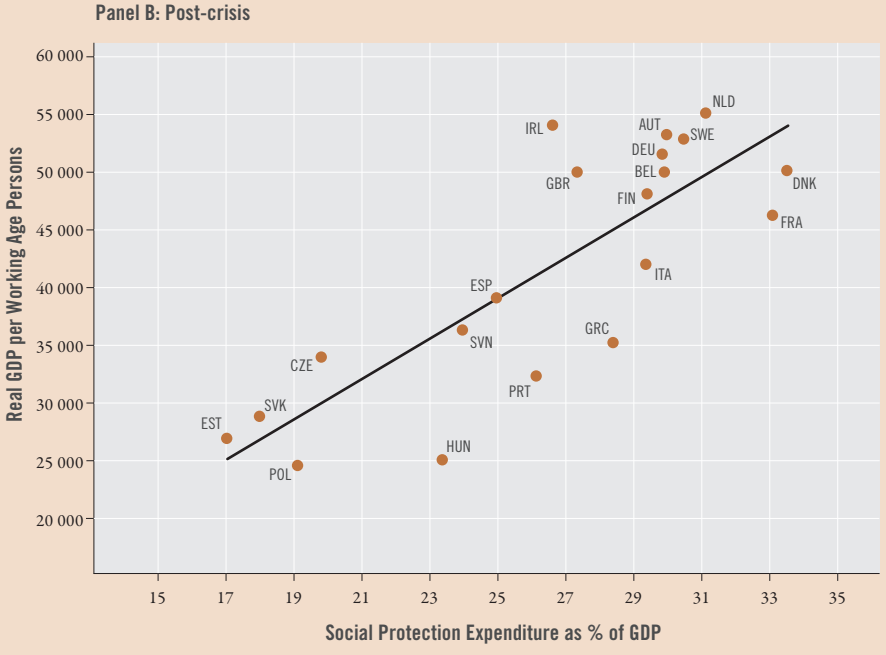
Both graphs[69] in this figure reveal a strong correlation between the two indicators (corr = 0.65 in the period before and corr = 0.81 after the crisis). As expected, this result is driven by a certain pattern. On the one hand, new Member Countries[70] are mostly located in the lower left quadrant, implying low levels of social protection expenditure and productivity. Nordic and Continental countries, on the other hand, are clustered in the opposite

[68] Social protection expenditures can be further disaggregated by function, i.e. including spending data on unemployment, sickness, disability, survivors, pensions, family benefits, social exclusion and housing. The analysis of unconditional correlations, as in the previous figures, indicates that spending on unemployment, sickness and family benefits is positively related to productivity, while spending on pensions shows a negative association. However, these correlations are considerably weaker when controlling for the size of overall social protection expenditures per inhabitant.

[69] Note that Luxembourg is excluded from the subsequent analysis since it is an outlier in terms of real GDP per working-age person.

[70] Not all of the EU-10 countries could be included in this analysis due to lack of data.

Figure 4.13 Productivity and social protection expenditures



Source: ESSPROS.

quadrant which is characterized by high levels of expenditure and productivity. Anglo-Saxon and Mediterranean countries range in between these two groups in terms of social protection expenditures (25–28 per cent before the crisis). However, Ireland and the United Kingdom achieve much higher productivity levels.

Chapter 2 has highlighted the advantages and disadvantages of various measures of competitiveness. GCI represents one such measure. It has been developed by the WEF, based on an extensive network of partner institutes around the world, and has been used as a basis for the competitiveness reports since 2005.[71] In the present context, it represents a very valuable data source as it combines qualitative and quantitative information in a comparative manner for a wide range of countries.

The sub-indicators of the GCI are of particular interest in achieving a clearer understanding of the productivity-enhancing dimension of social policy. Each sub-indicator in fact represents a summary measure of policy outcomes and institutions which are (at least partially) determined by social and labour market policies. The following sub-indicators are relevant for the present analysis: basic health and primary education, quantity and quality of education and on-the-job training, labour market flexibility and skills use.[72] In general, each of the sub-indicators is a weighted sum of institutional characteristics and outcome variables measured on a scale of 1–7 (with 7 being the best score).

Table 4.3 summarizes information on the distribution of each sub-indicator across those countries among the EU-28 where data are available.[73] The results show that basic health scores are high among all European countries. Scores for primary education and educational quantity are somewhat lower, although all countries are still located in the upper third of the scale.

[71] See Schwab, 2013.
[72] Ibid.
[73] Out of the EU-27 a total of 20 countries could be included: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and the United Kingdom; Luxembourg is an outlier in terms of GDP per capita and has therefore been excluded.

While EU-wide averages remain high with regard to the other sub-indicators, educational quality, on-the-job-training, labour market flexibility and skill use, variation is higher and there is more potential for improvement. A comparison with the scores obtained by BRICS countries (Brazil, the Russian Federation, India, China and South Africa) (see box 4.4) shows that these are also the policy areas where the latter group of countries performs relatively well. In terms of skills use, for instance, China obtains scores comparable to the most competitive EU-countries. While Brazil, China, India and South Africa have scores around the EU-wide average with regard to on-the-job-training, labour market flexibility is comparatively high in India and the Russian Federation.

Box 4.4 Social protection in the BRICS countries

The economic and social profiles of the BRICS countries are very diverse. However, their economic and their political influence has been growing for more than two decades, and this process is still ongoing. In line with this development, governments have reinforced their commitment to social protection with regard to quality as well as coverage. In all five countries, economic development has produced a set of common challenges. On the one hand, population ageing, urbanization and increasing vulnerability to environmental hazards have direct effects on the well-being of the population. On the other hand, economic growth is more likely to be sustained if the productivity-enhancing capacities of social protection are leveraged.[74] In the context of the BRICS countries, this primarily includes policy initiatives addressing informality and labour market fragmentation, growing income disparities and human capital development more generally.

Within the past two decades, BRICS and other emerging economies have produced substantial innovations in dealing with these challenges. Although policy responses varied from country to country, a recent report identified a range of common trends.[75] First, there have been considerable increases in coverage among the rural population. This has been achieved mainly on the basis of flexible benefit and financing structures, which were often specifically tailored to the needs of target populations. Second, the effective use of new technologies (i.e. social security identity cards) has improved administrative and managerial processes, an essential prerequisite for successful adaptation to the needs of newly engaging segments of the population. In addition, fragmentation of service delivery has been addressed by improved cooperation between different levels of government. While some countries have already begun to put a stronger emphasis on proactive and preventative measures, communicating the aims and scope of newly introduced programmes to the population has played an important role in all five countries.

[74] See, for example, Alderman and Yemtsov, 2012.
[75] See ISSA, 2013.

Box 4.4 Social protection in the BRICS countries (cont)

Figure 4.14 Social security contributions and tax revenue as a percentage of GDP (left); social protection expenditures as a percentage of GDP (middle); employment and inequality (right)

Source: ILO Social Protection Database and World Bank.

Figure 4.14 examines in more detail public revenues and expenditures on social protection in BRICS countries (left and middle). In addition, the right-hand panel depicts two relevant outcome indicators: employment-to-population ratios and Gini-coefficients. Social security contributions and tax revenues, on the one hand, have stagnated or increased only moderately in all countries except for China, which has experienced a large increase in tax revenues since 2004. Compared to 1990, expenditures (as a percentage of GDP) have risen substantially in four of the countries, excluding India. Increases since 2005 have been somewhat smaller but have remained sizeable in Brazil, China and the Russian Federation.

Equity and efficiency-related outcomes are depicted, for a comparable time period, in the right-hand panel of figure 4.14. Comparison with European economies shows that, in terms of inequality, BRICS countries are clearly in a much less favourable situation than more advanced economies. While Brazil and South Africa have the highest Gini-coefficients (around 0.6) both before and after the crisis, income inequality in the Russian Federation and China is already significantly lower (around 0.4), though still higher than in European countries. Only India has levels of inequality which are comparable to certain European countries (just above 0.3). Changes in this indicator have been minimal in China, the Russian Federation and India. Brazil has seen a substantial decrease while South Africa has followed the opposite trend.

Employment-to-population ratios, on the other hand, show more variation within the BRICS countries. China had by far the highest ratio in 2004 and 2012, although there has been a significant decrease. Brazil and the Russian Federation started out from lower levels in 2004 but managed to increase the ratio to around 60 per cent in 2012. In contrast, South Africa's comparatively low employment-to-population ratio declined slightly to just below 40 per cent.

Table 4.2 GCI-ranking for relevant sub-indicators 2013 (change in ranking level since 2006 in parenthesis)

	Health	Primary education	Education: quantity	Education: quality	On-the-job training	Labour market flexibility	Skills use
Brazil	31 (-1)	33 (-15)	30 (0)	33 (+1)	17 (0)	28 (+2)	19 (+6)
China	30 (+1)	16 (+ 18)	33 (0)	22 (+10)	23 (+5)	20 (+5)	8 (+6)
India	33 (0)	31 (-5)	34 (0)	20 (-7)	22 (-6)	11 (+7)	33 (-1)
Russian Federation	32 (0)	28 (+1)	18 (+2)	28 (+2)	29 (+4)	16 (-1)	20 (+1)
South Africa	34 (0)	34 (-13)	32 (-1)	34 (-1)	13 (-1)	32 (-16)	23 (+8)

Source: WEF.

Box 4.4 Social protection in the BRICS countries (cont)

Table 4.2 ranks BRICS countries in terms of the GCI. As discussed in the main text, the sub-indicators which are likely to be influenced by social protection expenditures include health, primary education, quality and quantity of (secondary and tertiary) education, on-the-job-training, labour market flexibility and skills use. In line with the existing differences in GDP per capita, the BRICS countries are typically ranked towards the end of the scale.

The most significant improvements have been achieved by China. Although indicators for health and educational quantity are still comparatively low, other indicators have increased significantly. The rankings for primary education and (secondary and tertiary) educational quality, in particular, have seen strong improvements (by 18 and 10 ranks respectively). As a result, China is now comparatively well-positioned in terms of most sub-indicators. The Russian Federation has moderately increased its rankings in terms of most indicators, dropping only one rank with regard to labour market flexibility. In absolute terms it performs comparatively well in educational quantity, labour market flexibility and skills use. Brazil has had a more mixed experience since 2006. On the one hand, it has improved in skills use, flexibility and quantity of educational facilities. On the other hand, it dropped 15 ranks in terms of primary education. Overall it still ranks in the upper middle with regard to on-the-job-training and skills use. India and South Africa both fell behind in terms of most indicators. The former dropped between five and seven ranks in primary education, educational quality and on-the-job-training, while at the same time increasing labour market flexibility considerably (+7). South Africa, on the other hand, fell to the bottom of the scale for primary education and flexibility. However, it improved its skills-use ranking by 8.

To gain a clearer understanding of the productivity-enhancing effects of social policies, the relationship between policy outcomes (i.e. the seven sub-indicators) and productivity is analysed in more detail in table 4.3. To this end, the table also includes unconditional correlations (sixth column) between each sub-indicator and productivity, measured in terms of real GDP per working-age person. While no causal relationship can be inferred from this analysis, the table provides evidence for the positive association between some of the sub-indicators and productivity.

Table 4.3 **GCI sub-indicators and productivity across Europe after the crisis: Unconditional correlations and partial correlations controlling for welfare state size**

	Mean	SD	Minimum	Maximum	Unconditional correlation	Partial correlation
Basic health	6.8	0.09	6.7	6.9	0.78	0.41
Primary education	5.6	0.42	4.9	6.5	0.7	0.57
Educational quantity	6	0.39	5.2	6.8	0.18	-0.26
Educational quality	4.9	0.64	3.7	6	0.65	0.56
On-the-job-training	4.8	0.67	3.6	5.7	0.8	0.7
Labour market flexibility	4.4	0.53	3.5	5.5	0.14	0.41
Skills use	4.7	0.55	3.5	5.4	0.6	0.65

Note: The table is based on country averages for the period 2008-2012. Partial correlations are obtained by correlating the residuals of a regression of productivity on net public expenditure (as a percentage of GDP) with the residuals of a regression of the relevant sub-indicator on net public expenditure. Out of the EU-27 a total of 20 countries could be included: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and the United Kingdom; Luxembourg is an outlier in terms of GDP per capita and has therefore been excluded. SD = standard deviation.
Source: Author's calculations based on ESSPROS.

Basic health is highly correlated with productivity. However, variation between European countries is low and potential effects are likely to operate only in the long term. Primary education and educational quantity and quality are also long-term orientated policy objectives. While correlations are high for primary education and educational quality, more sophisticated empirical approaches are needed to analyse transmission channels on productivity and competitiveness. As has been discussed in the previous subsection, however, the empirical literature generally confirms this link. Labour market related sub-indicators, i.e. on-the-job-training, flexibility and skills use, are expected to operate in the short to medium term. Among these indicators, only on-the-job-training and skills use show a strong association with productivity. Labour market flexibility, on the other hand, is only very weakly correlated with real GDP per working-age person. The next section will shed further light on potential transmission channels on the basis of a short literature overview.

Although a positive association of several sub-indicators with productivity therefore exists, it has been noted throughout the analysis that there is a strong segmentation between high-income countries in Northern and Continental Europe and those in Southern and Central and Eastern Europe. Since the former group is also characterized by higher levels of social protection expenditure (as a percentage of GDP) it is important to extend the analysis by controlling for the size of the welfare state. To strengthen the argument, partial correlations, controlling for public expenditures as a percentage of GDP, have been calculated[76] and included in table 4.3 (last column). Results from this exercise generally confirm the results discussed in the previous paragraph, thus adding further evidence on the links between social policies and productivity.

... which can be promoted by well-designed policy interventions.

The results suggest that, although no causal relationship is implied, there is a robust positive relation between several of the relevant sub-indicators and productivity. On the one hand, this is true for both the sub-indicators which are related to education. While this result definitely points to the importance of this policy area, it is clear that any causal links between policies and outcomes will accrue only over a longer time period. Increased investments in education therefore do not represent an adequate policy instrument for short-term crisis response. However, they are certainly essential in order to ensure equality in living standards and to enhance opportunities over the medium and long term.

The other two sub-indicators which show a comparatively strong association with productivity are both strongly related to labour market policies: on-the-job-training and skills use. In contrast to education and health, these are policy areas where effects can be expected to work in the short or medium term. In this regard they are much better suited to restoring and enhancing competitiveness as part of a broader crisis response.

[76] Partial correlations are obtained by correlating the residuals of a regression of productivity on net public expenditure (as a percentage of GDP) with the residuals of a regression of the relevant sub-indicator on net public expenditure.

To obtain a clearer understanding of the causal relationship between specific policies in this area and relevant outcome variables, it is instructive to review country- and programme-specific microeconometric evaluation studies. Kluve (2010) recently presented an extensive meta-analysis focusing on around 130 individual studies, which are classified by programme type, evaluation method, country, time period and estimated effects. Within this study a large variety of different active labour market policy programmes in Europe have been grouped into four categories: (1) training programmes, (2) private sector incentive programmes, (3) public sector employment programmes, and (4) services and sanctions programmes. With regard to evaluation methods, the meta-analysis distinguishes between experimental and non-experimental techniques. The latter group of studies includes quasi-experimental approaches, such as matching and difference-in-difference studies, as well as duration models and standard OLS approaches.

As has been noted by Kluve (2010), institutional context and macroeconomic conditions have less impact on effectiveness than might be expected. Instead, programme type appears to play a crucial role in this regard. While only around 22 per cent of studies on public employment programmes find positive effects on employment probabilities, the other programme types are substantially more effective. Training programmes have been found to have positive effects in around 54 per cent of the studies. Measures aimed at increasing job-search efficiency through services and sanctions, on the other hand, have been effective in 67 per cent of the studies, while only 3 per cent of these studies appeared to have negative effects. Changing the incentive structure of employers and workers increased employment probabilities at even higher proportions, as 75 per cent of these studies have shown positive results. While these results therefore highlight the importance of programme designs and contexts, the evidence cited by Kluve (2010) provides strong evidence for the positive effects of certain types of policy interventions.

C RESTRUCTURING SOCIAL PROTECTION TO IMPROVE COMPETITIVENESS

While restructuring revenues and expenditures at the national level is crucial for increasing competitiveness ...

Empirical analysis in the previous sections has shown that revenue and expenditure structures of social protection play a crucial role in determining a country's competitiveness. A more disaggregated perspective reveals that there are several channels through which social policies can have productivity-enhancing effects. For instance, increased investment in active labour market policies, on-the-job-training and skills development over the life-cycle is likely to be the most efficient short-term strategy to combat the prolonged repercussions of the global economic crisis. In this policy area focus should be placed on increasing the functioning of the labour markets in terms of match efficiency and employment rates. Programme design is essential for the success of the intervention. While increased job placement services have been the most effective programme type, other policies, such as training and work incentives, also had strong positive results. Policy strategies in line with these findings have been successfully adopted in several Nordic and Continental countries.

Apart from these short-term oriented policies there is also a strong case for the long-term impacts of social protection spending on productivity and competitiveness. In fact it should not be forgotten by policy-makers that social protection also represents a form of investment in the human capital of the labour force and the population more generally. As has been shown in Section B, this argument is particularly compelling in the context of health and educational spending. However, there is a serious risk that governments will overlook the positive long-term effects which can be reaped in these policy areas.

Although investments in social and labour market policies are likely to have beneficial effects on productivity, employment and living standards, revenue structures are a main determinant of cost competitiveness. Thus, avoiding financing through labour-related taxes and contributions is important

for maintaining labour costs. Other financing options, such as wealth and property taxes, value-added tax (including exemptions for basic goods) or progressive income taxation, can be considered. While this strategy has been followed in some European countries already, it seems to be especially promising in Mediterranean countries where the fiscal situation is tightest.

A careful comparison between the various social policy models detailed in the previous section reveals that a more equal distribution of disposable income can, in many cases, be achieved without necessarily increasing overall expenditures. This finding is particularly relevant for Southern European countries, as fiscal pressure tends to be highest there. A restructuring of the redistributive components of the tax–benefit system can therefore be an important part of policy strategies to reduce income inequality and stimulate aggregate demand.

A coordinated policy strategy, taking revenues and expenditures into account, is essential to promote effective increases in competitiveness. Many countries are in the process of restructuring policy areas along the lines discussed in the previous paragraphs. This approach allowed them to sustain or increase competitiveness even in the years immediately after the crisis. In countries where policy space was limited, consolidation efforts were typically less coordinated, often driven by ad-hoc expenditure cuts and tax increases.

This policy approach has induced an unexpectedly large fall in aggregate demand in the peripheral countries[77] and contributed to the rising trend in inequality. In addition, ongoing fiscal consolidation might lead to underinvestment in relevant social policy areas and basic functions of the European Social Model. Taken together, these developments are thus likely to contribute to a further divergence in terms of competitiveness across European countries. This assessment is particularly worrying when comparing the situation in Europe with those in the BRICS countries. While most European governments, especially those experiencing tight fiscal circumstances, aim to increase the efficiency of their social protection systems, the BRICS countries have begun to make use of expanding revenue bases in order to invest in social protection (see box 4.4).

[77] See European Parliament, 2014.

... the reform process should be supported by policy coordination at the European level ...

Recovering competitiveness in peripheral countries will require the considered implementation of both short- and long-term policies. While the previous subsection highlighted how a restructuring of social protection revenues and expenditures on the national level can improve competitiveness, a coordinated policy approach on the European level is important to support this process.

In its Blueprint for a deep and genuine Economic and Monetary Union, the European Commission has recently formulated a detailed and gradual reform agenda to overcome the crisis.[78] One of the major building blocks of this policy strategy is to deepen the fiscal and economic union as well as to strengthen the social dimension of the European Union. While it is made clear that increases in fiscal coordination will have to be matched by corresponding increases in democratic accountability, this agenda offers new policy options to address the emerging gaps in competitiveness between European countries.

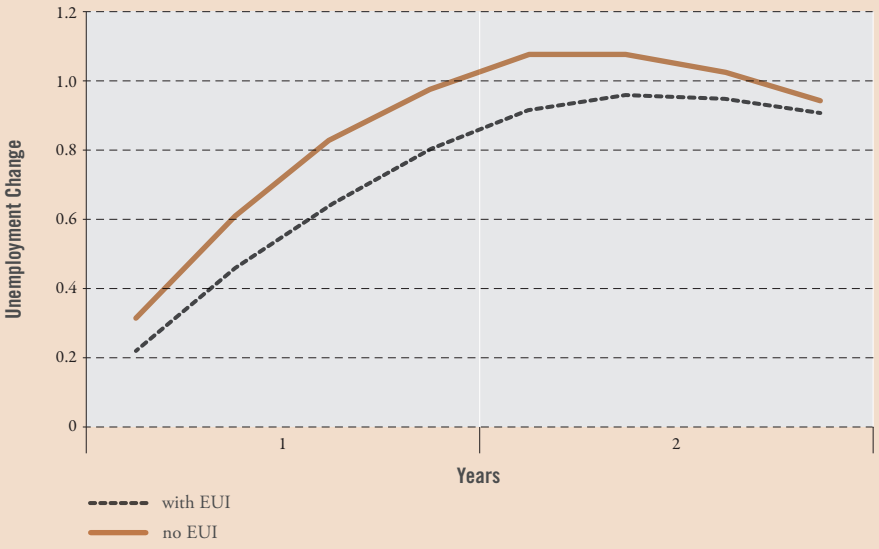
In general, increased fiscal coordination opens up a wide range of additional policy options which might be adopted in order to close competitiveness gaps across Europe. For instance, Bargain et al. (2012) examine how the replacement of one-third of national taxes and transfers by a European system affects redistribution and automatic stabilizers. They find that a system of fiscal integration would redistribute revenues from high- to low-income countries and improve stabilization in countries where fiscal pressures have been most severe. To add further evidence on the potential effects of increased fiscal coordination, we use the GEL model to simulate another specific policy proposal, namely the implementation of a European Unemployment Insurance (EUI), which has recently been put forward.[79]

As a starting point, we consider the effects of an economic downturn on labour market outcomes. In such a scenario unemployment will increase, which in turn raises unemployment insurance expenditures at the country level. When the downturn is short-lived and countries have sufficient fis-

[78] See EC, 2012.
[79] See Andor, 2014.

Figure 4.15 Unemployment response to negative demand and supply shock with and without EUI

(percentages)



Source: ILO, GEL model.

cal space, this will serve as an automatic stabilizer for aggregate demand. However, in the case of the global economic crisis the magnitude and severity of the shock quickly deteriorated the fiscal space of a number of European economies, partly due to increased spending on unemployment benefits or alternative income-replacement measures. Consequently, countries were forced to cut expenditures, thereby reducing aggregate demand at a time when it was already lacking. Output fell dramatically in response to large multipliers.[80]

The EUI would have the beneficial effect of ensuring that a country's fiscal space is not negatively affected by the rise in unemployment benefit payments. As a consequence, government expenditures can play a more supportive role in creating aggregate demand. Certainly, a Euro-wide crisis would reduce fiscal space for all countries. However, as long as only a relatively small number of countries are affected, the EUI would help to stabilize demand when fiscal space would otherwise be insufficient (see Appendix A for a detailed description of the simulation).

[80] See European Parliament, 2014.

Figure 4.15 shows the simulated path of unemployment following the negative business cycle shock. In both cases, unemployment rises significantly. However, the additional cut in government spending, by up to half a percentage point of GDP in the absence of the EUI, additionally reduces aggregate demand and employment, with unemployment rising 20 per cent more, on average, over the first two years. Eventually, the unemployment rates converge in both scenarios as the economy is returning to the steady state.

In line with the corresponding results in Bargain et al. (2012), our simulation shows that fiscal coordination on the European level can effectively support crisis response policies as long as negative shocks affect only parts of the EU. Although the political implementation of such a policy proposal poses a host of open questions, it shows that the reform agenda formulated in the Blueprint opens up new policy options which have the potential to support sustainable increases in competitiveness in peripheral countries.

APPENDIX A

The policy proposal for a European Unemployment Insurance has been implemented in the GEL model in the following way. First, we investigate demand stabilization through the EUI in a situation where the insurance scheme itself faces no financing problems. Hence, the GEL model is set up as a one-country model with the Eurozone as the exogenous country. Second, the interest rate is also determined exogenously. Third, the domestic economy is subjected to a negative shock to consumer demand and productivity, which reduces output and increases unemployment. The shock increases over a period of one year and afterwards deteriorates with an autoregressive component of 0.9. To simulate the impact of a lack of fiscal space, two simulations are conducted. In the first, government spending has to be cut by an amount equal to the additional unemployment benefit payments. In the second, this restriction is not imposed as it is assumed that the EUI covers these expenditures. The GEL model is calibrated to the estimated data for the Euro periphery, as these countries would be most likely to benefit from the EUI.

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ANNEX
THE GEL MODEL: TECHNICAL DETAILS

The GEL is a multi-country, multi-sector intertemporal model with heterogeneous households and workers. This annex describes the main features of the model. A full mathematical description can be found in Kühn (forthcoming a). The exact specification of the GEL model depends on the specific application. In fact, for some applications presented in this report the GEL is used as a single-sector model with only one type of labour, while for other applications two distinct sectors and types of labour are specified. Kühn (forthcoming b) provides extensive details on the applications of the GEL presented in this report.

The domestic economy is populated by households and firms. They interact on the labour market, the financial market and the goods market. There are two basic types of households: capital owners and workers. Capital owners borrow or save on the financial market, invest in capital and rent out capital to firms. Workers supply labour to firms, receive wage income and borrow or save on the financial market, although some workers might be specified as being credit constrained, rule-of-thumb households. All households consume goods produced by different sectors.

Firms operate in the sectors, renting capital and hiring labour to produce output, and selling it at a certain price. All firms hiring labour of a certain skill type bargain with a representative union for that skill type with regard to wages, so that there is one uniform wage for all workers of a certain skill, even across sectors. Firms decide on the employment level to match their marginal cost with their marginal value product of labour.

Households

Capital owners rent out the physical capital stock to firms and earn the return to capital. Furthermore, they own the firms and earn the profits, so that the capital owners' gross income is one minus the labour share of the economy. Additionally, they borrow or save on the bonds market at the economy's nominal interest rate. An important distinction of the GEL model is the specification of wealth in utility of capital owners, following Kumhof and Rancière (2010).

Wealth in utility has several effects. First, it creates a co-movement between capital owners' consumption demand and financial wealth level. The higher the wealth level, the larger the desired consumption level, and vice versa. Second, consumption demand by capital owners is smoothed compared to a standard model where it is solely determined by the real interest rate. Third, it creates a co-movement between consumption and investment in physical capital.

Workers earn wage income when employed or unemployment benefits when unemployed. They are organized in large families that insure each other in case of unemployment, so that each worker earns the same average income and no worker relies only on unemployment benefits.[81] Furthermore, one part of worker households can borrow to cover temporary income losses, while another part is credit constrained, so that their consumption level is only determined by their labour income. This causes output fluctuations to be amplified via consumption demand.

Sectoral and import demand

Demand for imported or domestic goods from the various sectors is determined using a multi-level system of constant elasticity of substitution (CES) demand functions. The demand for a certain good depends on its preference share in the CES function and its price relative to the other good(s)

[81] The introduction of perfect insurance is required for the solution techniques of dynamic stochastic general equilibrium (DSGE) models to work. Challe and Ragot (forthcoming) propose a variation that makes other restricting assumptions, which removes perfect insurance while still allowing solvability of the model.

in that CES function, where the strength of the price effect depends on the elasticity of substitution.

Final investment, as well as households' final consumption, is composed of output from the various sectors, where different households could have different preferences – a mechanism that approximates non-homogenous preferences across differing income levels. Government demand for a sectorial good is determined independently of relative prices. Total demand for goods of a sector determines the demand for imported and domestically produced goods of that sector based on a CES function. Hence, with appropriately defined preferences, a sector could be declared as non-tradable, so that only domestic goods are used for absorption in that sector. The total of imported goods in a sector determines, in turn, the import demand from various foreign countries, again based on a CES function. The imports by the other countries then determine the exports of a country.

The basic determinant of the price of a good is its cost. For domestically produced goods, this is determined by the cost of capital and labour, adjusted for the productivity level. For foreign-produced goods, the exchange rate also plays a role. Additionally, the GEL model includes price stickiness, which reduces the pass-through of cost onto the price and creates inflation dynamics.

Firms

Firms produce output using capital and labour as inputs of a Cobb–Douglas production function. Each sector has a specific capital stock that is subject to investment adjustment cost and variable capacity utilization. In the long run, capital is freely mobile across sectors and will therefore earn equal real returns. The real wage is the cost of labour.

While real returns of the same factor are equal across sectors (in the long run) when expressed in a common price index, firms in a certain sector might face higher or lower real factor cost in terms of their output price when their output price is higher or lower relative to the common price

index. Consequently, changes of the relative output price will alter the ability of firms to pay a factor and will therefore move input demand along a downward-sloping demand curve, leading to a reallocation of factors of production across sectors.

Labour market

The labour market is specified as a search and matching framework following Mortensen and Pissarides (1994). This allows the simultaneous existence of vacancies and unemployment, and also creates a dynamic evolution of employment as firms do not fully adjust employment within one period. Real wages are determined in a Nash bargaining framework between firms and workers of a certain skill. Since equally skilled workers have the same characteristics, are part of the same families and are mobile across sectors, they will bargain for the same wage. The GEL model additionally features real wage stickiness.

A rise in worker bargaining power will raise the real wage of workers, but will lower labour demand by firms, all else being equal. Due to the Cobb–Douglas production function, a change in bargaining power would leave the labour share unchanged in the long run. However, the GEL model features demand effects from income redistribution which create complex dynamics, so that the inverse relationship between bargaining power and employment demand does not necessarily hold in general equilibrium as it does in partial equilibrium.

Policy

Fiscal policy receives tax income and spends on discrete government consumption as well as on unemployment benefit payments. Taxes can be levied on consumption, labour income, capital income or investment spending, where the latter could also be negative to simulate an investment subsidy. The government can run an unbalanced budget.

Monetary policy sets the nominal interest rate. The GEL model allows the various cases of existing monetary policy to be studied. First, a central bank could follow a Taylor rule to set its interest rate as a function of inflation and output. Second, it could set the interest rate following the foreign interest rate in the event that it follows a fixed exchange rate regime. Third, the interest rate in a currency union is set as a function of inflation and output of all its member states.

Resource constraints

The GEL model is a general equilibrium model, implying that quantities demanded have to equal quantities supplied on all markets at all times. On the goods markets, the quantity of output produced in each sector and country has to equal the quantities consumed, taking account of exports and imports between the countries. Consequently, one country's trade surplus is automatically another country's deficit in the GEL. On the financial market, assets of one agent are liabilities of another agent. A trade balance deficit causes an automatic increase of net foreign debt as well as declining net asset holdings of domestic agents.

Solution technique

The GEL is a dynamic model that converges to a steady state in the absence of shocks. The steady state is characterized by dynamic variables remaining constant, which turns the GEL into a non-linear static model. This model is solved as a function of the parameters specified, with the aim of calibrating steady state target values, such as the real interest rate of the consumption to GDP ratio, to actual values.

The solution of the dynamic model relies on perturbation techniques of the first order linear approximation around the steady state. Due to the restriction of available solution techniques for large scale models, the GEL does not possess path dependence, so that alternative policy reactions to shocks only have a temporary effect on the path of variables, while the model will return to its non-stochastic steady state eventually.

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CRISIS RESPONSES, COMPETITIVENESS AND JOBS

A lack of competitiveness has been identified by many as the underlying factor behind weak economic growth and high unemployment in Europe. The issue is especially complex in the Euro area, where competitiveness cannot be addressed through exchange rate adjustments.

The purpose of this report is to assess the issue of competitiveness in the EU and other advanced and emerging economies and promote a clearer understanding of its relationship to the crisis and to long-term labour market and social outcomes. The report examines policy options for improving competitiveness, while boosting more and better jobs. It evaluates the impacts of policy approaches based on reductions in wages and working conditions as tools for regaining competitiveness.

The policy recommendations, which include investments in new technologies, building a skilled productive workforce, and improving credit systems are important for reinforcing competitiveness while maintaining social cohesion in the EU.

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